

2017-2018

# KMSI

Korea Marine & Offshore Statistics & Info

## **Ocean Value Chain, Connected With Big Data Sea**

Navigating the Korean and global shipbuilding scene and the marine equipment industry, improve stakeholders' understanding of the industry landscape from a present and future perspective based on relevant data integration and analysis.



Korea Marine Equipment Association

## **Ocean Value Chain**

Proactively responding to the era of hyperglobalization & hyperconnectivity world, KMSI navigates the broad spectrum of the marine economy and more, realizing the value of big data as the fuel of the 4th Industrial Revolution paradigm.

## Ocean Value Chain Advancement Connected With Big Data Sea

The global shipbuilding and offshore industries are riding a wave of new order increases, getting out of business stagnation. Global shipbuilding orders as of Sept. 30 in 2018 hit 21.14 million CGT, up sharply from 18.73 million CGT recorded a year ago.

Korean shipyards maintained lead in the global order race for the fifth consecutive month in September with order books rising to over 20 million CGT, compared with 17 million as of the end of 2017.

Even though such figures are much less than the results of Korean shipyards performance during the previous booming days, there are evident facts and figures that reflect the world's progress toward the availability, accessibility and adaptability of the emerging renaissance of the ocean economy.

Our confidence in the future has compelled us to publish this publication, KMSI (Korea Marine & Offshore Statistics & Info) in order to share the information, knowledge and statistics that generate our optimism with industry counterparts around the world.

Proactively responding to the era of hyperglobalization & hyperconnectivity, KMSI navigates the broad spectrum of the marine economy and beyond, realizing the value of big data as the fuel of the 4th Industrial Revolution. This publication highlights past and present facts and figures in combination with industry conditions.

I think the Korean drive to move "From Ship Builder to Ocean Builder", has been inspired by the ocean value chain, looking into future through the lens of a global perspective and the history of human civilization.

We hope that this publication will be both informative and inspiring, providing insight to all who share the common ocean vision for a more prosperous future.

Faithfully yours,

Kang Ho IL  
Chairman  
Korea Marine Equipment Association (KOMEA)



# CONTENTS

## Foreword

- Ocean Value Chain Advancement Connected With Big Data Sea ..... 3

## Introduction

- Korea Marine & Offshore Statistics & Info Overview ..... 6
- Overview of Korean Shipbuilding & Offshore Status ..... 7

## Marine Equipment

- No. of KOMEA Member Products (As of: Nov. 30, 2018) ..... 8
- Member Location (As of: Nov. 30, 2018)
- Number of Employees (As of: Nov. 30, 2018)
- Sales Volume & Production ..... 9
- Export Status of Korean Marine Equipment ..... 10

## Infrastructure & Facilities

- Global Shipbuilding Facilities Status & Outlook ..... 11
- Maximum Capacity of Major Global Shipyards ..... 12
- Number of Korean Shipyards, etc. .... 13
- KOSHIPA Member Shipyard Location Map
- Status of Basic Facilities
- Korean Company-by-Company Facility Status ..... 14
- Clusters With Research/Tech Development Facilities ..... 15

## New Orders

- Global Periscope by Country & Region ..... 16
- Korean Performance by Year ..... 17
- Korean Performance by Shipyard ..... 18
- Korean Performance by Ship Type ..... 19
- Newbuilding Demand Forecast ..... 20
- Shipbuilding Associations Forecast by Country
- Shipbuilding Associations Forecast by Ship Type

## Shipbuilding Completions

- Global Periscope by Country & Region ..... 21
- Korean Performance by Year ..... 22
- Korean Performance by Shipyard ..... 23
- Korean Performance by Ship Type ..... 24

## Order Books

- Global Periscope by Country & Region ..... 25
- Korean Performance by Year ..... 26
- Korean Performance by Shipyard ..... 27
- Korean Performance by Ship Type ..... 28

## Mid-Sized Shipbuilding

- Mid-Sized Shipbuilding Landscape .....	29
--	----

## Workforce

- Number of Workers .....	30
- Foreign Workforce .....	31
- Shipbuilding - Related Departments of Higher Education Institutes .....	32

## Technology

- R&D & Investment .....	36
- Eco-Friendly, Energy-Efficient Vessels .....	37
- Korea Leadership of Eco-Friendly LNG Carriers	
- Korean Patent Application Trends in Shipbuilding Sector (2013-2017)	

## Awards & Certificates

- World-Class Korean Marine Equipment Products .....	38
- Certified Marine Equipment Enterprises .....	41

## Offshore & Energy

- 2017 Oil Production .....	42
- 2017 Natural Gas Production	
- Crude Oil Markets	
- World's Oil Drilling Facilities Operation .....	43
- Status of World's Oil Production Facilities	

## Shipping & Trade

- World Offshore Order Status .....	44
- World Seaborne Trade, 2016–2017 (Type of cargo, country group and region) .....	45
- International Seaborne Trade, Selected Years	
- Global Top 30 Liner Shipping Companies .....	46
- Ownership of World Fleet .....	47
- Age Distribution of World Merchant Fleet by Vessel Type .....	48

## Management & Finance

- Market-Listed Companies .....	49
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## References

- KOMEA Member Companies .....	50
- Korean Small to Middle-Size Shipbuilders .....	58
- Related Organizations & Institutes .....	60

## Korea Marine & Offshore Statistics & Info Overview

### Improve Understanding of Present & Future Business Prospects

Navigating the Korean and global shipbuilding scene and the marine equipment industry, improve stakeholders' understanding of the industry landscape from a present and future perspective based on relevant data integration and analysis.

### Korean Shipbuilding Value From a Global Perspective

Assessing the value of Korea's shipbuilding & offshore industry through the lens of a global perspective, taking into account the industry's single global market characteristics

### Market Intelligence & Inspiration for Marine Business Success

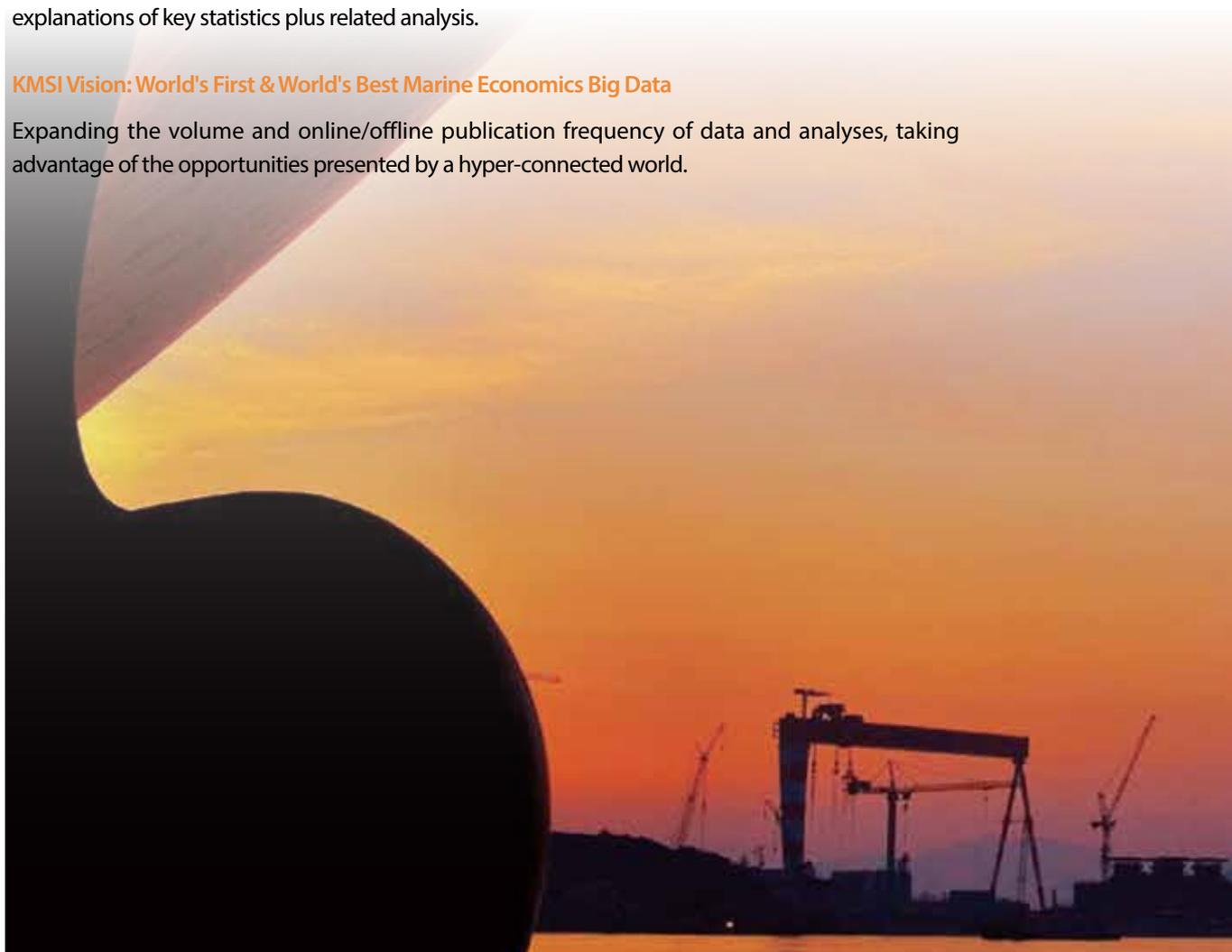
Providing statistics, information and intelligence enables stakeholders to identify promising areas in terms of product lines, markets, companies, etc., all of which can prove valuable to business success.

### Story-Telling Statistical Review to Fuel the Future

Giving stakeholders easy access to actionable information through simple and accurate explanations of key statistics plus related analysis.

### KMSI Vision: World's First & World's Best Marine Economics Big Data

Expanding the volume and online/offline publication frequency of data and analyses, taking advantage of the opportunities presented by a hyper-connected world.



## Overview of Korean Shipbuilding & Offshore Status

### Global Position: Leading Sustainable Growth of the Ocean Economy

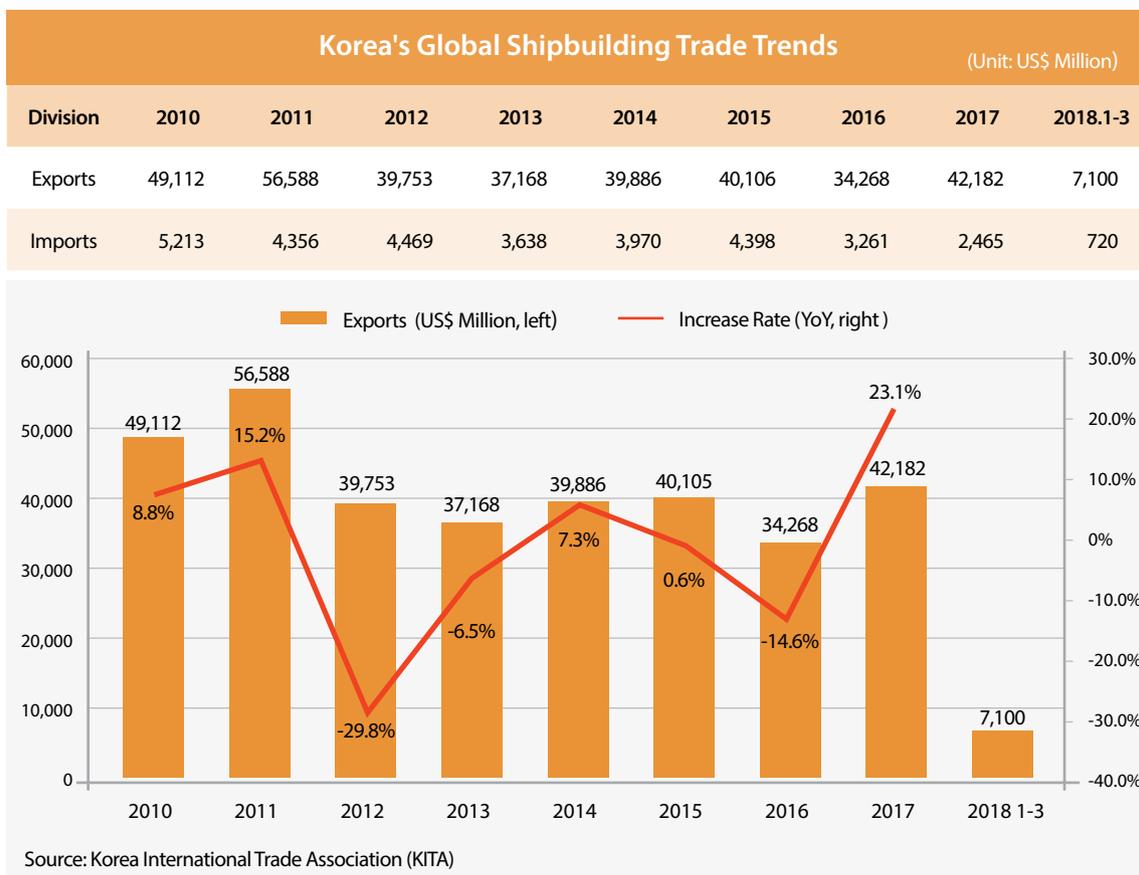
Despite the stifling impact of the Korean economic recession on the shipbuilding horizon for the past few years, Korea has maintained its dominance, i.e. Korea is the home to world's top five shipyards in terms of new shipbuilding capacity. Striving to overcome the huge challenges presented by the persisting global economic and shipbuilding industry conditions, Korean shipbuilding and offshore industries are undertaking restructuring, embracing an industrial paradigm shift.

### Domestic Contribution: Development, Creating Job Opportunities

Contributing to the nation's economic growth and job creation, Korean exports of marine structures and relevant parts and components reached US\$42.18 billion in 2017, accounting for 7.4% of the nation's total exports. The sector's contribution rate to Korean exports, increased by 0.5 percentage point compared with 6.9% in 2016.

### Innovation & Vision: From Ship Builder to Ocean Builder

Korea's shipbuilding and offshore industry policy, based on new innovative concept "From Ship Builder to Ocean Builder" is focused on developing ocean value network, proactively responding to the wave of 4th Industrial Revolution. Refraining from excessive competition, its major strategies include product differentiation, world leader in safety and environmental technology and transparent & fair trade.

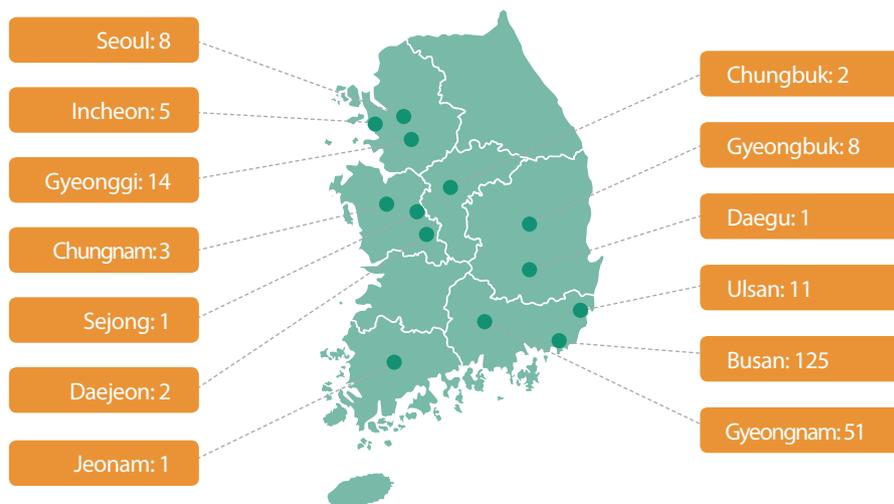


## No. of KOMEA Member Products (As of: Nov. 30, 2018)

Department	No.	Department	No.
Propulsion Arrangement	5	Safety Equipment	9
Auxiliary Arrangement	60	Outfitting	17
Piping Equipment	29	Electric / Electronics	40
Mooring/Cargo Arrangement	17	Others	25
Nautical Equipment	11	Total	232
Accommodation Equipment	19		

## Members Location (As of: Nov. 30, 2018)

(Unit: No. of Companies)



## Number of Employees (As of: Nov. 30, 2018)

Sections	2011	2012	2013	2014	2015	2016	2017
Hull	7,048	7,040	6,989	6,787	6,717	6,010	5,897
Engine & Machinery	22,477	20,674	20,316	17,314	16,989	16,141	16,079
Outfitting	17,297	17,014	17,101	16,678	16,232	15,728	14,395
Electric / Electronics	19,012	18,825	18,798	18,102	18,325	18,147	17,004
Total	65,834	63,553	63,204	58,881	58,263	56,026	53,375

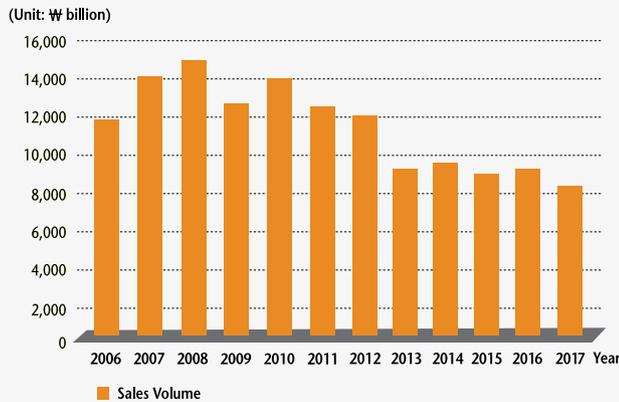
Source: Korea Marine Equipment Association (KOMEA)

## Sales Volume & Production

### Sales Volume Stands at 8.17 Trillion Won

The sales volume of the 232 members of Korea Marine Equipment Association (KOMEA) reached 8.17 trillion won in 2017, compared with 9.44 trillion won in 2016. KOMEA members roughly account for 80% of total Korean marine equipment sales.

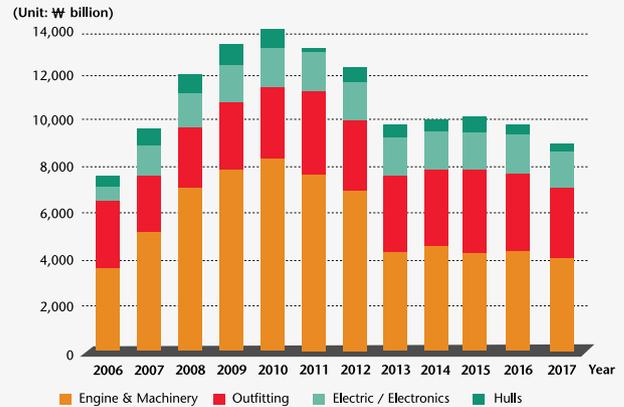
Sales Volume Trend 2006-2017



### Production Dips Slightly to 9.04 Trillion won

KOMEA member companies posted 9.04 trillion won in marine equipment production in 2017, compared with 9.86 trillion won in 2016, which is estimated to represent about 80% of Korea's total marine equipment output.

Production Trend 2006-2017



## Marine Equipment Production & Supply

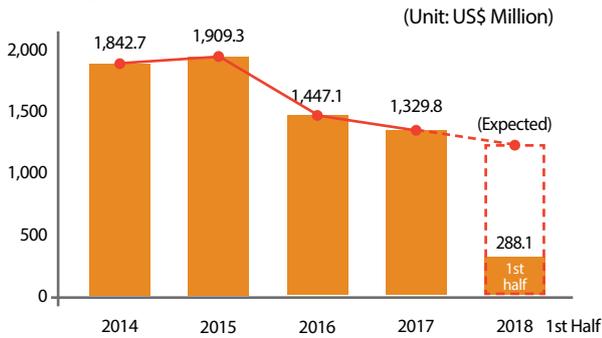
(Unit: ₩ Mil.)

Dept.	Item	Product			Supply		
		2015	2016	2017	2015	2016	2017
Hull	Chemical Product	48,921	45,697	41,908	49,063	44,469	40,782
	Welding Material	247,105	264,125	242,225	244,291	227,259	208,416
	Casting & Forging	304,290	203,451	186,582	342,109	297,432	272,770
	Metallic Product	47,342	56,124	51,470	44,209	48,101	44,112
	Sub Total	647,658	569,397	522,185	679,600	617,261	566,080
Engine & Machinery	Propulsion Arrangement	3,294,869	3,142,891	2,882,294	2,834,230	2,552,582	2,244,677
	Auxiliary Arrangement	1,032,422	1,321,405	1,211,839	987,670	1,214,300	1,067,825
	Sub Total	4,327,291	4,464,296	4,094,133	3,821,900	3,766,882	3,312,502
Outfitting	Steering Arrangement	63,785	61,489	56,390	61,123	67,654	57,475
	Nautical Equipment	49,090	54,026	49,546	48,930	51,500	43,752
	Mooring Arrangement	200,653	221,337	202,985	197,450	234,104	198,882
	Cargo Arrangement	509,707	519,424	476,355	508,237	529,684	449,991
	Safety Equipment	196,096	201,435	184,733	184,458	198,762	168,858
	Accommodation Equipment	1,866,048	1,447,275	1,327,272	1,734,532	1,600,746	1,359,908
	Piping Equipment	663,291	725,842	665,658	600,747	842,601	715,828
	Fish Arrangement	1,381	896	822	1,123	1,004	853
	Sub Total	3,550,051	3,231,724	2,963,761	3,336,600	3,526,055	2,995,547
Electric / Electronics	Power Arrangement	234,291	275,119	252,307	217,098	266,419	226,881
	Wiring Equipment	909,844	912,346	836,698	826,734	840,299	715,596
	Illumination Arrangement	166,778	148,195	135,907	154,678	145,147	123,607
	Communication Equipment	66,289	61,395	56,304	64,971	60,007	51,101
	Meters	198,890	200,119	183,526	186,719	213,104	181,479
	Sub Total	1,576,092	1,597,174	1,464,742	1,450,200	1,524,976	1,298,664
<b>Total</b>		<b>10,101,092</b>	<b>9,862,591</b>	<b>9,044,821</b>	<b>9,288,300</b>	<b>9,435,174</b>	<b>8,172,793</b>

Source: Korea Marine Equipment Association (KOMEA)

## Export Status of Korean Marine Equipment

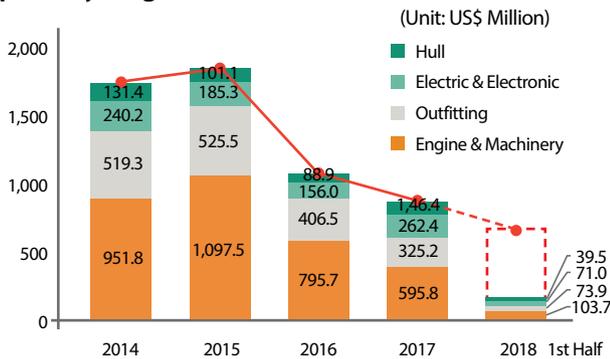
### Exports by Year



### 1H Exports Amounted to US\$288.1 Million in 2018

Korean marine equipment exports reached US\$288.1 million during the first half of 2018. Considering the overall stagnation of the global market, total exports for all of 2018 are not seen to surpass preceding year's record of US\$1.33 billion.

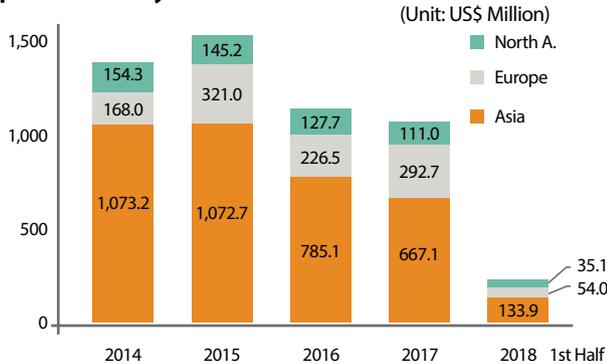
### Exports by Large Classification of Items



### Engine & Machinery Takes Lion's Share

Breaking down the Korean marine equipment exports during the January-June period of 2018, engine & machinery topped the list with US\$103.7 million, followed by outfittings with US\$73.9 million, electric & electronics with US\$71 million & hulls with US\$39.5 million.

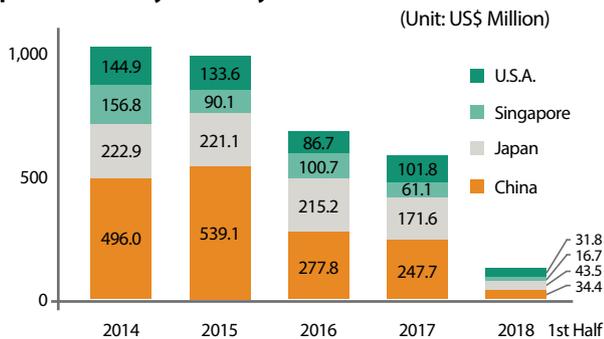
### Export Status by Continent



### Asia... The Largest Market

Asia continued to be the largest market for Korean marine equipment during the first half of 2018. The Asian countries' cumulative import bills for Korean marine equipment amounted to US\$33.9 million during the January-June period of 2018. Europe was the second largest destination of Korean marine equipment with US\$54 million, followed by North America with US\$35.1 million.

### Export Status by Country



### Japan.. The Largest Importer

By country, Japan was the largest importer of made-in-Korea marine equipment with US\$43.5 million during the half of 2018. It was followed by China with US\$34.4 million, U.S.A. with US\$31.8 million, Singapore with US\$16.7 million, etc.

Source: Korea Marine Equipment Association (KOMEA)

## Global Shipbuilding Facilities Status & Outlook

### Down 12.3% From 56.2 Mil. CGT in '13 to 49.3 Mil. CGT in '23

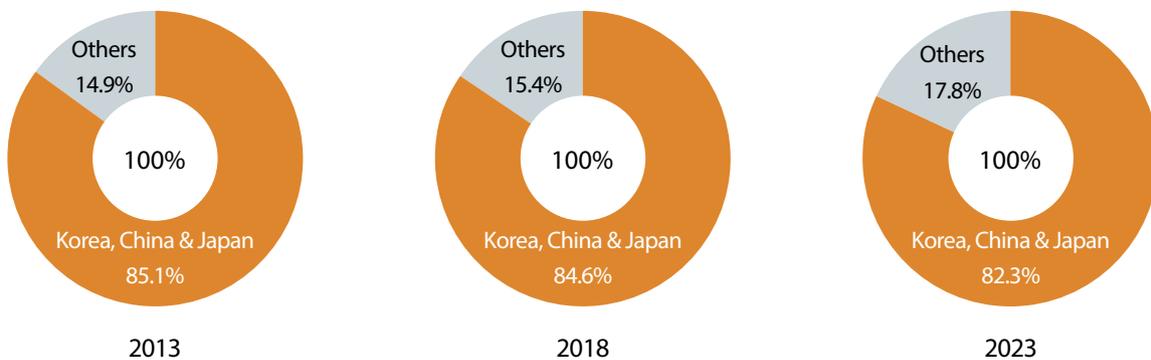
Global shipbuilding facility capacity is projected to decline to 49.3 million CGT in 2023, down 12.3% from the 56.2 million CGT registered in 2013. Despite the substantial plunge in global capacity, the three Northeast Asian shipbuilding giants' dominance of the global shipbuilding arena is expected to continue.

According to Clarksons Research's forecast the combined shipbuilding capacity of China, Korea and Japan will reach 40.59 million CGT in 2023, 82.3% of the global total of 49.3 million CGT.

Despite the global decline trend in terms of shipbuilding capacity, the three Northeast Asian countries – Korea, China and Japan are forecast to register slight increases during the 2018-2023 period. Illustratively, Korean shipbuilding capacity is forecast to reach 13.3 million CGT in 2023 compared with 11.6 million CGT in 2018. Meanwhile, China and Japan are seen to score 17.69 million CGT and 9.6 million CGT in 2023, respectively, compared with 14.0 million CGT and 8.0 million CGT in 2018.

World Shipbuilding Capacity Forecast						
(Unit: Million CGT)						
Year	Korea	China	Japan	Europe	Others	World
2013	16.0	22.7	9.1	3.4	5.0	56.2
2014	14.8	19.5	8.9	3.3	4.8	51.2
2015	14.8	16.6	8.4	3.2	4.4	47.4
2016	15.2	15.8	8.4	3.2	3.7	46.4
2017	14.3	14.3	8.2	3.0	3.1	42.9
2018	11.6	14.0	8.0	3.0	3.1	39.7
2019	11.4	13.3	7.1	2.9	2.7	37.4
2020	11.5	13.7	7.5	3.2	3.0	38.9
2021	12.3	15.7	8.7	3.9	3.4	44.0
2022	13.1	17.0	9.5	4.7	2.8	48.1
2023	13.3	17.69	9.6	4.9	3.9	49.3

#### Combined Share of Korea, China & Japan in Terms of Global Shipbuilding Facilities



Source: Clarksons Research 2018. 3

## Maximum Capacity of Major Global Shipyards

### 5 Korean Shipyards Among Global Top 10

Among the global top 10 shipyards in terms of 2016 production capacity are five Korean companies - Hyundai H.I. (No. 1), Daewoo (No. 2), Samsung H.I. (No. 3), Hyundai Mipo (No. 4), Hyundai Samho (No. 5). The remaining five spots in the global top 10 were taken by four Chinese shipyards – Dalian Shipbuilding (No. 6), Shanghai Waigaoqiao (No. 7), Jiangsu New YZJ (No. 8) and Hudong Zhonghua (No. 9) and one Japanese shipyard -- Oshima Shipbuilding (No. 10).

Shipyards	Country	2016 Capacity (1,000 CGT)	2017 Construction		
			Ships	1,000 DWT	1,000 CGT
Daewoo (DSME)	Korea	3,095	38	5,948	2,416
Hyundai HI (Ulsan)	Korea	3,836	41	5,646	1,859
Samsung HI	Korea	2,972	37	4,646	1,801
Shanghai Waigaoqiao	China	959	28	5,633	959
Imabari SB Saijo	Japan	417	5	936	204
Jiangsu New YZJ	China	721	27	1,643	607
Meyer Werft	Germany	372	2	27	300
New Times SB	China	647	26	2,670	645
Hyundai Samho HI	Korea	1,892	34	4,976	1,373
STX France	France	254	1	12	158
Hudong Zhonghua	China	697	16	1,244	697
Hyundai Mipo	Korea	1,904	45	1,704	1,029
GSI Nansha	China	439	16	1,891	439
Dalian Shipbuilding	China	1,131	12	2,535	432
MeyerTurku	Finland	152	2	14	152
Fincantieri Monfalcone	Italy	286	2	23	286
Oshima Shipbuilding	Japan	691	38	2,613	691
Beihai Shipyard	China	301	9	1,784	301
MHI Nagasaki	Japan	673	5	184	236
JMU Ariake Shipyard	Japan	343	8	1,872	343

Source: KOSHIPA

**Number of Korean Shipyards, etc.**

**Korea.. Home of World-Top-Class Shipbuilders**

As of the end of 2017, there were more than 48 large & mid-sized shipyards operating in Korea, while the eight members of the Korea Offshore & Shipbuilding Association (KOSHIPA) accounted for around 95% of total production.

Category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Medium & Largescale	9	9	9	9	9	9	9	9	10	9	8	8
Smallscale	53	57	49	47	46	44	43	40	38	38	41	40
Total	62	66	58	56	55	53	52	49	48	47	49	48

**KOSHIPA Member Shipyard Location Map**

- Ulsan**      **Hyundai Heavy Industries**
- Geoje**      **Samsung Heavy Industries**
- Geoje**      **Daewoo Shipbuilding & Marine Engineering**
- Mokpo**      **Hyundai Samho Heavy Industries**
- Ulsan**      **Hyundai Mipo Dockyard**
- Busan**      **Hanjin Heavy Industries & Construction**
- Busan**      **Dae Sun Shipbuilding & Engineering**
- Tongyeong**      **Sundong Shipbuilding & Marine Engineering**



**Status of Basic Facilities**

Company	Basic Facilities	
	Dock & Operating Fleet	Berth Length (meter)
Hyundai Heavy Industries	B.D.: 11 Units	7,407
Daewoo Shipbuilding	B.D.: 2 Units, F.D.: 5 Units, B.B.: 1 Unit	7,134
Samsung Heavy Industries	B.D.: 3 Units, F.D.: 4 Units	7,900
Hyundai Samho Heavy Ind.	B.D.: 2 Units, F.D.: 1 Unit, B.B.: 1 Unit	2,833
Hanjin Heavy (Yeongdo)	B.D.: 3 Units, B.B.: 2 Units	1,883
Hyundai Mipo Dockyard	B.D.: 4 Units	2,260
Dae Sun Shipbuilding	B.D.: 1 Unit, F.D.: 1 Unit, B.B.: 2 Units	673
Sungdong Shipbuilding	F.D.: 2 Units, B.B.: 6 Units	1,433

Source: KOSHIPA

## Korean Company-by-Company Facility Status

Company	Facility Name	L	B	D	Remarks
Hyundai Heavy Industries Co., Ltd.	B.D No.1-1	390	80	12.7	
	B.D No.1-2	165	47	12.7	
	B.D No.2	500	80	12.7	
	B.D No.3	672	92	13.4	
	B.D No.4	382	65	12.7	
	B.D No.5	382	65	12.5	
	B.D No.6	260	43	12	
	B.D No.7	170	25	11	
	B.DNo.8	460	70	12.7	
	B.DNo.9	460	70	12.7	
	B.D	490	115	13.5	Offshore
	B.D	700	115	18	Gunsan
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	B.D No.1	529	131	14.5	
	B.D No.2	539	81	14.5	
	F.D No.1	298	51.5	20.3	
	F.D No.2	238	38.8	26.9	
	F.D No.3	362	62	21	
	F.D No.4	438	70	23.5	
	F.D No.5	432	71.6	25.3	
Samsung Heavy Industries Co., Ltd.	B.D No.1	283	46	11	
	B.D No.2	390	65	11	
	B.D No.3	640	97.5	12.5	
	F.D No.1	269.7	52	20.4	
	F.D No.2	400	55	21.5	
	F.D No.3	400	70	23.5	
	F.D No.4	420	70	23.5	
Hyundai Samho Heavy Industries Co., Ltd.	B.D No.1	504	100	13	
	B.D No.2	594	104	13	
	B.B	492	65		
	F.D	336	70	24	For Launching & Berth
Hanjin Heavy Industries & Construction Co., Ltd.	B.D No.2	232.5	35	9	Yeongdo
	B.D No.3	301.8	50	11.5	
	B.D No.4	301.8	50	11.5	
	No.1 Mounting Site	150	24		
	No.2 Mounting Site	100	36		
Hyundai Mipo Dockyard Co., Ltd.	B.D No.1	380	65	12.5	
	B.D No.2	380	65	12.5	
	B.D No.3	380	65	12.5	
	B.D No.4	295	76	12.5	
Dae Sun Shipbuilding & Engineering Co., Ltd.	B.D	109	19	7.7	
	F.D	190.9	34.4	15.2	
	B.B No.2	122	25		
	B.B No.3	173	40		
Sungdong Shipbuilding & Marine Engineering Co., Ltd.	B.B No.1	316	40		
	B.B No.2	316	50		
	B.B No.4	637	45		
	B.B No.5 - 7	516	48		
	F.D No.1	230	48	18.7	
	F.D No.2	320	55	19	

Source: KOSHIPA

\* B.D.: Building Dock, R.D.: Repair Dock, F.D.: Floating Dock, B.B.: Building Berth

**Clusters With Research/Tech Development Facilities**

**Strong Value Chain for Connectivity, Productivity & Creativity**

Having been established along the coast of Korean peninsula, Korean shipbuilding clusters have contributed to a stable supply of parts & materials linking steel plate, engines, auxiliary parts & components.

The next-door-neighbor location of relevant colleges, parts, materials, and equipment enterprises has the advantage of facilitating efficient cooperation among shipyards, equipment suppliers, research & development, etc.

The value of clusters as leverage to enhance the competitiveness of Korea's shipbuilding & offshore industry has increased with the establishment of essential research and testing facilities.

Shipyards & Infra by Regional Cluster



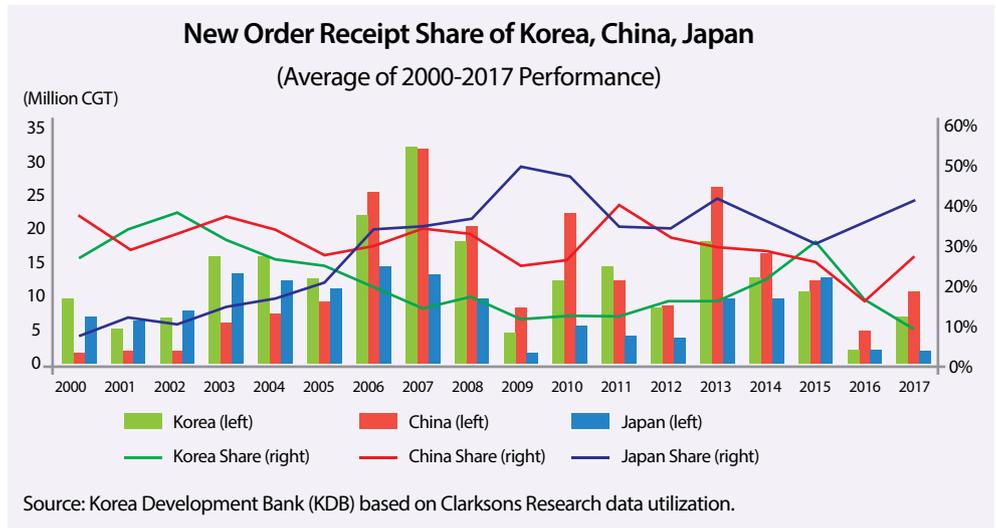
<p><b>Busan</b></p>	<ul style="list-style-type: none"> <li>- The world's largest deep offshore engineering basin, measuring 100 meters long, 50 meters wide and 15 meters in depth with a 50-meter deep pit, is a rectangular tank featuring automated depth control and an environmental conditions simulator facility.</li> <li>- The world's first multiphase flow (mixed gases, liquids and solids) equipment design R&amp;D center. This facility provides technical development support as well as safety/reliability evaluations of multi-phase flow conditions in equipment used during drilling (pipes, pumps, valves, etc.).</li> </ul>
<p><b>Ulsan</b></p>	<ul style="list-style-type: none"> <li>- The world's second drilling test bed was constructed at an abandoned well in the East Sea near Ulsan</li> <li>- The Korea Shipbuilding and Marine Equipment Research Institute at Geoje provides multifunction composite towers and testing installations to improve the safety, durability, quality and reliability of related marine equipment.</li> </ul>
<p><b>Geoje</b></p>	<ul style="list-style-type: none"> <li>- The Korea Shipbuilding &amp; Marine Equipment Research Institute at Geoje features multifunctional composite towers as well as testing installations to improve the safety, durability, quality and reliability of marine equipment.</li> </ul>
<p><b>Hadong</b></p>	<ul style="list-style-type: none"> <li>- The Hadong area will be home to the Offshore Plant Explosion/Fire Testing Center, which will be a key testing facility for equipment and procedures capable of responding to explosions, fires and structural failures that may occur on offshore plant platforms.</li> </ul>
<p><b>Mokpo</b></p>	<ul style="list-style-type: none"> <li>- The Marine Cable Test Research Center. This facility supports the production of highly functional and reliable marine cables (umbilical, laser, flow line) with a comprehensive testing and evaluation facility for a range of deep seabed marine cables.</li> </ul>

## Global Periscope by Country & Region

### New Order Receipt Share: Korea 30.7%, China 30.1%, Japan 21%

Korea recorded 30.7% of global shipbuilding orders during the 2000-2017 period, 0.6 percentage point higher than China's 30.1%, according to a tally by Korea Development Bank (KDB). Japan registered 21% during cited period.

Meanwhile, the three countries' cumulative new order receipts reached 14.1 million CGT, accounting for 73% of the global total.



(Unit: 1,000 CGT)

Country	2012	2013	2014	2015	2016	2017
Korea	6,823	15,533	12,076	10,087	2,456	6,326
China	8,110	17,671	13,280	11,830	3,400	6,620
Japan	4,318	6,941	8,819	9,660	1,476	1,172
Denmark						34
France	200		274		453	264
Germany	403	336	489	665	682	338
Italy	156	515	794	775	1,106	1,499
Netherlands	68	31	24	87	54	127
U.K.						7
Finland	123		218	587	41	349
Spain					113	154
Poland	123	42	69	9	85	127
Romania	244	511	297	96	301	118
Norway						135
Croatia	67	76	175	123	127	17
U.S.A.	299	305	53	45	153	103
Brazil	627	252			65	19
Taiwan	61	464	165	257	73	72
World	24,421	50,297	37,747	36,110	10,585	19,320

Source: Lloyd's World Shipbuilding Statistics (IHS-Fairplay), KOSHIPA

## Korean Performance by Year

# Reaching 7.5 Mil. CGT in 2017 Compared With 2.01 Mil. in 2016

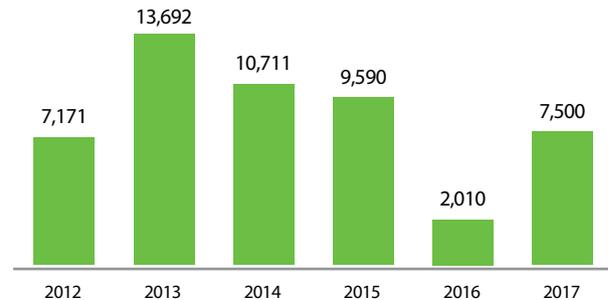
In 2017, Korea received new shipbuilding orders reached 7.5 million CGT, far ahead of 2.01 million harvested in 2016.

The new order volume, breaking down to 6.5 million CGT in exports and 995,061 CGT in domestic order, is still much less than 23,644 million CGT Korea shipyards earned in 2007.

Meanwhile, during January-September period of 2018 Korean shipyards' combined new order reached 9.5 million CGT, enlisting the largest share of 45% in the global shipbuilding market.

New Shipbuilding Orders Korea Clinched

(Unit: 1,000 CGT)



Year	Domestic			Overseas			Total		
	Ships	GT	CGT	Ships	GT	CGT	Ships	GT	CGT
2001				185	10,832,193	6,408,408	185	10,832,193	6,408,408
2002				230	12,773,511	7,590,962	230	12,773,511	7,590,962
2003	5	44,250	48,955	465	28,143,948	16,700,221	470	28,188,198	16,749,176
2004				441	25,735,279	16,307,013	441	25,735,279	16,307,013
2005				349	19,279,380	11,964,960	349	19,279,380	11,964,960
2006				498	33,656,169	19,584,786	498	33,656,169	19,584,786
2007	3	22,600	26,187	704	49,967,536	23,617,351	707	49,990,136	23,643,538
2008	14	613,080	281,530	453	33,161,670	13,740,629	467	33,774,750	14,022,158
2009	2	29,100	35,009	47	3,695,608	1,379,091	49	3,724,708	1,414,100
2010	14	579,928	290,586	306	18,324,410	7,865,597	320	18,904,338	8,156,183
2011	30	1,461,021	762,939	236	19,585,779	10,867,402	266	21,046,800	11,630,342
2012	38	1,297,848	757,345	176	11,301,795	6,414,390	214	12,599,643	7,171,736
2013	30	1,715,656	819,218	377	25,797,108	12,873,626	407	27,512,764	13,692,844
2014	25	825,590	445,747	268	20,251,026	10,265,256	293	21,076,616	10,711,003
2015	27	1,616,228	1,065,144	221	20,485,989	8,524,931	248	22,102,217	9,590,075
2016	14	367,000	301,473	47	3,917,880	1,708,315	61	4,284,880	2,009,788
2017	28	3,368,984	995,061	160	16,204,758	6,500,087	188	19,573,742	7,495,148

Source: KOSHIPA

## Korean Performance by Shipyard

### HHI Captures 1st Place Outpacing DSME in 2017

Hyundai Heavy Industries (HHI) took first place in the new order receipt race in 2017, registering 2.37 million CGT, edging out its closest rival Daewoo Shipbuilding & Marine Engineering (DSME) with 1.42 million CGT and Samsung Heavy Industries (SHI) with 1.41 million CGT.

Company	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Hyundai Heavy Industries Co., Ltd.	10	453,613	38	1,913,830	48	2,367,443
Daewoo Shipbuilding & Marine Engineering Co., Ltd.			24	1,415,788	24	1,415,788
Samsung Heavy Industries Co., Ltd.	2	28,859	26	1,381,581	28	1,410,440
<b>2017</b> Hyundai Samho Heavy Industries Co., Ltd.	10	438,941	26	1,002,871	36	1,441,812
Hanjin Heavy Industries & Construction Co., Ltd.						
Hyundai Mipo Dockyard Co., Ltd.	1	7,849	34	635,554	35	643,403
Dae Sun Shipbuilding & Engineering Co., Ltd.	5	22,733	7	63,909	12	86,642
Sungdong Shipbuilding & Marine Engineering Co., Ltd.			5	129,620	5	129,620
<b>Total</b>	<b>28</b>	<b>301,473</b>	<b>160</b>	<b>6,543,153</b>	<b>188</b>	<b>7,495,148</b>

Company	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Hyundai Heavy Industries Co., Ltd.	2	174,692	11	503,243	13	677,935
Daewoo Shipbuilding & Marine Engineering Co., Ltd.			7	432,887	7	432,887
Samsung Heavy Industries Co., Ltd.			7	260,212	7	260,212
<b>2016</b> Hyundai Samho Heavy Industries Co., Ltd.			8	269,388	8	269,388
Hanjin Heavy Industries & Construction Co., Ltd.						
Hyundai Mipo Dockyard Co., Ltd.	3	64,085	12	200,972	15	265,058
Dae Sun Shipbuilding & Engineering Co., Ltd.	9	62,695			9	62,695
Sungdong Shipbuilding & Marine Engineering Co., Ltd.			2	41,613	2	41,613
<b>Total</b>	<b>14</b>	<b>301,473</b>	<b>47</b>	<b>1,708,315</b>	<b>61</b>	<b>2,009,788</b>

Company	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Hyundai Heavy Industries Co., Ltd.	5	143,574	52	2,178,838	57	2,322,412
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	4	350,435	26	1,724,428	30	2,074,863
Samsung Heavy Industries Co., Ltd.	2	162,940	30	1,456,766	32	1,619,706
<b>2015</b> Hyundai Samho Heavy Industries Co., Ltd.	6	221,756	35	1,406,582	41	1,628,338
Hanjin Heavy Industries & Construction Co., Ltd.			4	77,652	4	77,652
Hyundai Mipo Dockyard Co., Ltd.	4	70,164	44	1,005,759	48	1,075,923
STX Offshore & Shipbuilding Co., Ltd.	4	84,464	18	450,952	22	535,416
Dae Sun Shipbuilding & Engineering Co., Ltd.	2	31,811	8	111,742	10	143,553
Sungdong Shipbuilding & Marine Engineering Co., Ltd.			4	112,214	4	112,214
<b>Total</b>	<b>27</b>	<b>1,065,144</b>	<b>221</b>	<b>8,524,933</b>	<b>248</b>	<b>9,590,077</b>

Source: KOSHIPA

## Korean Performance by Ship Type

# Tankers Bring Largest New Shipbuilding Order Receipt in 2017

Korean shipyards bagged a fleet of 77 tanker orders in 2017 with combined tonnage reaching 2.90 million CGT. The figure outpaced containership with 1.6 million CGT, LNG carrier with 920,295 CGT and bulk carrier with 764,104 CGT.

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
2017 Tanker	3	128,450	74	2,768,762	77	2,897,212
Product Carrier	1	4,427	26	429,846	27	434,273
Chemical Tanker						
Bulk Carrier	17	764,104			17	764,104
Containership			28	1,596,358	28	1,596,358
LNG Carrier	2	28,859	10	891,436	12	920,295
LPG Carrier			7	191,540	7	191,540
Car Carrier			4	120,048	4	120,048
Drillship						
Others	5	26,155	11	545,163	16	571,318
Total	28	951,995	160	6,543,153	188	7,495,148

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
2016 Tanker	8	40,061	18	620,026	26	660,088
Product Carrier	1	17,076	18	371,880	19	388,956
Chemical Tanker						
Bulk Carrier	1	16,114			1	16,114
Containership			4	254,920	4	254,920
LNG Carrier	2	174,692	3	263,612	5	438,304
LPG Carrier			1	30,102	1	30,102
Car Carrier						
Drillship						
Others	2	53,530	3	167,774	5	221,304
Total	14	301,473	47	1,708,315	61	2,009,788

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
2015 Tanker	4	84,464	83	2,811,524	87	2,895,988
Product Carrier			35	640,052	35	640,052
Chemical Tanker						
Bulk Carrier						
Containership	4	61,960	47	2,999,212	51	3,061,172
LNG Carrier	6	513,375	7	614,332	13	1,127,707
LPG Carrier	7	183,589	27	654,388	34	837,977
Car Carrier	6	221,756	16	570,961	22	792,717
Drillship						
Others			6	234,463	6	234,463
Total	27	1,065,144	221	8,524,932	248	9,590,076

Source: KOSHIPA

## Newbuilding Demand Forecast

### 31.8-44.3 Million CGT During 2017-2035 Annual Average

In the 2018 global supply-demand specialists conference, KOSHIPA presented an outlook that global newbuilding demand will score an annual average of 38.4 million CGT during the 2017-2035 period CGT. CANSI of China and SAT of Japan forecast 44.3 million CGT and 31.8 million CGT, respectively, while SEA Europe presented an outlook of 40.8 million CGT for 2018-2034 period.

## Shipbuilding Associations Annual Average Forecast by Country

(Unit: Million CGT)

Country	Period 1	Period 2	Period 3	Period 4	Annual Average
Korea (KOSHIPA)	2017-2020	2021-2025	2026-2030	2031-2035	2017-2035
	22.4	35.1	41.8	54.4	38.4
China (CANSI)	2018-2020	2021-2025	2026-2030	2031-2035	2017-2035
	38.0	42.0	48.0	49.0	44.3
Japan (SAJ)	2016-2020	2021-2025	2026-2030	2031-2035	2016-2035
	19.9	27.5	34.9	43.6	31.8
Europe (SEA Europe)	2018-2020	2021-2024	2025-2029	2030-2034	2018-2034
	31.0	36.3	47.5	48.2	40.8

## Shipbuilding Associations Forecast by Ship Type

(Unit: Million CGT)

Korea (KOSHIPA)					
Annual Average	2017 - 2020	2021 - 2025	2026 - 2030	2031 - 2035	2017 - 2035
Tanker	4.4	5.1	7.5	9.4	6.6
Bulk	6.7	8.1	6.8	6.8	7.1
Container	3.8	10.8	14.3	21.4	12.6
LNG	2.4	1.7	1.6	1.7	1.9
China (CANSI)					
Annual Average	2018 - 2020	2021 - 2025	2026 - 2030	2031 - 2035	2017 - 2035
Tanker	5.6	6.2	5.8	6.1	5.9
Bulk	5.5	6.6	7.6	8.4	7.0
Japan (SAJ)					
Annual Average	2017 - 2020	2021 - 2025	2026 - 2030	2031 - 2035	2017 - 2035
Tanker	2.9	5.2	7.2	8.1	5.9
Bulk	2.0	4.0	6.0	10.1	5.6
Container	2.2	7.3	9.3	10.9	7.6
LNG	3.6	1.7	2.2	2.7	2.5
LPG	1.4	0.6	0.9	0.9	0.9

\* Based on Newbuilding Requirements, which was presented at 2018 global shipbuilding supply-demand specialists conference

## Global Periscope by Country & Region

### Korea Records Highest Share of Deliveries in Terms of Value in 2017

Korean shipbuilding deliveries accounted for 35% of the global total in terms of value, according to Shipbuilding Market Developments publication (Q2 2018) of OECD WP6.

The publication says, "While China and Japan accounted for 35% and 20% of all deliveries in 2017 in terms of CGT, respectively, their share of total value of ships delivered in that year is somewhat lower with 28% in the case of China and 17% for Japan. Korea delivered 31% of all vessels in terms of CGT in 2017, but 35% in terms of value."

#### Shipbuilding Deliveries Scoreboard in 2017

Ranks	In Terms of CGT	In Terms of Value
1	China (35%)	<b>Korea (35%)</b>
2	<b>Korea (31%)</b>	China (28%)
3	Japan (20%)	Japan (17%)
4	Europe (7%)	Europe (13%)

Source: OECD WP6

(Unit: 1,000 CGT)

Country	2011	2012	2013	2014	2015	2016	2017
Korea	15,797	13,391	11,395	10,120	11,033	11,584	10,119
China	19,198	19,331	11,784	10,193	11,558	11,585	11,360
Japan	9,160	8,350	6,828	6,585	6,591	6,984	6,698
Denmark	63						
France	6	152	199	2	332	197	62
Germany	393	471	366	391		436	420
Greece	14		0		252		27
Italy	443	366	177	294	54	492	518
Netherlands	187	137	53	6		221	123
U.K.							8
Finland	42	71	48	109	109	137	189
Spain	251					120	108
Portugal	2						
Poland	116	150	77	75	41	157	218
Romania	364	328	205	112	179	521	326
Norway	29						70
Croatia	258	125	55	57	46	58	71
U.S.A.	84	205	47	71	179	377	222
Brazil	117	179	49	60	143	225	132
Taiwan	395	440	262	303	430	263	378
World	51,004	47,918	38,349	37,747	32,537	33,357	33,804

Source: KOSHIPA, IHS-Fairplay

## Korean Performance by Year

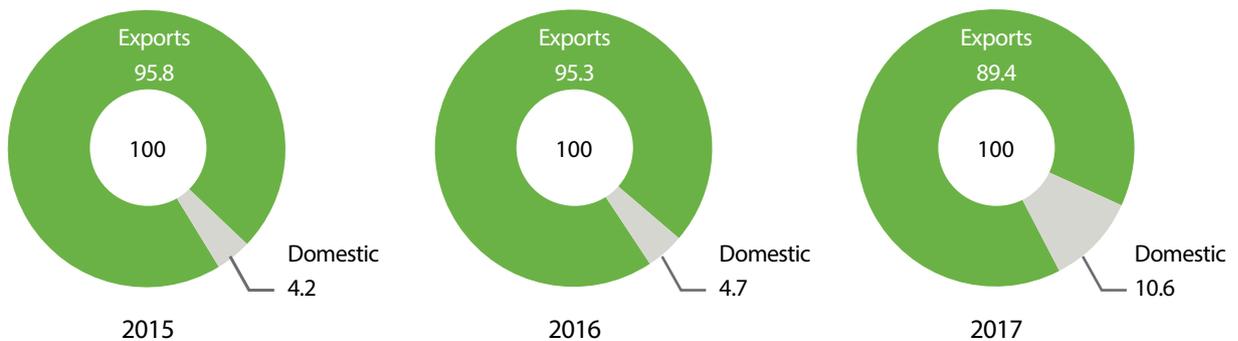
### Exports Account for 89.4% of Total Shipbuilding Performance

Korean shipbuilding completions reached 9.1 million CGT in 2017 compared with 9.9 million CGT in 2016. Shipbuilding completions for domestic deliveries accounted for 10.6% of the total, a sharp rise compared with 4.7% in 2016 and 4.2% in 2015.

Year	Domestic			Overseas			Total		
	Ships	GT	CGT	Ships	GT	CGT	Ships	GT	CGT
2001	1	990	4,950	206	11,793,289	6,441,664	207	11,794,279	6,446,614
2002	1	15,900	18,285	209	12,971,808	6,805,870	210	12,987,708	6,824,155
2003				223	13,602,868	7,264,881	223	13,602,868	7,264,881
2004	1	8,813	10,576	259	15,134,164	8,716,096	260	15,142,977	8,726,672
2005	4	35,122	38,100	281	17,319,759	10,171,085	285	17,354,881	10,209,185
2006	1	9,522	8,570	314	17,773,668	11,096,597	315	17,783,190	11,105,167
2007				340	18,954,943	10,294,146	340	18,954,943	10,294,146
2008	8	370,350	305,123	368	22,749,019	12,160,870	376	23,119,369	12,465,993
2009	8	381,700	157,584	382	24,421,085	12,103,400	390	24,802,785	12,260,984
2010	15	1,124,172	465,649	361	25,272,842	12,233,448	376	26,397,014	12,677,603
2011	20	1,550,670	591,072	406	28,313,470	12,968,020	426	29,864,140	13,559,092
2012	13	698,647	294,709	363	27,253,162	11,429,278	376	27,951,809	11,723,986
2013	19	1,188,366	495,703	282	20,036,208	9,541,069	301	21,224,574	10,036,772
2014	41	1,895,576	924,059	236	18,493,664	9,371,710	277	20,389,921	10,295,769
2015	16	1,050,543	424,600	267	18,947,722	9,652,041	283	19,998,265	10,076,641
2016	24	1,016,232	469,506	267	20,918,504	9,438,008	291	21,934,736	9,907,514
2017	26	1,675,793	964,556	222	18,955,416	8,107,476	248	20,631,209	9,072,032

Source: KOSHIPA

### Exports Percentage of Korean Shipbuilding



Source: KOSHIPA

## Korean Performance by Shipyard

### Top 3 Shipyards Account for 67.8% of Shipbuilding Completions

Korea's top 3 shipyards -- Hyundai H.I., Daewoo and Samsung -- scored combined 6.14 million CGT in shipbuilding completions in 2017, which accounted for 67.7% of the national total. The increase rate was 9.4 percentage points higher than 2016 performance.

Company	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Hyundai Heavy Industries Co., Ltd.	4	128,052	46	2,073,577	50	2,201,629
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	4	351,484	33	1,828,949	37	2,180,433
Samsung Heavy Industries Co., Ltd.	1	88,916	41	1,671,563	42	1,760,480
2017 Hyundai Samho Heavy Industries Co., Ltd.	9	272,029	26	1,069,351	35	1,341,380
Hanjin Heavy Industries & Construction Co., Ltd.	1	28,246	5	86,327	6	114,573
Hyundai Mipo Dockyard Co., Ltd.	2	29,814	43	787,680	45	817,494
Dae Sun Shipbuilding & Engineering Co., Ltd.	4	37,273	4	60,197	8	97,470
Sungdong Shipbuilding & Marine Engineering Co., Ltd.	1	28,743	24	529,830	25	558,573
Total	26	964,557	222	8,107,474	248	9,072,032

Company	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Hyundai Heavy Industries Co., Ltd.	2	70,638	56	2,330,704	58	2,401,342
Daewoo Shipbuilding & Marine Engineering Co., Ltd.			40	1,940,596	40	1,940,596
Samsung Heavy Industries Co., Ltd.			25	1,446,750	25	1,446,750
2016 Hyundai Samho Heavy Industries Co., Ltd.	5	150,742	38	1,705,872	43	1,856,614
Hanjin Heavy Industries & Construction Co., Ltd.	4	113,439	5	131,186	9	244,624
Hyundai Mipo Dockyard Co., Ltd.	2	17,218	65	1,052,525	67	1,069,743
Dae Sun Shipbuilding & Engineering Co., Ltd.	10	88,726	3	22,676	13	111,402
Sungdong Shipbuilding & Marine Engineering Co., Ltd.	1	28,743	35	807,700	36	836,443
Total	24	469,506	267	9,438,008	291	9,907,514

Company	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Hyundai Heavy Industries Co., Ltd.	1	41,939	51	2,342,142	52	2,384,081
Daewoo Shipbuilding & Marine Engineering Co., Ltd.			34	1,606,355	34	1,606,355
Samsung Heavy Industries Co., Ltd.			32	1,708,518	32	1,708,518
2015 Hyundai Samho Heavy Industries Co., Ltd.	6	218,586	25	1,134,131	31	1,352,718
Hanjin Heavy Industries & Construction Co., Ltd.	1	28,398	2	62,667	3	91,064
Hyundai Mipo Dockyard Co., Ltd.	8	135,677	71	1,266,074	79	1,401,752
STX Offshore & Shipbuilding Co., Ltd.			33	1,048,421	33	1,048,421
Dae Sun Shipbuilding & Engineering Co., Ltd.			2	43,129	2	43,129
Sungdong Shipbuilding & Marine Engineering Co., Ltd.			17	440,604	17	440,603
Total	16	424,600	267	9,652,041	283	10,076,641

Source: KOSHIPA

## Korean Performance by Ship Type

### Containership Records Largest Delivery Tonnage by Ship Type

Containership brought the largest tonnage of built-in-Korea vessels in 2017 with 2.43 million CGT, followed by tanker with 2.40 million CGT, LNG carrier with 1.80 million CGT, according to KOSHIPA Statistics.

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Tanker	3	51,186	71	2,344,734	74	2,395,919
Product Carrier	3	53,675	46	835,981	49	889,655
Chemical Tanker						
Bulk Carrier	3	98,928	4	74,792	7	173,720
Containership	4	59,438	38	2,372,467	42	2,431,905
LNG Carrier	5	440,400	15	1,361,922	20	1,802,322
LPG Carrier	4	114,655	26	610,993	30	725,648
Car Carrier	4	146,275	4	145,512	8	291,787
Drillship			3	103,394	3	103,394
Others			15	257,681	15	257,681
<b>Total</b>	<b>26</b>	<b>964,557</b>	<b>222</b>	<b>8,107,476</b>	<b>248</b>	<b>9,072,032</b>

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Tanker	4	57,545	55	1,919,202	59	1,976,747
Product Carrier	3	53,238	70	1,169,430	73	1,222,668
Chemical Tanker	1	6,474			1	6,474
Bulk Carrier	5	142,182	18	535,769	23	677,950
Containership	6	74,061	40	2,227,806	46	2,301,867
LNG Carrier			22	1,920,756	22	1,920,756
LPG Carrier	1	28,699	46	1,217,252	47	1,245,951
Car Carrier	3	104,803	4	151,110	7	255,913
Drillship			1		1	
Others	1	2,504	11	296,683	12	299,188
<b>Total</b>	<b>24</b>	<b>469,506</b>	<b>267</b>	<b>9,438,008</b>	<b>291</b>	<b>9,907,514</b>

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
Tanker	2	89,285	17	431,648	19	520,932
Product Carrier	7	119,303	86	1,569,921	93	1,689,224
Chemical Tanker						
Bulk Carrier	3	100,225	16	501,063	19	601,289
Containership	1	16,374	62	3,468,395	63	3,484,769
LNG Carrier			22	1,837,404	22	1,837,404
LPG Carrier			36	887,774	36	887,774
Car Carrier	3	99,413	3	69,133	6	168,546
Drillship			9	355,664	9	355,664
Others			16	531,039	16	531,039
<b>Total</b>	<b>16</b>	<b>424,600</b>	<b>267</b>	<b>9,652,041</b>	<b>283</b>	<b>10,076,641</b>

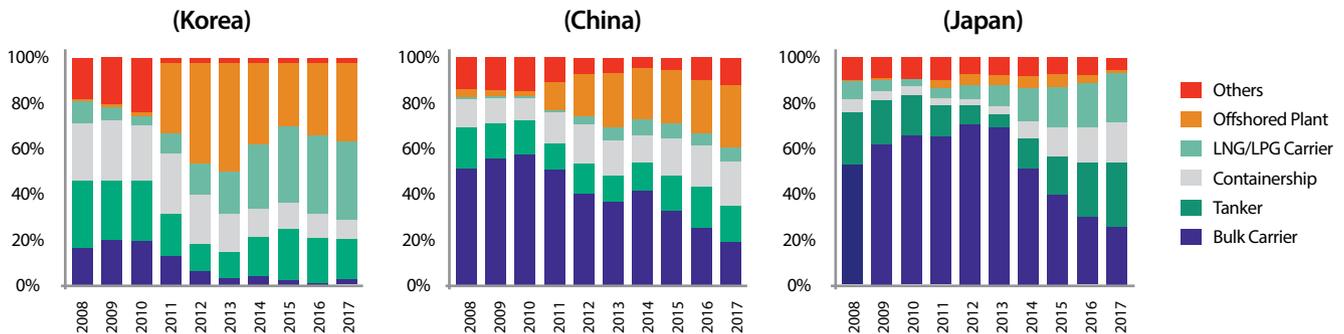
Source: KOSHIPA

## Global Periscope by Country &amp; Region

## China, Korea, Japan Hold 70.4% of '17 Global Order Books

The World's big 3 shipbuilding nations – China, Korea and Japan – had a combined orderbook of 56.25 million CGT, 70.7% of the global total of 79.59 million CGT, according to IHS-Fairplay, KOSHIPA.

Order Book Ratio of Korea, China and Japan (Amount Basis)



Source: KDB, Clarksons Research

(Unit: 1,000 CGT)

Country	2011	2012	2013	2014	2015	2016	2017
Korea	33,066	24,164	27,883	29,081	29,636	20,686	16,223
China	38,872	29,361	33,427	36,417	36,369	32,473	24,708
Japan	15,829	12,223	13,337	17,046	18,145	19,880	15,322
Denmark							44
France	435	380	192	651	651	923	1,735
Germany	1,230	1,073	950	1,350	1,368	1,998	2,274
Greece			6				37
Italy	1,096	912	1,293	1,618	1,430	2,230	3,335
Netherlands	225	169	155	131	198	294	329
U.K.							85
Finland	165	221	222	328	371	809	1,299
Spain	43					555	654
Portugal							27
Poland	159	164	118	114	140	350	298
Romania	483	337	649	814	814	838	633
Norway							296
Croatia	215	145	198	379	345	568	512
U.S.A.		300	521	556	516	779	375
Brazil	998	721	852	768	768	1,135	274
Taiwan	1,167	818	1,018	866	823	623	352
World	111,442	88,674	98,535	94,555	95,792	84,323	79,589

Source: KOSHIPA, IHS-Fairplay

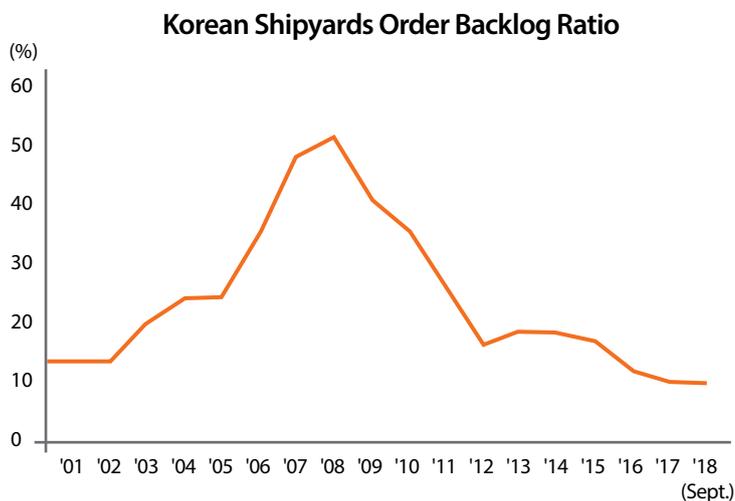
## Korean Performance by Year

### KOSHIPA Members' Combined Order Books Hits 17.4 Mil. CGT in 2017

The cumulative shipbuilding order backlog of KOSHIPA member companies, accounting for about 95% of Korean shipbuilding production, reached 17.37 million CGT in 2017, compared with 19.27 million CGT recorded in 2016.

Thanks to the large volume of new orders, Korea's shipbuilding backlog rose to over 20 million as of the end of September in 2018.

Korea's record-high order backlog tonnage remains the 54.4 million CGT posted in 2008.



(Unit: 1,000 CGT)

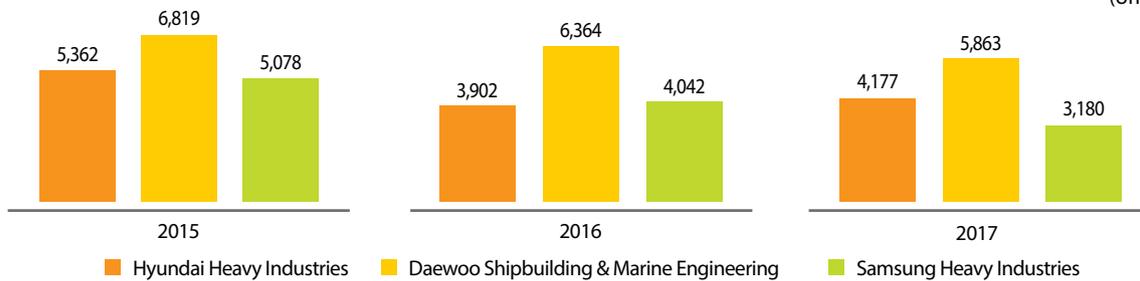
Year	Domestic			Overseas			Total		
	Ships	GT	CGT	Ships	GT	CGT	Ships	GT	CGT
2001	1	15,900	18,285	474	31,114,626	16,196,526	475	31,130,526	16,214,811
2002				496	30,099,924	17,074,092	496	30,099,924	17,074,092
2003	5	44,250	48,955	733	44,497,846	26,359,802	738	44,542,096	26,408,757
2004	4	35,450	38,395	914	55,046,096	33,923,375	918	55,081,546	33,961,770
2005				980	56,859,571	35,639,731	980	56,859,571	35,639,731
2006				1,164	73,030,904	45,255,986	1,164	73,030,904	45,255,986
2007	3	22,600	19,739	1,521	103,326,842	51,132,285	1,524	103,349,442	51,152,024
2008	17	635,680	293,088	1,673	117,033,632	54,090,420	1,690	117,669,312	54,383,508
2009	16	598,480	289,358	1,336	95,668,652	43,231,703	1,352	96,267,132	43,521,061
2010	71	5,959,168	2,141,267	1,048	74,716,300	32,416,328	1,119	80,675,468	34,557,595
2011	63	4,518,061	1,769,399	878	67,241,511	31,546,906	941	71,759,572	33,316,305
2012	81	4,484,009	2,026,607	674	51,118,160	26,225,373	755	55,602,169	28,251,979
2013	87	4,989,704	2,255,059	790	58,442,557	30,019,587	877	63,432,261	32,274,646
2014	60	3,169,222	1,418,533	831	60,153,272	31,051,701	891	63,322,494	32,470,234
2015	54	3,133,168	1,786,068	668	55,350,604	26,080,713	722	58,483,772	27,866,781
2016	41	1,752,728	1,184,592	398	37,597,842	18,085,988	439	39,350,570	19,270,580
2017	53	4,650,484	1,791,351	333	32,156,708	15,578,471	386	36,807,192	17,369,822

Source: KOSHIPA

## Korean Performance by Shipyard

## Big 3 Account for 76.1% of All Korean Shipyards Order Books in 2017

(Unit: 1,000 CGT)



	Company	Domestic		Overseas		Total	
		Ships	CGT	Ships	CGT	Ships	CGT
2017	Hyundai Heavy Industries Co., Ltd.	4	128,052	46	2,073,577	50	2,201,629
	Daewoo Shipbuilding & Marine Engineering Co., Ltd.	4	351,484	33	1,828,949	37	2,180,433
	Samsung Heavy Industries Co., Ltd.	1	88,916	41	1,671,563	42	1,760,480
	Hyundai Samho Heavy Industries Co., Ltd.	9	272,029	26	1,069,351	35	1,341,380
	Hanjin Heavy Industries & Construction Co., Ltd.	1	28,246	5	86,327	6	114,573
	Hyundai Mipo Dockyard Co., Ltd.	2	29,814	43	787,680	45	817,494
	Dae Sun Shipbuilding & Engineering Co., Ltd.	4	37,273	4	60,197	8	97,470
	Sungdong Shipbuilding & Marine Engineering Co., Ltd.	1	28,743	24	529,830	25	558,573
	<b>Total</b>	<b>26</b>	<b>964,557</b>	<b>222</b>	<b>8,107,474</b>	<b>248</b>	<b>9,072,032</b>
2016	Hyundai Heavy Industries Co., Ltd.	2	70,638	56	2,330,704	58	2,401,342
	Daewoo Shipbuilding & Marine Engineering Co., Ltd.			40	1,940,596	40	1,940,596
	Samsung Heavy Industries Co., Ltd.			25	1,446,750	25	1,446,750
	Hyundai Samho Heavy Industries Co., Ltd.	5	150,742	38	1,705,872	43	1,856,614
	Hanjin Heavy Industries & Construction Co., Ltd.	4	113,439	5	131,186	9	244,624
	Hyundai Mipo Dockyard Co., Ltd.	2	17,218	65	1,052,525	67	1,069,743
	Dae Sun Shipbuilding & Engineering Co., Ltd.	10	88,726	3	22,676	13	111,402
	Sungdong Shipbuilding & Marine Engineering Co., Ltd.	1	28,743	35	807,700	36	836,443
	<b>Total</b>	<b>24</b>	<b>469,506</b>	<b>267</b>	<b>9,438,008</b>	<b>291</b>	<b>9,907,514</b>
2015	Hyundai Heavy Industries Co., Ltd.	1	41,939	51	2,342,142	52	2,384,081
	Daewoo Shipbuilding & Marine Engineering Co., Ltd.			34	1,606,355	34	1,606,355
	Samsung Heavy Industries Co., Ltd.			32	1,708,518	32	1,708,518
	Hyundai Samho Heavy Industries Co., Ltd.	6	218,586	25	1,134,131	31	1,352,718
	Hanjin Heavy Industries & Construction Co., Ltd.	1	28,398	2	62,667	3	91,064
	Hyundai Mipo Dockyard Co., Ltd.	8	135,677	71	1,266,074	79	1,401,752
	STX Offshore & Shipbuilding Co., Ltd.			33	1,048,421	33	1,048,421
	Dae Sun Shipbuilding & Engineering Co., Ltd.			2	43,129	2	43,129
	Sungdong Shipbuilding & Marine Engineering Co., Ltd.			17	440,604	17	440,603
	<b>Total</b>	<b>16</b>	<b>424,600</b>	<b>267</b>	<b>9,652,041</b>	<b>283</b>	<b>10,076,641</b>

Source: KOSHIPA

## Korean Performance by Ship Type

### LNGC Tops List of Korean Shipbuilding Order Books

KOSHIPA member companies' order backlogs of LNG carriers stood at 5.92 million CGT in 2017, ahead of tankers with 4.0 million CGT, containerships with 2.43 million CGT, etc.

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
2017 Tanker	9	161,450	105	3,836,256	114	3,997,706
Product Carrier	2	21,503	48	866,951	50	888,453
Chemical Tanker						
Bulk Carrier	21	909,997	21	909,997	7	173,720
Containership	45	2,764,361	45	2,764,361	42	2,431,905
LNG Carrier	7	456,447	62	5,460,432	69	5,916,879
LPG Carrier	2	57,430	20	467,269	22	524,698
Car Carrier	15	519,107	15	519,107	8	291,787
Drillship			12	522,513	12	522,513
Others	12	184,524	26	1,141,582	38	1,326,108
Total	53	1,791,351	333	15,578,471	386	17,369,822

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
2016 Tanker	8	41,944	106	3,656,061	114	3,698,005
Product Carrier	1	17,076	69	1,328,328	70	1,345,404
Chemical Tanker						
Bulk Carrier	4	88,619	4	89,940	8	178,559
Containership	4	59,891	53	3,975,389	57	4,035,280
LNG Carrier	6	517,544	71	5,755,032	77	6,272,576
LPG Carrier	5	143,574	40	907,143	45	1,050,717
Car Carrier	6	221,756	16	570,053	22	791,809
Drillship			15	655,892	15	655,892
Others	7	94,188	24	1,148,150	31	1,242,338
Total	41	1,184,592	398	18,085,988	439	19,270,580

Ship Type	Domestic		Overseas		Total	
	Ships	CGT	Ships	CGT	Ships	CGT
2015 Tanker	6	97,247	187	5,996,928	193	6,094,175
Product Carrier	1	8,393	132	2,407,758	133	2,416,151
Chemical Tanker	2	13,116	2	13,116	4	26,232
Bulk Carrier	10	311,995	32	819,279	42	1,131,274
Containership	11	156,928	83	5,530,075	94	5,687,003
LNG Carrier	8	693,287	71	6,185,616	79	6,878,903
LPG Carrier	6	172,289	90	2,226,206	86	2,398,496
Car Carrier	9	326,559	20	721,163	29	1,047,723
Drillship			17	747,081	17	747,081
Others	1	6,249	34	1,433,490	45	1,439,743
Total	54	1,786,063	668	26,080,712	722	27,866,781

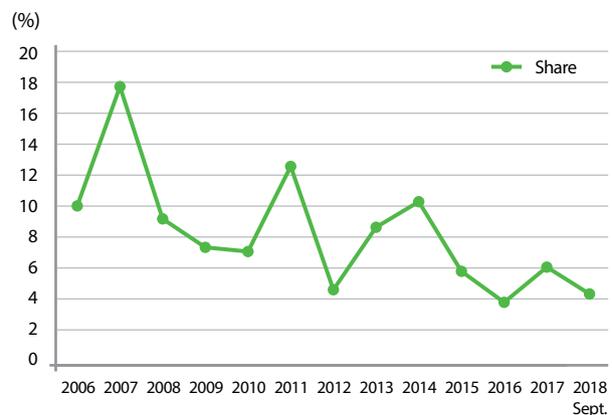
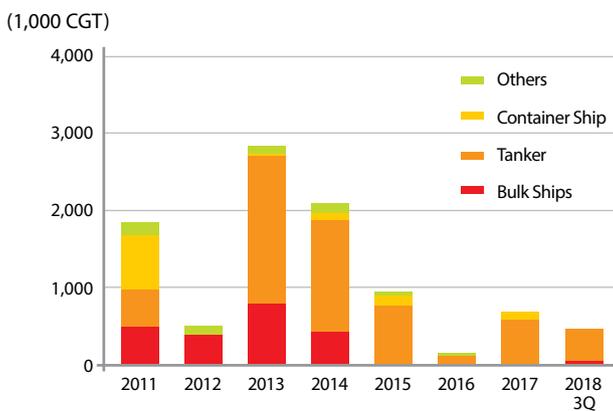
Source: KOSHIPA

Mid-Sized Shipbuilding Landscape

Korean Share in Global Mid-Sized Shipbuilding Orders Dip to 4.3%

Order receipts of Korean mid-sized shipyards reached cumulative 436,000 CGT during the January-September period of 2018, down 26.2% compared with the year earlier. They accounted for 4.3% of global mid-sized shipbuilding orders, which represented a 1.7 percentage point decline as against 6.0% registered during the same period of 2017.

Korea Mid-Sized Shipyards' Order Receipt Status



Korean Mid-Sized Shipbuilding Completions by Quarter

Quarter	Bulk Ship		Tanker		Containership			LPG Ship			Others	
	1,000 dwt	Ships	1,000 dwt	Ships	1,000 dwt	1,000 teu	Ships	1,000 dwt	1,000cum	Ships	1,000 dwt	Ships
1Q. 2014	711	10	700	14	-	-	-	10	9	1	130	7
2Q. 2014	344	3	403	8	-	-	-	-	-	-	18	3
3Q. 2014	77	1	774	15	187	16	1	-	-	-	100	6
4Q. 2014	212	2	515	9	212	18	3	24	22	1	46	7
1Q. 2015	538	3	925	16	212	18	3	24	22	1	138	2
2Q. 2015	179	1	819	14	199	17	2	78	69	4	185	4
3Q. 2015	1,230	7	889	17	180	20	3	26	22	3	264	2
4Q. 2015	329	2	797	15	199	17	2	-	-	-	-	-
1Q. 2016	2,308	13	1,860	27	283	26	3	-	-	-	-	-
2Q. 2016	949	6	1,567	22	12	1	1	-	-	-	268	2
3Q. 2016	645	4	1,309	17	68	5	3	24	22	1	-	-
4Q. 2016	508	3	800	10	68	5	3	-	-	-	-	-
1Q. 2017	150	1	1,931	20	93	7	4	64	56	3	159	2
2Q. 2017	163	2	1,184	10	65	5	3	71	89	3	5	1
3Q. 2017	439	3	1,133	12	-	-	-	15	12	1	-	-
4Q. 2017	179	1	286	5	-	-	-	-	-	-	2	1
1Q. 2018	-	-	579	10	-	-	-	-	-	-	-	-
2Q. 2018	-	-	145	5	-	-	-	-	-	-	-	-

Source: Korea Exim Bank based on Clarksons Research data.

## Number of Workers

### From 203,513 Persons in 2015 to 109,901 in 2017

The Korean shipbuilding & offshore workforce reached 109,901 in 2017, down 56,379 workers compared with preceding year's 166,277. As of the end of 2017, the manpower structure consisted of 11,867 management & administration workers, 8,669 technical workers and 89,365 skilled workers.

(Unit: Person)

Year	Sector	Management & Administration	Technical Workers	Skilled Workers			Total
				Direct Management	Subcontractor Companies	Sub-Total	
2001	Shipbuilding	4,834	6,608	27,183	25,325	63,950	86,682
	Non-Shipbuilding	2,067	4,322	9,251	7,092	22,732	
2002	Shipbuilding	4,634	6,600	26,771	26,890	64,895	94,213
	Non-Shipbuilding	2,186	4,437	9,297	13,398	29,318	
2003	Shipbuilding	5,086	6,921	26,866	27,963	66,836	93,682
	Non-Shipbuilding	2,096	4,410	9,366	10,974	26,846	
2004	Shipbuilding	4,619	7,250	27,799	32,113	71,781	97,320
	Non-Shipbuilding	2,769	4,328	8,515	9,927	25,539	
2005	Shipbuilding	4,745	7,993	28,868	38,967	80,573	104,704
	Non-Shipbuilding	2,297	4,088	6,882	10,864	24,131	
2006	Shipbuilding	4,920	9,759	29,843	48,863	93,385	113,844
	Non-Shipbuilding	2,107	4,672	6,681	6,999	20,459	
2007	Shipbuilding	6,015	11,806	29,938	64,686	112,445	143,581
	Offshore	1,026	2,197	3,171	12,442	18,836	
	Others	1,485	3,314	4,490	3,011	12,300	
2008	Shipbuilding	5,714	13,554	30,492	68,320	118,080	151,331
	Offshore	1,247	2,389	3,290	11,763	18,689	
	Others	2,427	3,445	4,794	3,896	14,562	
2009	Shipbuilding	4,721	16,360	30,897	74,998	126,976	162,747
	Offshore	654	3,361	3,103	15,574	22,692	
	Others	1,359	3,532	4,435	3,753	13,079	
2010	Shipbuilding	5,267	15,656	28,481	68,342	117,746	153,769
	Offshore	483	3,411	3,210	14,487	21,591	
	Others	1,698	3,869	4,884	3,981	14,432	
2011	Shipbuilding	5,135	15,870	27,997	70,555	119,557	156,850
	Offshore	489	3,268	3,308	15,012	22,077	
	Others	1,968	3,668	5,139	4,441	15,216	
2012	Shipbuilding	5,202	16,188	27,109	74,625	123,124	169,893
	Offshore	725	3,191	3,639	23,313	30,868	
	Others	1,919	3,402	6,210	4,370	15,901	
2013	Shipbuilding	5,738	17,015	27,822	73,483	124,058	183,022
	Offshore	1,055	3,471	3,888	35,576	43,990	
	Others	2,181	2,609	5,076	5,108	14,974	
2014	Shipbuilding	6,213	15,592	26,159	84,421	132,385	204,635
	Offshore	1,871	4,273	4,043	43,967	54,514	
	Others	2,464	2,780	6,397	6,455	18,096	
2015	Shipbuilding	4,447	15,263	24,732	76,869	121,311	203,513
	Offshore	1,803	4,305	5,550	55,116	66,774	
	Others	2,463	3,638	5,527	3,800	15,428	
2016	Shipbuilding	7,288	5,556	23,032	62,829	98,705	166,277
	Offshore	2,438	2,622	4,020	40,578	49,658	
	Others	4,894	2,433	6,036	4,551	17,914	
2017	Shipbuilding	5,655	4,497	19,911	44,221	64,132	109,901
	Offshore	1,356	1,706	2,758	13,993	16,751	
	Others	4,856	2,466	5,231	3,251	8,482	

Source: KOSHIPA

## Foreign Workforce

# Number of Foreign Workers Dwindles to 5,339

The number of foreign workforce at Korean shipyards declined from 8,924 in 2016 to 5,339 in 2017. In a departure from the steady increase during the past few years until 2014, the decrease reflects shipbuilding industry's setback due to plunge in new orders.

(Unit: Person)

Companies	Category	Year						
		2011	2012	2013	2014	2015	2016	2017
Hyundai Heavy Industries Co., Ltd.	Direct Management	46	49	71	91	110	52	9
	Subcontractor Companies	945	945	1,196	1,956	2,205	1,789	867
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	Direct Management	38	35	37	37	32	14	4
	Subcontractor Companies	1,210	1,277	1,316	1,712	2,300	2,181	1,641
Samsung Heavy Industries Co., Ltd.	Direct Management	158	148	214	290	298	196	134
	Subcontractor Companies	630	791	914	1,208	1,615	2,008	973
Hyundai Samho Heavy Industries Co., Ltd.	Direct Management				3			
	Subcontractor Companies	680	728	630	1,237	1,472	1,232	749
Hyundai Mipo Dockyard Co., Ltd.	Direct Management				1			
	Subcontractor Companies	590	602	847	1,061	1,026	839	451
KOSHIPA Members STX Offshore & Shipbuilding Co., Ltd.	Direct Management							
	Subcontractor Companies	457	436	310	416	516		
Sungdong Shipbuilding & Marine Engineering Co., Ltd.	Direct Management							
	Subcontractor Companies						813	
Hanjin Heavy Industries & Construction Co., Ltd.	Direct Management							
	Subcontractor Companies	9				100	56	7
Dae Sun Shipbuilding & Engineering Co., Ltd.	Direct Management							
	Subcontractor Companies	10		20	19			
ShinaSB Yard Co., Ltd.	Direct Management	4						
	Subcontractor Companies	55	20					
Non-Members	Direct Management		1	1				
	Subcontractor Companies	966	1,498	778	1,096	867	644	484
<b>Total</b>		<b>5,798</b>	<b>6,530</b>	<b>6,334</b>	<b>9,127</b>	<b>10,541</b>	<b>8,924</b>	<b>5,339</b>

Source: KOSHIPA

## Shipbuilding - Related Departments of Higher Education Institutes

As of the end of 2017, the number of shipbuilding-related departments at higher education institutes reached 70 comprising 18 universities with combined 29 departments, 17 graduate schools with 31 departments and eight junior colleges with 10 departments.

### 1. Universities (29)

Name	Department	Region	Establishment Type
Kyungnam University (www.kyungnam.ac.kr)	- Dept. of Naval Architecture and Ocean System Engineering	Gyeongnam	Private
Gyeongsang National University (www.gnu.ac.kr)	- Department of Naval Architecture and Ocean Engineering - Department of Ocean Civil Engineering	Gyeongnam	National
Kunsan National University (www.kunsan.ac.kr)	- Department of Marine Industry and Shipping Science and Technology (Marine Production System Major) - Department of Marine Industry and Shipping Science and Technology (Marine Engineering Major)	Jeonbuk	National
Tongmyong University (www.tu.ac.kr)	- Department of Naval Architecture and Ocean Engineering	Busan	Private
Dong-A University (www.donga.ac.kr)	- Department of Naval Architecture and Offshore Engineering	Busan	Private
Dong-Eui University (www.deu.ac.kr)	- Department of Naval Architecture & Ocean Engineering	Busan	Private
Mokpo National University (www.mokpo.ac.kr)	- Department of Marine Mechanics Engineering - Department of Shipbuilding Systems Engineering - Department of Naval Architecture and Ocean Engineering	Jeonnam	National
Mokpo National Maritime University (www.mmu.ac.kr)	- Department of Naval Architecture and Ocean Engineering - Department of Ocean Civil & Plant Construction Engineering - Division of Marine Mechatronics	Jeonnam	National
Pukyong National University (www.pknu.ac.kr)	- Department of Naval Architecture and Marine Systems Engineering	Busan	National
Pusan National University (www.pusan.ac.kr)	- Department of Naval Architecture & Ocean Engineering - Department of Naval Architecture & Ocean Engineering (Samsung Heavy Industries)	Busan	National
Seoul National University (www.snu.ac.kr)	- Dept. of Naval Architecture and Ocean Engineering	Seoul	National
University of Ulsan (www.ulsan.ac.kr)	- School of Naval Architecture & Ocean Engineering	Ulsan	Private

Name	Department	Region	Establishment Type
Inha University (www.inha.ac.kr)	- Department of Naval Architecture & Ocean Engineering	Incheon	Private
Jeju National University (www.jejunu.ac.kr)	- Department of Ocean System Engineering	Jeju	National
Chosun University (www.chosun.ac.kr)	- Dept. of Naval Architecture Engineering	Gwangju	Private
Chungnam National University (www.cnu.ac.kr)	- Department of Naval Architecture and Ocean Engineering	Daejeon	National
Korea Maritime and Ocean University (www.kmou.ac.kr)	- Division of Naval Architecture and Ocean Systems Engineering - Department of Ocean Engineering - Division of Naval Architecture and Ocean Space - Department of Ocean Advanced Materials Convergence Engineering - Major of Marine Equipment Engineering	Busan	National
Hongik University (www.hongik.ac.kr)	- Department of Naval Architecture and Ocean Engineering	Sejong	Private

## 2. Graduate Schools (31)

Name	Department	Region	Establishment Type
GNU (Gyeongsang National University) Graduate School (http://graduate.gnu.ac.kr)	- Department of Naval Architecture and Ocean Engineering	Gyeongnam	National
KNU (Kunsan National University) Graduate Schools (www.kunsan.ac.kr)	- Department of Ocean Science & Engineering - Department of Ocean Science & Engineering (Industry-Academia-research Institutes Cooperative Course)	Jeonbuk	National
Dong-A University Graduate School (www.kunsan.ac.kr/gradu_kunsan)	- Department of Shipbuilding & Offshore Plant Engineering	Busan	Private
Dong-Eui University Graduate School (http://grd.deu.ac.kr)	- Department of Naval Architecture and Ocean Engineering	Busan	Private

Name	Department	Region	Establishment Type
MNU (Mokpo National University) Graduate School ( <a href="http://admgraduate.mokpo.ac.kr">http://admgraduate.mokpo.ac.kr</a> )	- Department of Shipbuilding & Marine Systems Engineering	Jeonnam	National
Mokpo National Maritime University Graduate Schools ( <a href="http://www.mmu.ac.kr">www.mmu.ac.kr</a> )	- Department of Ship Operation Engineering - Department of Maritime Transportation Science - Department of Maritime Information and Instrumentation Engineering - Department of Maritime Safety System Engineering	Jeonnam	National
PKNU (Pukyong National University) Graduate Schools ( <a href="http://graduate.pknu.ac.kr">http://graduate.pknu.ac.kr</a> )	- Department of Naval Architecture & Marine Systems Engineering - Department of Ocean Engineering	Busan	National
PNU (Pusan National University) Graduate Schools ( <a href="http://graduate.pusan.ac.kr">http://graduate.pusan.ac.kr</a> )	- Department of Naval Architecture & Ocean Engineering	Busan	National
SNU (Seoul National University) Graduate Schools ( <a href="http://www.snu.ac.kr/graduate-school">www.snu.ac.kr/graduate-school</a> )	- Department of Naval Architecture and Ocean Engineering - Offshore Plant Engineering Cooperative Course	Seoul	National
UOU (University of Ulsan) Graduate Schools ( <a href="http://grad.ulsan.ac.kr">http://grad.ulsan.ac.kr</a> )	- Department of Naval Architecture & Ocean Engineering - Department of Convergence Technology for Heavy Industries	Ulsan	Private
Inha University Graduate School ( <a href="http://grad.inha.ac.kr">http://grad.inha.ac.kr</a> )	- Department of Naval Architecture and Ocean Engineering	Incheon	Private
Chonnam National University Graduate Schools ( <a href="http://graduate.jnu.ac.kr">http://graduate.jnu.ac.kr</a> )	- Department of Naval Architecture & Ocean Engineering - Department of Ocean Engineering	Jeonnam	National
JNU (Jeju National University) Graduate School ( <a href="http://gs.jejunu.ac.kr">http://gs.jejunu.ac.kr</a> )	- Department of Ocean System Engineering	Jeju	National
Chosun University Graduate School ( <a href="http://www.chosun.ac.kr/grad">www.chosun.ac.kr/grad</a> )	- Dept. of Naval Architectural & Ocean Engineering	Gwangju	Private
CWNU (Changwon National University) Graduate Schools ( <a href="http://w3.changwon.ac.k">http://w3.changwon.ac.k</a> )	- Department of Naval Architecture and Marine Engineering - Eco-Friendly Offshore Plant FEED Engineering Course	Gyeongnam	National
CNU (Chungnam National University) Graduate School ( <a href="http://grad.cnu.ac.kr">http://grad.cnu.ac.kr</a> )	- Dept. of Naval Architecture Engineering	Daejeon	National

Name	Department	Region	Establishment Type
KMOU (Korea Maritime and Ocean University) Graduate Schools ( <a href="http://graduate.kmou.ac.kr">http://graduate.kmou.ac.kr</a> )	- Department of Convergence Study on the Ocean Science and Technology - Department of Marine Systems Engineering - Department of Marine Equipment Engineering - Department of Naval Architecture and Ocean Systems Engineering - Department of Ocean Energy and Resource Engineering	Busan	National
Hongik University Graduate Schools ( <a href="http://grad.hongik.ac.kr">http://grad.hongik.ac.kr</a> )	- Department of Naval Architecture and Ocean Engineering - Department of Naval Architecture and Ocean Engineering (Industry-Academia-research Institutes Cooperative Course)	Sejong	Private

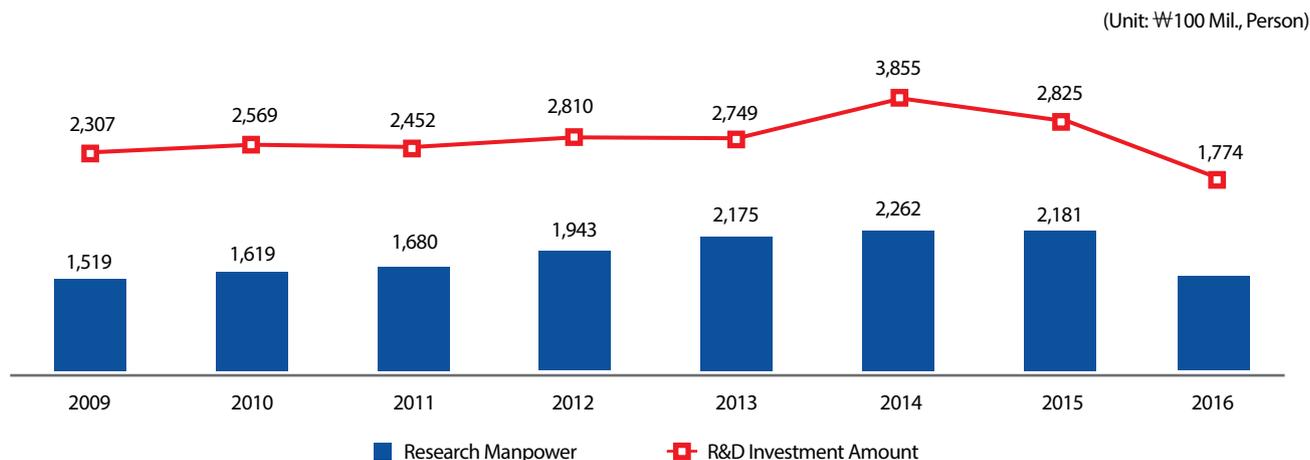
### 3. Junior Colleges (10)

Name	Department	Region	Establishment Type
Koje College ( <a href="http://www.koje.ac.kr">www.koje.ac.kr</a> )	- Department of Naval Architecture & Ocean Engineering - Department of Computer Ship Design Engineering	Gyeongnam	Private
University of Gyeongnam Geochang ( <a href="http://www.gc.ac.kr">www.gc.ac.kr</a> )	- Dept. of Naval Architecture & Offshore Engineering	Gyeongnam	Provincial
University of Gyeongnam Namhae ( <a href="http://www.namhae.ac.kr">www.namhae.ac.kr</a> )	- Department of Naval Architecture and Ocean Engineering	Gyeongnam	Provincial
Kunjang University College ( <a href="http://www.kunjang.ac.kr">www.kunjang.ac.kr</a> )	- Department of Shipbuilding Convergence	Jeonbuk	Private
Dong-pusan College ( <a href="http://www.dpc.ac.kr">www.dpc.ac.kr</a> )	- Dept. of Shipbuilding & Marine	Busan	Private
Inha Technical College ( <a href="http://www.inhatc.ac.kr">www.inhatc.ac.kr</a> )	- Department of Naval Architecture and Ocean Engineering	Incheon	Private
Vision College of Jeonju ( <a href="http://www.jvision.ac.kr">www.jvision.ac.kr</a> )	- Department of Shipbuilding & Marine Engineering	Jeonbuk	Private
Changwon Moonsung University ( <a href="http://www.cmu.ac.kr">www.cmu.ac.kr</a> )	- Department of Shipbuilding & Marine Mechanics - Department of Shipbuilding & Marine Plant	Gyeongnam	Private

## R&D & Investment

### R&D Investment Amounts to ₩177.4 Billion in 2016

Korean shipyards' combined R&D investment reached 177.4 billion won in 2016, accounting for 0.06% of total sales. Meanwhile, research manpower numbered 2,068 persons, according to KOSHIPA & KRISO.



### Korean R&D Expenditures in Shipbuilding Sector

(Unit: ₩100 Mil.)

Category	2009	2010	2011	2012	2013	2014	2015	2016
Sales Amount (A)	384,168	329,436	355,810	274,544	266,420	227,464	266,036	294,345
R&D Investment Amount (B)	2,307	2,569	2,452	2,810	2,749	3,855	2,825	1,774
(B)/(A)	0.60%	0.78%	0.69%	1.02%	1.03%	1.69%	1.06%	0.60%

### R&D Manpower of Korean Shipbuilding Industry

(Unit: Person)

Category	2009	2010	2011	2012	2013	2014	2015	2016	
Shipyards	Doctorate	143	194	209	257	297	324	267	167
	Masters Degree	706	818	848	973	1,073	1,020	913	556
	Others	539	479	495	583	672	783	714	1,078
	Sub-Total	1,388	1,491	1,552	1,813	2,042	2,127	1,894	1,801
Korea Research Institute of Ships & Ocean Engineering (KRISO)	Doctorate	68	71	71	76	79	84	88	93
	Masters Degree	29	28	27	25	25	32	25	22
	Others	34	29	30	29	29	19	174	153
	Sub-Total	131	128	128	130	133	135	287	267
Total	1,519	1,619	1,680	1,943	2,175	2,262	2,181	2,068	

Source: KOSHIPA, KRISO

## Eco-Friendly, Energy-Efficient Vessels

### Proactively Responding to Post-2020 Regime

The shipbuilding industry of the ROK still remains the top player in the global market, but has been facing stiff challenges such as the decreasing demand for new vessels from global recession in the past few years. The Korean shipyards are moving to planned to overcome this crisis by developing and adopting green shipbuilding technologies.

Relevant technologies include fuel-efficient hull design, environmentally friendly propulsion system, and optimized navigation control using remote supervision and control.



### Korea Leadership of Eco-Friendly LNG Carriers

		<ul style="list-style-type: none"> <li>- Complete reliquefaction of LNG cargo boil-off for use in LNG carriers' dual-fuel engines</li> <li>- In-house developed LNG cargo containment systems, 'Solidus' and 'Mctib'</li> </ul>
		<ul style="list-style-type: none"> <li>- Air Lubrication System 'SAVER Air'</li> <li>- Several fuel saving technologies such as optimized hull design and propulsion</li> </ul>
		<ul style="list-style-type: none"> <li>- Single Mixed Refrigerants (SMR) technology for LNG carrier reliquefaction system, called eco SMRT</li> <li>- Dual Fuel Propulsion Unit of LNG shipping industry</li> </ul>

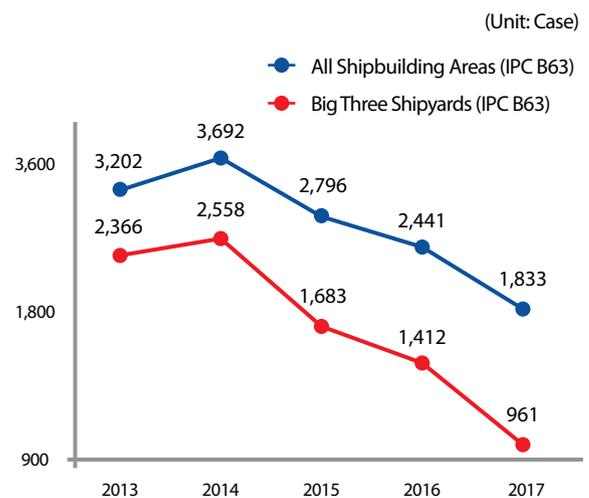
### Korean Patent Application Trends in Shipbuilding Sector (2013-2017)

(Unit: Case)

Category	2013	2014	2015	2016	2017
Application	3,202	3,692	2,796	2,441	1,833

(Unit: Case)

Company	2013	2014	2015	2016	2017
SHI	709	869	653	536	458
DSME	885	943	682	468	251
HHI	772	746	348	408	252
Total	2,366	2,558	1,683	1,412	961



Source: Korean Intellectual Property Office (KIPO)

## World-Class Korean Marine Equipment Products

World-Class Korean Products are preeminently recognized by the Korean government for their value and proven track record in terms of global market share as well as for their significant potential as nextgeneration growth engines. Ranking fifth or higher in terms of global market share, World-Class Products have been certified under a Ministry of Trade, Industry and Energy (MOTIE) program since 2001 in line with the national drive to promote international trade by fostering high-quality, technology-driven products and services.

The World-Class Korean Products program, operated by the Korea Trade-Investment Promotion Agency (KOTRA) and supported by related industry associations under the umbrella of MOTIE, also aims to endorse the reliability and safety of the designated products for foreign buyers, clients and consumers.



Item	Enterprise (Year)
Marine Diesel Engine (Over 6,000 BHP)	Doosan Engine Co., Ltd. (2002)
	Hyundai Heavy Industries Co., Ltd. (2002)
	STX Heavy Industries Co., Ltd. (2006)
High Pressure CO <sub>2</sub> Fire Extinguishing System	NK Co., Ltd. (2002)
Marine Cable	Kukdong Electric Wire Co., Ltd. (2002)
	LS Cable Ltd. (2002)
	JS Cable Co., Ltd. (2002)
	TMC Co., Ltd. (2007)
Marine Boiler	Kangrim Industries Co., Ltd. (2002)
Steering Gear	Yoowon Industries Ltd. (2003)
	FLUTEK Ltd. (2018)
Wall Panel	BIP Industries Co., Ltd. (2003)
	STACO Co., Ltd. (2003)
Crankshaft for Large Engine	Hyundai Heavy Industries Co., Ltd. (2003)
	Doosan Heavy Industries & Construction Co., Ltd. (2003)
	STX Heavy Industries Co., Ltd. (2009)
Synchronous Generator for Marine Application	Hyundai Heavy Industries Co., Ltd. (2004)
Marine Diesel Engine (4-Stroke)	STX Engine Co., Ltd. (2004)
	Hyundai Heavy Industries Co., Ltd. (2004)
Fixed Pitch Propellers for Marine Propulsion	Hyundai Heavy Industries Co., Ltd. (2004)
Turbo-Charger for Medium-Size Marine Diesel Engine (Below 5,000kw)	STX Heavy Industries Co., Ltd. (2005)
Crankshaft for 4-Stroke Engine	STX Heavy Industries Co., Ltd. (2006)
	Hyundai Heavy Industries Co., Ltd. (2006)
	Sunwoo CS Corp. (2012)
Main Bearing Support for Medium & Large-Size Marine	DAECHANG SOLUTION CO., LTD. (2006)

Item	Enterprise (Year)
Diesel Engine	Samyoung M-TEK Co., Ltd. (2011)
Exhaust Valve for Large-Size Marine Diesel Engine (2-Stroke)	Keumyong Machine Co., Ltd. (2006)
Economizer	Kangrim Industries Co., Ltd. (2006)
Marine Switchboard	Hyundai Heavy Industries Co., Ltd. (2007)
Cargo Oil Pump and Water Ballast Pump	Hyundai Heavy Industries Co., Ltd. (2007)
Guide Shoe for Large-Size Marine Diesel Engine	Shina Metaltech Co., Ltd. (2007)
Cylinder Liner for 2-Stroke Marine Diesel Engines	Hyundai Heavy Industries Co., Ltd. (2007)
	Cape Industries Ltd. (2007)
	STX Heavy Industries Co., Ltd. (2007)
Air Cooler for Marine Engines	Donghwa Entec Co., Ltd. (2007)
Cylinder Frame for Two-Stroke Diesel Engine	Hyundai Heavy Industries Co., Ltd. (2008)
Turbocharger for Two-Stroke Diesel Engine	Hyundai Heavy Industries Co., Ltd. (2008)
Turbocharger for Two-Stroke Diesel Engine	STX Heavy Industries Co., Ltd. (2010)
Inert Gas Generator	Kangrim Industries Co., Ltd. (2008)
Electronic Control Fuel Supply Unit	Whayoung Co., Ltd. (2008)
High Voltage Motors for Marine Thruster	Hyundai Heavy Industries Co., Ltd. (2008)
Medium-Speed Diesel Engine Power Plant	Hyundai Heavy Industries Co., Ltd. (2008)
Marine Incinerator	Kangrim Industries Co., Ltd. (2008)
Marine Propulsion Shafting	Hyundai Heavy Industries Co., Ltd. (2009)
Side Thruster	Hyundai Heavy Industries Co., Ltd. (2009)
Common Rail Unit	Wonil Co., Ltd. (2009)
Pistons for Medium-Speed Marine Diesel Engines	Samyoung Machinery Co., Ltd. (2009)
Water Mist Fire Fighting System for Machinery Areas	Tanktech Co., Ltd. (2009)
Fresh Water Generator	Donghwa Entec Co., Ltd. (2009)
Ceiling Panel For Marine Accommodation	BIP Industries Co., Ltd. (2009)
	STACO Co., Ltd. (2010)
Bathroom Unit For Marine Accommodation	BIP Industries Co., Ltd. (2009)
Integrated Control & Monitoring System	Hyundai Heavy Industries Co., Ltd. (2009)
145kV GIS	Hyundai Heavy Industries Co., Ltd. (2010)
Marine Ring Main Unit	Hyundai Heavy Industries Co., Ltd. (2010)
Dual-Fuel Diesel Engine	Wartsila-Hyundai Engine Company Ltd. (2010)
Lifeboat	Hyundai Lifeboats Co., Ltd. (2010)
Cylinder Head for Medium-Speed Diesel Engines	Samyoung Machinery Co., Ltd. (2010)
Unit Toilet	STACO Co., Ltd. (2010)
Marine Door	BN Cosmo (2010)
	STACO CO., LTD. (2016)
Cabin Unit	BIP Industries Co., Ltd. (2010)
	STACO Co., Ltd. (2015)

# Awards & Certificates

Item	Enterprise (Year)
Automatic Solid-Liquid Separation Filter	Yoowon Industries Ltd. (2010)
Rip Corded Multi-Core Tube	Leejin Co., Ltd. (2010)
Cylinder Cover	Hansco Co., Ltd. (2011)
	DAECHANG SOLUTION CO., LTD. (2011)
Sewage Treatment Plant	Ilseung Co., Ltd. (2011)
Ballast Water Management System	Panasia Co., Ltd. (2012)
	NK Co., Ltd. (2013)
	Techcross Inc. (2015)
Emergency Generator for Marine Application	GPC Corporation (2012)
Marine Fluorescent Lights	Kukdong Elecom Co., Ltd. (2013)
	Daeyang Electric Co., Ltd. (2014)
I.C.C.P. & M.G.P.S.	K.C. Co., Ltd. (2013)
Cryogenic Pipe Insulation	Kangrim Insulation Co., Ltd. (2014)
Level Monitoring System	Hanla IMS Co., Ltd. (2014)
Connecting Rod	Hyunjin Materials Co., Ltd. (2014)
Energy Saving System (ESS)	Donghwa Entec Co., Ltd. (2015)
Plate Heat Exchanger	LHE Co., Ltd. (2015)
Air Vent Head	KwangSan Co., Ltd. (2015)
Heating Coil	KwangSan Co., Ltd. (2015)
Piston Rod	Hyunjin Materials Co., Ltd. (2015)
Inert Gas System (IGS)	Kangrim Heavy Industries Co., Ltd. (2015)
Multi-Core Tube	DAECHUN INDUSTRIAL CO., LTD. (2016)
Fresh Water Supply Unit	SAMKUN CENTURY CO., LTD. (2016)
Deck House	Shinhan Heavy Industries Co., Ltd. (2016)
Living Quarters	Shinhan Heavy Industries Co., Ltd. (2016)
Natural Gas & Special High Pressure Cylinder	ENK CO., LTD. (2016)
Cross Head Pin for Marine Engine	Hyunjin Materials Co., Ltd. (2016)
Electronic Control Rail Unit for RT-flex Vessel Engines	Whayoung Co., Ltd. (2016)
Cold Provision Chamber	Kangrim Insulation Co., Ltd. (2017)
Galley Equipment	SAMJOO ENG. CO., LTD. (2017)
LNG Vaporizer	Donghwa Entec Co., Ltd. (2017)
Metal Bearing	TSP Co., Ltd. (2017)
Offshore Cable Tray	Suh Han Industry Co., Ltd. (2017)
Pipe Coupling and Clamp	Jeong Woo Coupling Co., Ltd.(2017)
Valve Spindle	FRIEND CO., LTD. (2017)
Selective Catalytic Reduction (SCR) System (NoNOx)	Hyundai Heavy Industries Co., Ltd. (2018)
Pipe Coupling & Repair Clamp	YoungNam Metal Co., Ltd. (2018)

## Certified Marine Equipment Enterprises

Quality-reliable marine equipment enterprises are preeminently certified by the nation's seven leading shipyards – Hyundai Heavy Industries Co., Ltd., Samsung Heavy Industries Co., Ltd., Daewoo Shipbuilding & Marine Engineering Co., Ltd., Hyundai Samho Heavy Industries Co., Ltd., Hyundai Mipo Dockyard Co., Ltd., Hanjin Heavy Industries & Construction Co., Ltd. and Sungdong Shipbuilding & Marine Engineering Co., Ltd. – for their proven record and future potential.

### 2010

- BY Controls Co., Ltd.
- Hi Air Korea Co., Ltd.
- KTE Co., Ltd.
- Sunbo Industries Co., Ltd.

### 2011

- Hy-Lok Corporation
- Il Shin Precision Co., Ltd.
- KOC Electric Co., Ltd.
- NK Co., Ltd.

### 2012

- Daeyang Electric Co., Ltd.
- Kumhwa Cast Steel & Industrial Machinery Co., Ltd.
- Samdong Steel Co., Ltd.
- Sanil Electric Co., Ltd.

### 2013

- Haeduk Powerway Co., Ltd.
- Mytec Co., Ltd.
- Samgong Co., Ltd.
- Sejin Technical Industries Co., Ltd.
- Shindong Digitech Co., Ltd.

### 2014

- KwangSan Co., Ltd.
- LHE Co., Ltd.
- Panasia Co., Ltd.
- Samkun Century Co., Ltd.

### 2015

- Kangrim Heavy Industries Co., Ltd.
- DongHwa Entec
- BIP Industries Co., Ltd.
- Techcross Inc.

### 2016

- Daechun Industrial Co., Ltd.
- UNITECH Co., Ltd.
- TK Corporation
- TMC Co., Ltd.
- HWASHINBOLT IND. CO., LTD.
- Flutek Ltd.

### 2017

- B-I Industrial Co., Ltd.
- MRC (Marine Radio Co., Ltd.)
- SUNG IL CO., LTD. (SIM)
- Oriental Precision & Engineering Co., Ltd.

## 7 Certificate-Endorsing Shipyards

▲ Hyundai Heavy Industries Co., Ltd.



▶ Samsung Heavy Industries Co., Ltd.



DSME Daewoo Shipbuilding & Marine Engineering Co., Ltd.



▲ Hyundai Samho Heavy Industries Co., Ltd.



▲ Hyundai Mipo Dockyard Co., Ltd.



○ Hanjin Heavy Industries & Construction Co., Ltd.



Ⓢ Sungdong Shipbuilding & Marine Engineering Co., Ltd.



## 2017 Oil Production

Global oil production rose by 0.6 million b/d, below average for the second consecutive year in 2017. United States (690,000 b/d) and Libya (440,000 b/d) posted the largest increases in output, while Saudi Arabia (-450,000 b/d) and Venezuela (-280,000 b/d) saw the largest declines.

Global oil consumption growth averaged 1.8%, or 1.7 million barrels per day (b/d), above its 10-year average of 1.2% for the third consecutive year.

## Global Oil Production Trend

(Unit: 1,000 bbl per day)

Category	2014	2015	2016	2017	Growth rate per annum, 2017	Share 2017
Total World	88,721	91,547	92,023	92,649	0.7%	100.0%
OECD	22,571	23,571	23,139	23,901	3.3%	25.8%
Non-OECD	66,149	67,976	68,884	68,748	-0.2%	74.2%
OPEC	36,945	38,362	39,601	39,436	-0.4%	42.6%
Non-OPEC	51,775	53,186	52,422	53,213	1.5%	57.4%
European Union	1,405	1,499	1,484	1,464	-1.3%	1.6%

Source: BP Statistical Review of World Energy 2018

## 2017 Natural Gas Production

In 2017, global natural gas production increased by 131 bcm or 4%, almost double the 10-year average growth rate. Russian growth was the largest at 46 bcm, followed by Iran (21 bcm).

Natural gas consumption rose by 96 billion cubic metres (bcm) or 3%, the fastest since 2010.

## Global Natural Gas Production Trend

(Unit: 1,000 bbl per day)

Category	2014	2015	2016	2017	Growth rate per annum, 2017	Share 2017
Total World	3446.9	3519.4	3549.8	3680.4	4.0%	100.0%
OECD	1232.3	1271.1	1286.6	1313.6	2.4%	35.7%
Non-OECD	2214.6	2248.3	2263.2	2366.8	4.9%	64.3%
European Union	137.6	124.5	121.8	117.8	-3.1%	42.6%

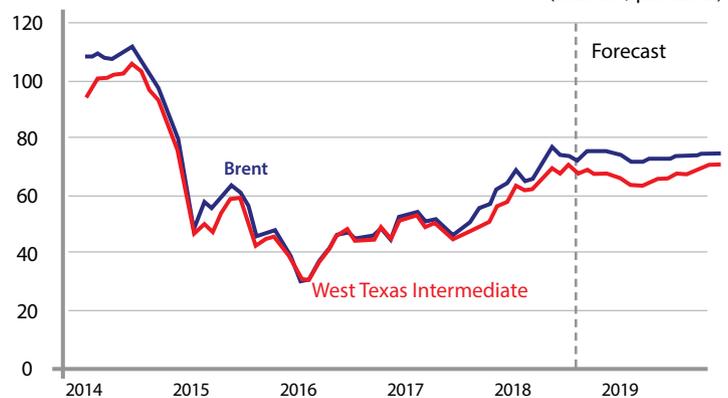
## Crude Oil Markets

In the September 2018 update of its Short-Term Energy Outlook (STEO), the U.S. Energy Information Administration (EIA) increased the forecast price for the Brent spot price to \$73 per barrel (b) in 2018 and \$74/b in 2019. EIA expected West Texas Intermediate (WTI) crude oil prices will average about \$6/b lower than Brent prices in 2018 and in 2019.

In early August, crude oil prices fell as significant declines in some emerging market currencies may have contributed to increased concerns about global economic growth and its potential effect on oil demand

## Monthly Crude Oil Spot Prices

(Unit: US\$ per barrel)



Source: U.S. Energy Information Administration

## World's Oil Drilling Facilities Operating

As of May in 2018, world's oil drilling facilities operations ratio marked 67-68%, according to KOSHIPA report based on data from Clarksons Research.

Semi-submersible recorded 76% of operation ratio while jack-up type & drillships registered 69% and 68%, respectively.

### B. Semi-Submersible Type

Category	2015	2016	2017	2018.5
North America	31	21	9	9
Latin America	36	28	15	11
West Africa	16	7	1	1
Northwestern Europe	44	32	22	30
Mediterranean/Caspian Sea	11	9	6	7
Middle East	3	0	2	5
Asia-Pacific	34	22	14	18
Operating Facilities	175	119	69	81
Total Ship Space Volume	190	159	121	107
Operating Ratio (%)	92	75	57	76

(Unit)

### A. Jack-Up Type

Category	2015	2016	2017	2018.5
North America	65	39	36	38
Latin America	12	12	7	8
West Africa	21	13	6	12
Northwestern Europe	51	43	29	30
Mediterranean/Caspian Sea	31	25	27	28
Middle East	148	146	142	148
Asia-Pacific	100	71	58	68
Operating Facilities	430	349	305	332
Total Ship Space Volume	497	469	475	478
Operating Ratio (%)	87	74	64	69

(Unit)

### C. Drillships

Category	2015	2016	2017	2018.5
North America	34	34	23	20
Latin America	26	20	19	18
West Africa	22	21	12	11
Northwestern Europe	1	2	1	0
Mediterranean/Caspian Sea	3	3	4	7
Middle East	8	3	6	6
Asia-Pacific	9	8	2	3
Operating Facilities	103	91	67	65
Total Ship Space Volume	117	111	95	95
Operating Ratio (%)	88	82	71	68

(Unit)

## Status of World's Oil Production Facilities

### A. FPSOs

Category	2015	2016	2017	2018.5
North America	8	8	9	7
Latin America	40	40	42	45
West Africa	41	40	44	47
Northwestern Europe	25	25	23	26
Mediterranean/Caspian Sea	3	3	3	3
Middle East	3	3	4	5
Asia-Pacific	51	53	52	52
Operating Facilities	171	172	177	185
Total Ship Space Volume	190	191	199	209
Operating Ratio (%)	90	90	89	89

(Unit)

### B. Other MOPUs (Mobile Offshore Production Units)

Category	2015	2016	2017	2018.5
North America	44	46	45	45
Latin America	17	16	15	15
West Africa	13	12	12	13
Northwestern Europe	30	30	29	30
Mediterranean/Caspian Sea	5	5	6	6
Middle East	6	6	6	7
Asia-Pacific	26	26	27	27
Operating Facilities	141	141	140	143
Total Ship Space Volume	153	154	159	160
Operating Ratio (%)	92	92	88	89

(Unit)

Source: Clarksons Research

## World Offshore Order Status

World offshore orders evolving survey, mobile offshore drilling, construction, mobile offshore production, logistics, etc. totaled 84 cases in mobile sector and 63 cases in fixed sector in 2017 worldwide, KOSHIPA report shows based on data of Clarksons Research Service.

### A. Mobile

Division	2011	2012	2013	2014	2015	2016	2017	2018.5
Survey	18	13	19	14	12	10	4	2
Mobile Offshore Drilling	89	79	115	48	8	5		1
Jack-Up	44	26	91	33	3	5		
Semi-Submersible	6	12	7	8	2			1
Drillship	35	34	13	5				
Drill Barge/Tender	4	7	4	2	3			
Construction	117	130	139	119	90	59	38	12
Construction Vessel	59	33	41	32	13	35	15	4
Lift Boats/Installation	11	24	16	28	23	17	13	3
Accommodation Units	11	27	34	17	14	4	5	3
MSV/DSV/ROV Support	35	43	44	36	31	3	3	1
Dredgers & Stone Discharge	1	3	4	6	9	2		1
Mobile Offshore Production	8	21	18	17	7	3	11	3
FPSO	5	14	11	12	3	8		3
Semi-Submersible	3	1	1					
Jack-Up	1	2	5	4	3	3	1	
TLP/Spar	2	2	2	1	1			
Logistics	58	30	28	35	26	8	17	1
Floating Storage	15	11	5	7	12	4	6	1
Shuttle Tankers	14	4	1	9	7	7		
Single Point Moorings	29	15	22	19	7	4	4	
AHTS	88	106	122	154	55	4		
AHTS > 12,000bhp	14	11	16	44	7	2		
AHTS 8-12,000bhp	1	7	6	22	16			
AHTS < 8,000bhp	53	70	88	75	30	2		
AHT	20	18	12	13	2			
PSV	190	224	218	140	22	5	4	2
PSV/Supply > 4,000dwt	96	97	86	77	3			
PSV/Supply 3-4,000dwt	58	55	65	30	2			
PSV/Supply < 3,000dwt	36	72	67	33	17	5	4	2
Rescue & Salvage	14	17	20	14	3	2	3	2
Utility Support	68	111	111	113	53	8	7	
<b>Total</b>	<b>650</b>	<b>731</b>	<b>790</b>	<b>654</b>	<b>276</b>	<b>104</b>	<b>84</b>	<b>23</b>

### B. Fixed

Division	2011	2012	2013	2014	2015	2016	2017	2018.5
Fixed	168	168	190	127	91	50	63	20

Source: KOSHIPA

Note: FRSU & FRSU-LNGC are included in Floating Storage.

## World Seaborne Trade, 2016–2017 (Type of cargo, country group and region)

In 2017, world seaborne trade, estimated at 10.7 billion tons, expanded 4%, the fastest growth in 5 years, according to UNCTAD's "REVIEW OF MARITIME TRANSPORT" publication.

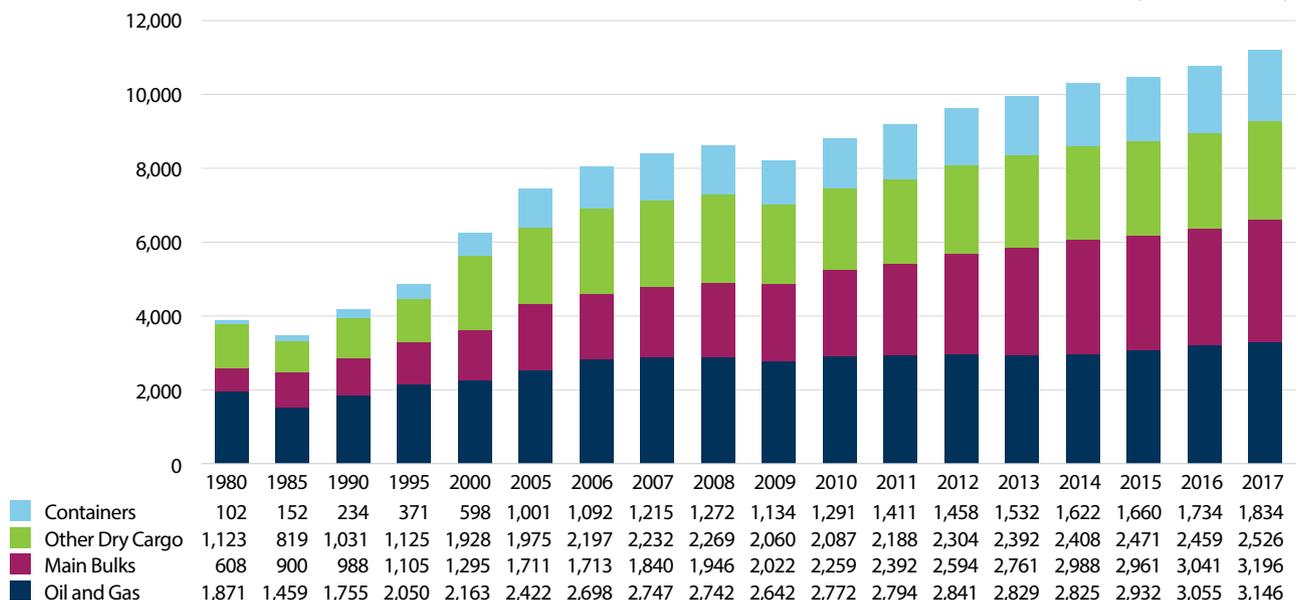
(Unit: Million Tons)

Country Group	Year	Goods Loaded				Goods Unloaded			
		Total	Crude Oil	Petroleum Products and Gas	Dry Cargo	Total	Crude Oil	Petroleum Products and Gas	Dry Cargo
World	2016	10,288.6	1,831.4	1,223.7	7,233.5	10,279.9	1,990.0	1,235.7	7,054.1
	2017	10,702.1	1,874.9	1,271.2	7,555.9	10,666.0	2,035.0	1,281.5	7,349.4
Developed Economies	2016	3,492.9	150.5	453	2,889.4	3,840.4	1,001.3	507.6	2,331.5
	2017	3,675.0	162.6	478.3	3,034.2	3,838.3	956.8	509.1	2,372.5
Transition Economies	2016	637.3	176.3	40.2	420.7	59.6	0.3	4.0	55.3
	2017	664.5	190.7	48.3	425.6	65.9	0.8	3.4	61.7
Developed Economies	2016	6,158.4	1,504.5	730.5	3,923.4	6,379.9	988.5	724.2	4,667.3
	2017	6,362.5	1,521.6	744.7	4,096.2	6,761.7	1,077.4	769.1	4,915.3
Africa	2016	692.7	271.3	58.8	362.6	492.9	38.7	80.8	373.4
	2017	726.2	288	60	378.2	499.8	33.9	90.5	375.4
America	2016	1,336.8	232.5	75.9	1,028.4	566	51.9	128.2	385.8
	2017	1,379.4	227.3	71.9	1,080.2	608.3	54.7	141.8	411.8
Asia	2016	4,121.2	999.1	594.9	2,527.2	5,307.6	897	510.9	3,899.7
	2017	4,248.8	1,004.6	611.8	2,632.4	5,640.1	988	532.5	4,119.6
Oceania	2016	7.7	1.7	0.9	5.2	13.5	0.8	4.2	8.4
	2017	8	1.7	0.9	5.4	13.5	0.8	4.2	8.4

Source: UNCTAD secretariat calculations, based on data supplied by reporting countries and as published on government and port industry website, and by specialists sources.

## International Seaborne Trade, Selected Years

(Unit: Million Tons)



Source: Review of Maritime Transport, various issues. For 2006–2017, the breakdown by cargo type is based on Clarksons Research, 2018a.

Note: 1980–2005 figures for main bults include iron ore, grain, coal, bauxite/alumina and phosphate. Starting in 2006, main bults include iron ore, grain and coal only. Data relating to bauxite/alumina and phosphate are included under "other dry cargo".

## Global Top 30 Liner Shipping Companies

Big three global shipping companies – Maersk, Mediterranean Shipping Company and CAM CGM scored a cumulative 37.7% of total market share as of June, 2018. Hyundai Merchant Marine of Korea ranked 12th with a 1.5% market share.

Division	Owned			Chartered			Total				
	Number of Ships	Total 20-foot equivalent units	Average Vessel size (20-foot equivalent units)	Number of Ships	Total 20-foot Equivalent Units	Average Vessel size (20-foot equivalent units)	Number of Ships	Total 20-foot equivalent units	Market Share (percentage of 20-foot equivalent units)	Average Vessel Size (20-foot equivalent units)	Share of Chartered ships (%)
Maersk	300	2,213,253	7,378	400	1,666,186	4,165	700	3,879,439	15.3	5,542	42.9
Mediterranean Shipping Company	154	1,032,256	6,703	319	2,085,852	6,539	473	3,118,108	12.3	6,592	66.9
CMA CGM	147	1,131,606	7,698	329	1,422,658	4,324	476	2,554,264	10.1	5,366	55.7
China Ocean Shipping (Group) Company	156	1,194,776	7,659	174	777,715	4,470	330	1,972,491	7.8	5,977	39.4
Hapag-Lloyd	105	999,787	9,522	112	551,087	4,920	217	1,550,874	6.1	7,147	35.5
Ocean Network Express	88	700,560	7,961	140	835,752	5,970	228	1,536,312	6.1	6,738	54.4
Evergreen	113	577,062	5,107	87	533,646	6,134	200	1,110,708	4.4	5,554	48.0
Orient Overseas Container Line	55	495,150	9,003	44	194,836	4,428	99	689,986	2.7	6,970	28.2
Yang Ming	45	209,810	4,662	55	399,939	7,272	100	609,749	2.4	6,097	65.6
Pacific International Lines	118	348,140	2,950	14	65,194	4,657	132	413,334	1.6	3,131	15.8
Zim Integrated Shipping Services	11	70,314	6,392	72	328,612	4,564	83	398,926	1.6	4,806	82.4
Hyundai Merchant Marine	20	158,886	7,944	45	223,258	4,961	65	382,144	1.5	5,879	58.4
Wan Hai Lines	72	172,819	2,400	28	82,263	2,938	100	255,082	1.0	2,551	32.2
X-Press Feeders	20	17,253	863	69	109,462	1,586	89	126,715	0.5	1,424	86.4
Republic of Korea Marine Transport Company	27	57,082	2,114	30	67,378	2,246	57	124,460	0.5	2,184	54.1
Islamic Republic of Iran Shipping Lines	24	79,668	3,320	4	22,850	5,713	28	102,518	0.4	3,661	22.3
Shandong International Transportation Co.	50	70,719	1,414	17	23,950	1,409	67	94,669	0.4	1,413	25.3
SM Line	13	57,706	4,439	7	20,612	2,945	20	78,318	0.3	3,916	26.3
Arkas Line	37	65,336	1,766	7	9,940	1,420	44	75,276	0.3	1,711	13.2
TS Lines	4	7,200	1,800	29	66,312	2,287	33	73,512	0.3	2,228	90.2
Transworld Group of Companies	22	38,159	1,735	11	22,302	2,027	33	60,461	0.2	1,832	36.9
Feedertech Shipping	5	12,040	2,408	12	44,422	3,702	17	56,462	0.2	3,321	78.7
Grimaldi Group	41	48,110	1,173	7	3,343	478	48	51,453	0.2	1,072	6.5
Quanzhou Ansheng Shipping Company	20	50,820	2,541				20	50,820	0.2	2,541	0.0
Regional Container Lines	20	28,928	1,446	7	17,060	2,437	27	45,988	0.2	1,703	37.1
Unifeeder	1	530	530	38	42,883	1,129	39	43,413	0.2	1,113	98.8
China Navigation Company	19	31,872	1,677	6	10,859	1,810	25	42,731	0.2	1,709	25.4
Grieg Star	26	41,540	1,598	1	306	306	27	41,846	0.2	1,550	0.7
Sinotrans	13	21,102	1,623	13	20,139	1,549	26	41,241	0.2	1,586	48.8
Sinokor Merchant Marine	12	17,874	1,490	18	22,409	1,245	30	40,283	0.2	1,343	55.6
<b>Subtotal, Top 30 Carriers</b>	<b>1,738</b>	<b>9,950,358</b>	<b>5,725</b>	<b>2,095</b>	<b>9,671,225</b>	<b>4,616</b>	<b>3,833</b>	<b>19,621,583</b>	<b>77.6</b>	<b>5,119</b>	<b>49.3</b>
Rest of World							4,330	5,668,430	22.4	1,309	
<b>World Total</b>							<b>8,163</b>	<b>25,290,013</b>	<b>100.0</b>	<b>3,098</b>	

Source: UNCTAD secretariat calculations, based on data from MDS Transmodal.

## Ownership of World Fleet

With regard to the shipping tonnage, Greece continued to lead the world, ahead of Japan, China and Germany. Korea ranked 7th in the races beating its closest rival United States.

No.	Country or Territory	Number of Vessels			Dead-Weight Tonnage (thousands of tons)			
		National Flag	Foreign or International Flag	Total	National Flag	Foreign or International Flag	Total	National Flag as Percentage of Total (dead-weight tonnage)
1	Greece	774	3,597	4,371	64,977	265,199	330,176	19.7
2	Japan	988	2,853	3,841	38,053	185,562	223,615	17.0
3	China	3,556	1,956	5,512	83,639	99,455	183,094	45.7
4	Germany	319	2,550	2,869	11,730	95,389	107,119	11.0
5	Singapore	240	2,389	2,629	2,255	101,327	103,583	2.2
6	Hong Kong (China)	95	1,497	1,592	2,411	95,396	97,806	2.5
7	<b>Republic of Korea</b>	<b>801</b>	<b>825</b>	<b>1,626</b>	<b>14,019</b>	<b>63,258</b>	<b>77,277</b>	<b>18.1</b>
8	United States	943	1,128	2,071	13,319	55,611	68,930	19.3
9	Norway	549	1,433	1,982	4,944	54,437	59,380	8.3
10	Bermuda	21	473	494	1,215	53,036	54,252	2.2
11	Taiwan Province of China	164	823	987	6,732	43,690	50,422	13.4
12	United Kingdom	398	956	1,354	9,496	40,494	49,989	19.0
13	Monaco	16	405	421	3,856	35,467	39,323	9.8
14	Denmark	139	805	944	1,521	37,691	39,212	3.9
15	Turkey	633	889	1,522	8,034	19,207	27,241	29.5
16	India	885	126	1,011	17,974	6,878	24,852	72.3
17	Switzerland	43	368	411	1,565	23,240	24,805	6.3
18	Belgium	120	152	272	12,405	11,225	23,630	52.5
19	Russian Federation	1,384	323	1,707	7,589	14,630	22,219	34.2
20	Indonesia	1,886	62	1,948	19,414	885	20,299	95.6
21	Italy	583	163	746	14,221	5,530	19,750	72.0
22	Malaysia	500	162	662	9,731	9,793	19,524	49.8
23	Netherlands	800	428	1,228	6,911	11,205	18,116	38.2
24	Islamic Republic of Iran	164	62	226	3,914	13,927	17,841	21.9
25	United Arab Emirates	200	695	895	1,115	16,317	17,432	6.4
26	Saudi Arabia	219	67	286	13,378	3,760	17,138	78.1
27	France	159	279	438	5,635	6,506	12,141	46.4
28	Brazil	290	100	390	4,341	7,636	11,976	36.2
29	Cyprus	14	281	295	92	10,137	10,229	0.9
30	Vietnam	875	116	991	7,464	1,756	9,221	81.0
31	Canada	220	149	369	2,695	6,387	9,082	29.7
32	Oman	6	42	48	6	7,782	7,788	0.1
33	Thailand	337	65	402	5,576	1,983	7,559	73.8
34	Qatar	63	56	119	1,841	4,977	6,818	27.0
35	Sweden	167	122	289	2,332	3,927	6,259	37.3
	Subtotal, Top 35 Shipowners	18,551	26,397	44,948	404,399	1,413,699	1,818,098	22.2
	Rest of World and Unknown	3,224	2,560	5,784	36,114	55,800	91,913	39.3
	World Total	21,775	28,957	50,732	440,513	1,469,499	1,910,012	23.1

Source: UNCTAD secretariat calculations, based on data from Clarksons Research.

## Age Distribution of World Merchant Fleet by Vessel Type

The average age of world merchant fleet increased 0.50 year in terms of percentage of total ships during the 2017-2018 period with general cargo ships registering the highest 25.82 years by vessel type.

Economic Grouping and Vessel Type		Years					Average Age		Percentage Change
		0-4	5-9	10-14	15-19	20+	2018	2017	2017-2018
World									
	Percentage of Total Ships	14.97	21.89	17.04	8.46	37.64	19.06	18.73	0.32
Oil Tankers	Percentage of Dead-Weight Tonnage	21.70	33.86	24.60	14.30	5.55	9.99	9.90	0.09
	Average Vessel Size (dwt)	78,543	84,016	78,643	93,525	8,303			
	Percentage of Total Ships	27.83	41.32	12.90	8.72	9.24	9.10	8.77	0.33
Dry Bulk Carriers	Percentage of Dead-Weight Tonnage	29.99	43.04	12.93	7.22	6.82	8.28	7.93	0.34
	Average Vessel Size (dwt)	79,281	76,618	73,750	60,907	54,304			
	Percentage of Total Ships	6.09	16.26	11.88	7.03	58.75	25.82	25.10	0.72
General Cargo Ships	Percentage of Dead-Weight Tonnage	11.59	26.27	14.50	9.84	37.80	18.66	18.17	0.49
	Average Vessel Size (dwt)	8,060	6,641	5,400	6,392	2,656			
	Percentage of Total Ships	17.40	26.67	26.81	14.74	14.37	11.94	11.53	0.41
Container Ships	Percentage of Dead-Weight Tonnage	29.55	30.98	23.71	10.32	5.45	9.04	8.71	0.32
	Average Vessel Size (dwt)	83,122	56,847	43,284	34,246	18,568			
	Percentage of Total Ships	13.07	19.42	11.62	8.48	47.41	22.86	22.32	0.54
Other	Percentage of Dead-Weight Tonnage	20.70	24.04	16.10	10.78	28.39	15.45	15.34	0.11
	Average Vessel Size (dwt)	9,253	7,507	8,440	7,741	4,156			
	Percentage of Total Ships	13.75	22.01	13.25	8.54	42.46	20.83	20.34	0.50
All Ships	Percentage of Dead-Weight Tonnage	25.74	35.98	18.16	10.20	9.92	10.09	9.85	0.24
	Average Vessel Size (dwt)	43,360	38,186	32,634	29,049	6,150			
	Developing Economies – All Ships								
	Percentage of Total Ships	14.08	22.81	12.70	7.76	42.65	20.07	19.56	0.51
	Percentage of Dead-Weight Tonnage	25.70	35.39	13.92	10.03	14.97	17.46	17.50	-0.04
	Average Vessel Size (dwt)	34,174	30,399	21,763	25,426	6,932			
Developed Economies – All Ships									
	Percentage of Total Ships	14.58	23.78	15.57	10.63	35.45	19.35	18.94	0.41
	Percentage of Dead-Weight Tonnage	26.15	36.71	20.97	10.26	5.91	9.35	9.12	0.23
	Average Vessel Size (dwt)	55,976	47,322	43,041	32,571	6,951			
Transition Economies – All Ships									
	Percentage of Total Ships	5.75	9.48	6.81	3.54	74.41	29.67	29.08	0.59
	Percentage of Dead-Weight Tonnage	9.80	27.51	22.07	13.44	27.18	16.16	15.55	0.62
	Average Vessel Size (dwt)	13,865	22,668	25,258	26,867	2,577			

Source: UNCTAD secretariat calculations, based on data from Clarksons Research.

## Market-Listed Companies

No.	Name	Address	Contact Point	Website
1	Hyundai Heavy Industries Co., Ltd.	1000, Bangeojinsunhwando-ro, Dong-gu, Ulsan, Korea	Tel: 82-52-202-3001 Fax: 82-52-202-3487	www.hhi.co.kr
2	Samsung Heavy Industries Co., Ltd.	23, Pangyo-ro 227 beon-gil, Seongnam-si, Gyeonggi-do, Korea	Tel: 82-31-5717-7000 Fax: 82-2-3458-7319	www.samsungshi.co.kr
3	Daewoo Shipbuilding & Marine Engineering Co., Ltd.	125, Namdaemun-ro, Jung-gu, Seoul, Korea	Tel: 82-2-2129-0114 Fax: 82-2-2129-077-8	www.dsme.co.kr
4	Hyundai Mipo Dockyard Co., Ltd.	100, Bangeojinsunhwando-ro, Dong-gu, Ulsan, Korea	Tel: 82-52-250-3114 Fax: 82-52-250-3056	www.hmd.co.kr
5	Hanjin Heavy Industries & Construction Co., Ltd.	233, Taejong-ro, Yeongdo-gu, Busan, Korea	Tel: 82-51-410-3114 Fax: 82-51-410-8465	www.hanjinsc.com
6	Cape Industries Co., Ltd. *	910-29, Soto-ri, Sangbook-myun, Yangsan-si, Korea	Tel: 82-55-370-1234	www.cape.co.kr
7	ChoongAng Ocean Co., Ltd. *	1202, 71, Yeouinaru-ro, Yeongdeungpo-gu, Seoul, Korea	Tel: 82-2-3218-9500 Fax: 82-2-3218-9595	www.c-ocean.co.kr
8	Daechang Solution Co., Ltd. *	147, Dasan-ro, Saha-gu, Busan, Korea	Tel: 82-51-264-0831 Fax: 82-51-264-0830	www.dsol.co.kr
9	Daeyang Electronic Co., Ltd. *	245, Jangpyeong-ro, Saha-gu, Busan, Korea	Tel: 82-51-200-5282, 5331 Fax: 82-51-200-5210	www.daeyang.co.kr
10	Dongbang Ship Machinery Co., Ltd. *	414-2, Jukgok-dong, Jinhae-gu, Changwon-si, Gyeongsangnam-do, Korea	Tel: 82-55-545-0882 Fax: 82-55-545-0883	www.dongbangsm.co.kr
11	Dongnam Marine Crane Co., Ltd. *	1102-171, Gimhae-daero, Hallim-myeon, Gimhae-si, Gyeongsangnam-do, Korea	Tel: 82-55-720-3000 Fax: 82-55-720-3019	www.dongnam-crane.co.kr
12	Dong Sung Finetec. Co., Ltd. *	120, Hyeopdonghanji-gil, Miyang-myeon, Anseong-si, Gyeonggi-do, Korea	Tel: 82-31-677-7000 Fax: 82-31-677-7007	www.dsfinetec.co.kr
13	Fine Besteel Co., Ltd.	259-33, Changmil-ro, Changnyeong-eup, Changnyeong-gu, Gyeongsangnam-do, Korea	Tel: 82-55-259-2000 Fax: 82-55-259-2020	www.finebesteel.com
14	Haeduk Powerway Co., Ltd. *	1608-1, Songjeong Gangseo-gu, Busan, Korea	Tel: 82-51-831-0101 Fax: 82-51-831-0075	www.haedukpw.com
15	Hankuk Carbon Co., Ltd.	85, Chunhwa-ro, Bukbuk-myeon, Miryang-si, Gyeongsangnam-do, Korea	Tel: 82-55-350-8888	www.hcarbon.com
16	Hanla IMS Co., Ltd. *	115, Hwajeonsandan 1(il)-ro, Gangseo-gu, Busan, Korea	Tel: 82-51-601-7000 Fax: 82-51-831-1850	www.hanlaims.com
17	HLB Co., Ltd. *	216-53, Dangwol-ro, Onsan-eup, Ulju-gun, Ulsan, Korea	Tel: 82-52-240-3500 Fax: 82-52-247-4855	www.hlbkorea.com
18	HSD Engine	67, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Korea	Tel: 82-55-260-6000	www.hsdengine.com
19	Hyunjin Materials Co., Ltd. *	1601-1 Songjeong-dong, Gangseo-gu, Busan, Korea	Tel: 82-51-602-7700 Fax: 82-51-602-7777	www.hjmco.co.kr
20	Inhwa Precision Co., Ltd. *	55, Charyong-ro 14beon-gil, Uichang-gu, Changwon-si, Gyeongsangnam-do, Korea	Tel: 82-55-299-0954-6 Fax: 82-55-299-0366	www.ihpre.co.kr
21	Korea Special Precision Co., Ltd. *	147, Noksansaneopbuk-ro, Gangseo-gu, Busan, 46753, Korea	Tel: 82-51-831-6274-7 Fax: 82-51-831-6273	www.kspvalve.com
22	Oriental Precision & Engineering Co., Ltd. *	6, Noksansandan 289-ro, Gangseo-gu, Busan, Korea	Tel: 82-51-202-0101 Fax: 82-51-831-3306	www.opco.co.kr
23	SAMKANG M&T Co., Ltd. *	51-1, Naesan 3-gil, Donghae-myeon, Goseong-gun, Gyeongsangnam-do, Korea	Tel: 82-55-673-7014	www.sam-kang.com
24	Sejin Heavy Industries	216-18, Dangwol-ro, Onsan-eup, Ulju-gun, Ulsan, Korea	Tel: 82-52-231-8000 Fax: 82-52-239-7010	www.sejinheavy.com
25	STX Engine Co., Ltd.	80, Seongsan-dong, Changwon-si, Gyeongsangnam-do, Korea	Tel: 82-55-280-0114 Fax: 82-55-285-2030	www.stxengine.co.kr
26	S&W Co., Ltd. *	#29, Dadae-ro 170 beon-gil, Saha-gu, Busan, Korea	Tel: 82-51-205-7411-6 Fax: 82-51-205-7417	www.snwcorp.com

\* indicates being listed at KOSDAQ

## KOMEA Member Companies

Name	Main Products	Website	Location / Tel.
AMIR Marine Co., Ltd.	Piston ring	www.amir.co.kr	YEONGDO-GU, BUSAN / +82 51 413 9600
AMS Co., Ltd.	Unit Toilet, Wall & Ceiling Panel, Heat Exchanger (Plate Shell & Tube Type), etc.	www.ams.co.kr	HAEUNDAE-GU, BUSAN / +82 51 293 8641
A-TECH	Small davit, Air motor, Air winch	www.atech2004.co.kr	GANGSEO-GU, BUSAN / +82 51 832 0723
BC TAECHANG IND. CORP.	Ultimate solution for onboard crew maintenance, Deck scaling machine	www.bcinternational.co.kr	JUNG-GU, BUSAN / +82 51 442 6191
Bethel Engineering Co., Ltd.	Magic Grating (Steel grating)	www.nmg.kr	NAMYANGJU-SI, GYEONGGI / +82 31 593 2712
B-I INDUSTRIAL CO., LTD.	Fire Detection System, Gas Detection System, Navigation Watch Alarm System, Moisture Detection System	www.b-i.co.kr	GANGSEO-GU, BUSAN / +82 51 441 5670
BIP INDUSTRIES CO., LTD.	Wall panel, Ceiling panel, Bathroom unit, Cabin unit, Floating floor, TLQ, Marine furniture, Marine door, etc.	www.bn-bip.com	GEUMJEONG-GU, BUSAN / +82 51 519 2000
BO MYUNG METAL Co., Ltd.	Copper & Copper-Alloy Pipes & Plates, Fittings, Flanges	www.bmmetal.co.kr	GANGSEO-GU, BUSAN / +82 51 266 4101
BOGO Co., Ltd.	Telephone system, Lighting fixture	www.bogoco.co.kr	SAHA-GU, BUSAN / +82 51 294 7771
Bumhan Industries Co., Ltd.	Air compressor, N2 generator, High pressure control valve	www.bumhan.com	CHANGWON-SI, GYEONGNAM / +82 55 224 0500
BY CONTROLS, INC.	Watertight door, Pilot door, Hydraulic hatch, etc.	www.bycontrols.com	GIMHAE-SI, GYEONGNAM / +82 55 345 6110
CAPE INDUSTRY LTD.	Cylinder Liner	www.capeind.com	YANGSAN-SI, GYEONGNAM / +82 55 370 1234
CENTURY CORPORATION	Air Conditioner, Chilling Unit, Air Conditioning Equipment, Marine & Industrial Equipment, Nuclear HAVC System	www.century.co.kr	ASAN-SI, CHUNGNAM / +82 41 420 8086
CHK CO., LTD.	Ref. container socket, Junction box	www.chkj.co.kr	GANGSEO-GU, BUSAN / +82 51 831 9500
ChungSol Marine Co., Ltd.	Window wiper, Clear view screen, Window, Door, Hatch	www.chungsolmarine.co.kr	GANGSEO-GU, BUSAN / +82 51 832 2226
ChungSong Industry Co., Ltd.	Welding auto carriage, LWS, etc.	www.koweld.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 329 9500
CLAD KOREA POHANG Co., Ltd.	Clad pipe & Fitting, Hard facing, Overlay welding in pressure vessel, Valve, etc.	www.cladkoreapohang.com	POHANG-SI, GYEONGBUK / +82 54 285 1868
Dae Heung Cooler Co., Ltd.	Heat exchanger	www.cooler.co.kr	POCHEON-SI, GYEONGGI / +82 31 532 9667
DAE KWANG IND CO., LTD.	SUS PIPE FITTING FLANGE		GANGSEO-GU, BUSAN / +82 51 831 5886
DAECHANG SOLUTION CO., LTD.	Propeller boss, Chain wheel cam., Dummy ring, Valve body, etc.	www.dcm.co.kr	SAHA-GU, BUSAN / +82 51 899 5555
Daechun Industrial Co., Ltd.	Multi-core tube, Stainless steel tube	www.daechun.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 345 2288
DAEHA CO., LTD.	Hydraulic Pressure Testing Equipment, Cylinder, Pump, Torque Wrench	www.daehatech.co.kr	GANGSEO-GU, BUSAN / +82 51 326 1870
DAEJINSAT Co., Ltd.	Ceiling panel	www.daejinsat.com	ULJU-GUN, ULSAN / +82 52 225 2361
DAEJUNG CO., LTD.	Fiber Rope, Pet/PP Mat, Sports Net	www.daejung.net	SASANG-GU, BUSAN / +82 51 304 2511
DAEJUNG VALVE CO., LTD.	Butterfly Valves, Oil Field Flow-Line Components, Control Valves, Actuators, Special Valves	www.djvalves.com	DALSEO-GU, DAEGU / +82 53 584 2276
Daemmstoff Industrie Korea Ltd.	KVM SEALING COMPOUND, MANGANA RETAINING COMPOUND (PUTTY, FIRE STOP, PANDA-90, etc.)	www.daemmstoff.com	SAHA-GU, BUSAN / +82 51 261 7073
Daeyang Electric Co., Ltd.	Lighting fixtures, Instruments, SAUV, UUV	www.daeyang.co.kr	SAHA-GU, BUSAN / +82 51 200 5221
DAEYANG INSTRUMENT. Co., Ltd.	Precision instruments - Anemometer, Rudder angle indicator, etc.	http://dic.daeyang.co.kr/08_affiliate/affiliate_01.php	GANGSEO-GU, BUSAN / +82 51 200 5212
DaiHan Anchor Chain MFG. Co., Ltd.	Anchor chain, Offshore mooring stud, etc.	www.dhac.co.kr	NAM-GU, INCHEON / +82 32 862 0091
DBM Dongbang Marine Co., Ltd.	MARINE FIRE DETECTION & ALARM SYSTEM, MARINE FIRE EXTINGUISHING SYSTEM	www.dbmarine.co.kr	GANGSEO-GU, BUSAN / +82 51 205 1585

Name	Main Products	Website	Location / Tel.
DECKWIN. CO	Cable Winch, Windlass, Mooring Winch, Capstan, etc.	www.deckwin.com	YEONGDO-GU, BUSAN / +82 51 405 7890
DHMC Co., Ltd.	Rudder, Block, etc.	www.dhmc-rudder.com	GIMHAE-SI, GYEONGNAM / +82 55 346 3663
D-I Industrial Co., Ltd.	Marine transmission, Steering system, P.T.O.	www.d-i.co.kr	JINU-SI, GYEONGNAM / +82 55 760 5500
DINGJIN MPTECH	Part for Marine Engine, Shaft System		GIMHAE-SI, GYEONGNAM / +82 55 720 7000
DK-Lok Corporation	Instrumentation fitting & valve	www.dklok.com	GIMHAE-SI, GYEONGNAM / +82 55 338 0114
DMC Co., Ltd.	Offshore cranes, Deck cranes, Floating cranes	www.dongnam-crane.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 720 3000
DNP Co., Ltd.	Accommodation system	www.dnpco.kr	GANGSEO-GU, BUSAN / +82 51 831 4551
Dong Hae M-Tech Co., Ltd.	Grab bucket, Orange grab, Motor grab, Wood grab, etc.	www.east-sea.co.kr	SEO-GU, INCHEON / +82 32 583 8061
Dong Kang M-Tech Co., Ltd.	Water jet, Night navigator	www.dkmttech.com	GANGNAM-GU, SEOUL / +82 2 553 0181
Dong Woo Machinery & Engineering Co., Ltd.	Engine room overhead crane, F.O hose handling davit, etc.	www.hanyang-p.co.kr	CHANGWON-SI, GYEONGNAM / +82 55 295 3261
Dong-A Valve Ind. Co.	Low & high pressure valves, Flap check (duo-check) valve, etc.	http://donga-valve.co.kr	GANGSEO-GU, BUSAN / +82 51 831 1500
DONGHWA ENTEC	Heat exchanger, Plate cooler, etc.	www.dh.co.kr	GANGSEO-GU, BUSAN / +82 51 970 1035
DongHwa Pneutec Co., Ltd.	Air/gas compressor	www.dhkomp.co.kr	GANGSEO-GU, BUSAN / +82 51 974 4800
Doosan Corporation Mottrol	Marine Equipment		CHANGWON-SI, GYEONGNAM
DRB Holding Co., Ltd.	Marine rubber fender, Industrial rubber sealing & gasket, Industrial rubber track, Rubber damper	www.drworld.com	YEONGDEUNGPO-GU, SEOUL / +82 2 2168 9133
Duksung ENG	Marine Equipment		DONG-GU, BUSAN
ELSCOM Inc.	Explosion-Proof Products, Distribution Board Components, Solar Cable/PV JB	www.elscom.co.kr	SASANG-GU, BUSAN / +82 51 329 8990
EMERSON PROCESS MANAGEMENT MARINE SOLUTIONS KOREA CO., LTD.	Valve Remote Control Systems (Cargo Monitoring Systems, Ballast Tank Measurement Systems, Fuel Integrity Systems)	www.emersonprocess.com/mtm	SAHA-GU, BUSAN / +82 51 602 5570
Enercon co., Ltd.	Actuator	www.helix-actuator.com	BUK-GU, BUSAN / +82 51 516 6669
ESAB SeAH Corp.	Flux cored wire	www.esab.co.kr	CHANGWON-SI, GYEONGNAM / +82 55 289 8111
FLUTEK, Ltd.	Axial piston pumps, Axial piston motors & reduction gear, Electro-hydraulic steering gear, Deck machinery, Staffa motor, ECO servo	www.flutek.co.kr	CHANGWON-SI, GYEONGNAM / +82 55 570 5800
FRIEND CO., LTD.	Engine valve spindle, Cable tray	www.thefriend.co.kr	GANGSEO-GU, BUSAN / +82 51 974 7900
G.S HIGH-TECHER CO., LTD.	Air vent head, Convex coupling	http://gshightecher.koreasme.com	MIRYANG-SI, GYEONGNAM / +82 51 832 0456
GASTRON CO., LTD.	Installation-Type Detector, Portable Gas Detector, Acid Leak Detecting Paint, Alarm Signalling	www.gastron.com	GUNPO-SI, GYEONGGI / +82 31 490 0800
GHI Co., Ltd.	Adhesive, Rust inhibitor, Coating	www.ghi.biz	BUK-GU, ULSAN / +82 52 297 2259
GMB (GENERAL MARINE BUSINESS INC.)	Marine system (ship shore comm. system, emergency shutdown system, etc.), Defense eng. (control & monitoring system integration, etc.), Manufacturing & services (new shipbuilding, module production)	www.gmbmarine.com	ULJU-GUN, ULSAN / +82 52 254 5215
GS-Hydro Korea Ltd.	Flare flange system, Retaining ring system	www.gshydro.com	GANGSEO-GU, BUSAN / +82 51 290 2000
HAE WON INDUSTRIES CO.	SEALING RING, MOUNTING TOOL, ACTUATOR, AIR CYLINDER	http://haiwon1.koreasme.com	SAHA-GU, BUSAN / +82 51 831 4600
HAEDUK POWERWAY CO., LTD.	Rudder Assembly	www.haedukpw.com	GANGSEO-GU, BUSAN / +82 51 831 0101
Halla Industrial Co., Ltd.	Non seal canned motor pump, Gear pump, Electronic Beam Weld	www.hallaiq.co.kr	SAHA-GU, BUSAN / +82 51 264 2201

Name	Main Products	Website	Location / Tel.
HanJo Co., Ltd.	Air filter, Lubrication oil filter, Fuel oil filter, Filter elements, Fuel pipe	www.hanjoms.co.kr	YEONGDO-GU, BUSAN / +82 51 414 7201
HanKuk Miboo Co., Ltd.	Spiral duct, Cold chamber, Deck covering, Level gauge, Level switch	www.hankukmiboo.co.kr	SAHA-GU, BUSAN / +82 51 263 3621
Hanla IMS Co., Ltd.	Instruments (Level gauge/Level switch/Level Transmitter), Tank remote sounding system, Cargo monitoring system, Valve	www.hanlaims.com	GANGSEO-GU, BUSAN / +82 51 601 3000
HANSAE CO., LTD.	Bronze & Bronze-Allied Pipe, Welding Equipment, Marine & Shipboard Cable (PVC Insulator wire, Rubber, etc.)	www.hansaeglobal.com	ULJU-GUN, ULSAN / +82 52 258 0684
HANSHIN ELECTRONICS CO., LTD.	Public address sys., Telephone sys., etc.	www.ehanshin.com	YEONGDO-GU, BUSAN / +82 51 412 5551
HANSUN ENGINEERING	Tube Fittings, Pipe & Weld Fittings, Valves	www.slok.co.kr	GANGSEO-GU, BUSAN / +82 51 899 6771
HANWOOL H&P CO., LTD.	Hydraulic Hose Ass'y, Hose Coupling, Hose Ass'y Subsidiary Materials	www.ihose.co.kr	YANGSAN-SI, GYEONGNAM / +82 55 375 7401
HDM TECH Co., Ltd.	Marine telephone system, Public address system, Communal aerial system, Marine CCTV system, Marine clock system, Anemometer system, Rudder angle indicator system, Temperature sensor, Pressure sensor	www.hdm-tech.com	GEUMJEONG-GU, BUSAN / +82 51 521 2883
HEARTMAN CO., LTD.	Fuel injection nozzle for marine diesel engine, Fuel injection plunger ass'y for marine diesel engine, Spindle guide	www.heartman.co.kr	GANGSEO-GU, BUSAN / +82 51 264 8829
HHI - EDM (Engine & Machinery Division)	Marine Engines / Components, Propeller & Shafts / Propulsion, Marine Machinery, Engine Power Plants	www.hyundai-engine.com/home_korean/	DONG-GU, ULSAN / +82 52 202 7291
HI AIR KOREA Co., Ltd.	Air handling unit, Spot cooler, Refrigeration condensing unit, Fire damper, Provision refrigeration plant, MGO cooling system, Packaged air conditioner, Ventilation fan, Spiral duct	www.hiarkorea.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 340 5000
Hi Tech Co., Ltd.	T-Bar, Gas Protection Plate		GYEONGJU-SI, GYEONGBUK / +82 54 776 5310
HKE	Piston crown, Valve sheet, Cylinder head, Valve of engine, Auto Welding (Crown valve, Valve)	www.hk-eng.kr	YOUNGDO-DU, BUSAN / +82 51 415 2494
HODU Co., Ltd.	Catering furniture, Galley hood W/fire fighting, Galley E/Q (Deep fat fryer/ Cooking range, etc.), Machinery for workshop (Lathe, Grinder, Milling machine), Non-slip flooring system	www.hoducompany.com	GANGSEO-GU, BUSAN / +82 51 291 9512
HOSEUNG Ent. Co., Ltd.	Package unit for engine room, Tank Package Unit, Sewage Treatment System	www.hosent.co.kr	GIJANG-GUN, BUSAN / +82 51 831 2233
HSD Engine Co., Ltd.	Marine diesel engine, Diesel engines for power generation	www.hsdengine.com/kr	CHANGWON-SI, GYEONGNAM / +82 55 260 6211
HWASHINBOLT IND.CO.,LTD.	Bolts & Nuts, Washers, Rod Pistons & Extensions, Fluoropolymer Coated Stud Bolt	www.hwashinbolt.co.kr	SAHA-GU, BUSAN / +82 51 264 2522
HWASHIN-HITECH Co., Ltd.	Bolt & Nut	www.hwashin-hitech.co.kr	GANGSEO-GU, BUSAN / +82 51 971 2523
Hy-Lok Corporation	Tube fitting & valve, Double block & bleed valve, Cryogenic valve	www.hy-lok.com	GANGSEO-GU, BUSAN / +82 51 970 0800
Hyundai Elevator Co., Ltd.	Lifts (elevator, escalator, moving walk), Logistics automation system, Parking system (automobiles, bicycles), SOC infrastructure systems (platform screen door, automatic folding canopy, gap zero, etc.)	www.hyundaelevator.co.kr	ICHEON-SI, GYEONGGI / +82 31 644 5114
Hyundai Fitting Co., Ltd.	Flange (Slip-on, Blind, Spectacle Blind, Orifice, Lap Joint, Nipo, Compact, Welding Neck, Threaded (Screwed))	www.hdfco.co.kr	GIJANG-GUN, BUSAN / +82 51 831 0891
HYUNDAI LIFEBOATS CO., LTD.	Lifeboat, Life Raft, GRP rigid-type rescue boat	www.hdboat.com	ULJU-GUN, ULSAN / +82 52 240 3500
Hyundai Marine Machinery Co., Ltd.	W.O. incinerator, Aux/blower, F.D fan	www.hmmco.co.kr	SEO-GU, INCHEON / +82 32 583 0671
HYUNDAI WELDING CO., LTD.	Covered electrode arc welding consumables, Sub-merged arc welding flux & wire, Solid wire arc welding consumables, Flux cored wire, MIG TIG arc welding consumables, Welding machines	http://www.hyundaiwelding.com/korea/ko/main.asp	GANGNAM-GU, SEOUL / +82 2 6230 6010
I.M.E. CORPORATION	Engine Valve Spindle, Seat & Guide	www.ime21.com	GIMHAE-SI, GYEONGNAM / +82 55 346 1127
ILJIN AND CO., LTD.	XC Network System (VoIP Auto Telephone System, IP Clock System, IP CCTV System, IP TV, etc.), CCTV System, VXT (Video Streaming compression solution), Marine Cloud System	www.iljinamst.co.kr	GIJANG-GUN, BUSAN / +82 51 755-6191
ILSHIN ENGINEERING CO., LTD.	Chemical equipment and Tanks	www.ilshineng.com	SIHEUNG-SI, GYEONGGI / +82 31 499 4502
ILSUEUNG Co., Ltd.	Sewage treatment plant, Fresh water generator, Oil purifier (F.O/L.O)	www.ilseung.co.kr	GANGSEO-GU, BUSAN / +82 51 831 4110

Name	Main Products	Website	Location / Tel.
IL-SUNG IND. CO.	Hot water calorifier, Silencer (For M/E, G/E, fan), Mist eliminator, Washable air filter, Pneu. fire damper (For funnel, emergency G/E room)	www.ilsunghs.com	SASANG-GU, BUSAN / +82 51 312 4056
Intellian Technologies	Marine Satellite TV Antenna systems, Marine Satellite Communication Antenna Systems, FleetBroadband Systems	www.intelliantech.com	PYEONGTAEK-SI, GYEONGGI / +82 31 379 1000
INTRA PRECISION MANUFACTURE CO., LTD.	PISTON CROWN, CYLINDER LINER, CYLINDER COVER, CYLINDER HEAD	www.intrapre.com	SAHA-GU, BUSAN / +82 51 418-6750
JDSOLUTION CO., LTD.	High Output Directional Speaker, Ultra Directional Speaker, Marine Equipment	www.jdsol.co.kr	GUEMCHEON-GU, SEOUL / +82 1577 1435
JHK INC.	Container Fixed Fitting, Car Lashing Equipment		GIMHAE-SI, GYEONGNAM / +82 55 346 2225
JINFLEX COMPANY	Marine Equipment	www.jinflex.co.kr	GANGSEO-GU, BUSAN / +82 972 5167
JINSEONG LINER & PISTON	Cylinder liner, Piston	www.jinseong.com	DAEDEOK-GU, DAEJEON / +82 42 931 8556
Jonghap Machinery Co., Ltd.	Auto Welding Equipment, Sewage Treatment System, etc.	www.jonghap.biz	YANGSAN-SI, GYEONGNAM / +82 55 370 2600
JUNG GONG IND. CO., LTD.	Marine Window & Scuttle, Fire-Resistant Window & Scuttle, Marine Window Wiper, Clear View Screen, Roller Blinder	www.jung-gong.com	SAHA-GU, BUSAN / +82 51 261 2911
JUNG-A MARINE	Accommodation ladder, Pilot slant ladder, Wiper, CVS, Sunscreen davit, Capstan, Al structure, Hatch, Helideck, Special product	www.jung-a.co.kr	GANGSEO-GU, BUSAN / +82 51 831 4147
JUNGSAN ENTERPRISE CO., LTD.	Marine Engine Parts	www.jungsan.com	ULJU-GUN, ULSAN / +82 52 254 3290
Ju-sung Ind Co., Ltd.	Marine Equipment		ULJU-GUN, ULSAN / +82 52 266 2501
K.C. LTD.	Impressed current cathodic protection (I.C.C.P) system, Anti-fouling system (M.G.P.S), Shaft earthing device	www.iccp-mgps.com	GANGSEO-GU, BUSAN / +82 51 831 7720
KANGNAM JEVISCO CO., LTD.	Shop primer, Anti-corrosive coatings, Anti-fouling coatings, etc.	www.jevisco.com	BUSANJIN-GU, BUSAN / +82 51 892 4221
Kangrim Heavy Industries Co., Ltd.	Boilers, Economizers, Inert Gas System, Inert Gas Generator, Incinerators, Air Reservoirs, Calorifiers, LPG/Ethane Tanks, Pressure Vessels, PSV SUS Tanks, Bulk Mud Tanks, Reels, Uppper Deck Unit, Car deck	www.kangrim.com/index.htm	CHANGWON-SI, GYEONGNAM / +82 55 269 7700
Kangrim Insulation Co., Ltd.	LNG Cargo Tank Insulation, LPF/LEG(Ethylene) Cargo Insulation, LNG/LPG/LEG Cargo Pipe Insulation, Onshore/Offshore Plant Insulation, LNG Receiving Terminal Insulation, Cold Provision Stores, Reefer Vessel Hod Insulation	www.kangrim.com/index2.htm	GIJANG-GUN, BUSAN / +82 51 220 6000
Keonchang Industry Co., Ltd.	TOP CHARGING EQUIPMENT, HOPPER & CONVEYER, SIDE GUIDE ASS'Y	www.keonchang.co.kr	SAHA-GU, BUSAN / +82 51 203 0161
Keum Yong Machinery Co., Ltd.	<ul style="list-style-type: none"> <li>• MAN DIESEL - Exhaust Valve Ass'y, Hydraulic Cylinder Unit, Axial Vibration Damper &amp; Scraper Ring, Hydraulic Supply unit</li> <li>• WÄRTSILÄ - Exhaust Valve Ass'y</li> <li>• Turbo Charger Part (Bearing Casing, Insert Piece, Diffusser Ring)</li> </ul>	www.keumyong.com	CHILGOK-GUN, GYEONGBUK / +82 54 972 7841
Key Sung Metal Co., Ltd.	Marine valve (JIS, ANSI, DIN, Cryogenic)	www.keysungmetal.com	GANGSEO-GU, BUSAN / +82 51 831 3391
Keystone Valve (Korea)	All kinds of valves for offshore and shipbuilding	http://valves.pentair.com/valves	DONG-GU, BUSAN / +82 51 604 7037
KHAN CO., LTD.	Engineering services, Sea-trial & commissioning service, Facility for fabrication, Modification, Helideck, Derrick Ass'y	www.khan-offshore.com	GEOJE-SI, GYEONGNAM / +82 55 639 7604
KI-WON	Marine Equipment (Level gauge, Sight Glass, Surface Valve, Eductor, Fresh Water Generator), Vacuum System (Single/Multi stage), Steam Jet Ejector for Steam Power Plant	www.kiwon.com	GIMHAE-SI, GYEONGNAM / +82 55 313 9913
KLES	Smart power piping management system, GGH (gas gas heater) re-heater, Multi-axial pipe shock absorbing devices, Platform-supported boiler in-furnace scaffolding and Lifting systems	www.kles.co.kr	YUSEONG-GU, DAEJEON / +82 42 671 1122
KOC ELECTRIC CO., LTD.	L/V & H/V transformer (Cast Resin/Dry/Oil Immersed), UPS, Main Switch Board, Control Console, Navigator Light, Light Signal Column, Bus Duct/Bus Way	www.kocelec.com	GANGSEO-GU, BUSAN / +82 51 790 6315
KOKAKO Co., Ltd.	Exhaust Valve Grinding Machine	www.코카코.com	YEONGDO-GU, BUSAN / +82 51 403 4114
KOMEKO Co., Ltd.	Engine Safety & Control System, Marine Propulsion Engine Control & Monitoring System, G/E ACS, Light Panel for Water Tight Door, Bridge Navigational Watch Alarm System, Shaft Power Meter	www.komeco.net	GIJANG-GUN, BUSAN / +82 51 724 5070
Kongsberg Maritime Korea Ltd.	Alarm monitoring system, Cargo monitoring system, Offshore technology	www.km.kongsberg.com	GIJANG-GUN, BUSAN / +82 51 749 8600

# References

Name	Main Products	Website	Location / Tel.
KOREA FILTER CO., LTD.	Auto Filter (Ballast Water, Sea Chest Water, F.O/L.O), Strainer (Water, Oil, Y, T, Mud Box), Con Strainer, Filter (Air Separator Elements, Hydraulic Elements), Demister, etc.	www.korea-filter.co.kr	YANGSAN-SI, GYEONGNAM / +82 555 367 0360
KORVAL CO., LTD.	Control Valves, Regulating Valves, Heat Sensor, Shut-Off Valves	www.korval.co.kr	SAHA-GU, BUSAN / +82 51 790 9700
KOTO Technical Co.	Maintain & repair items (All hydraulic systems, Adjust alignment, centering)	http://kotofft.com	SAHA-GU, BUSAN / +82 51 417 8501
KSP Co., Ltd.	Exhaust valve complete, Exhaust valve spindle	www.kspvalve.com	GANGSEO-GU, BUSAN / +82 51 831 6274
KSV (Korea Special Valve) CO., LTD.	Valve spindle and Valve seat for marine diesel engine	www.ksv-valve.co.kr	YEONGDO-GU, BUSAN / +82 51 415 4466
KT Marine Co., Ltd.		www.ktmarine.co.kr	HAEUNDAE-GU, BUSAN / +82 51 784 6006
KTE CO., LTD.	High voltage switchboard, Side thruster, Low voltage switchboard, Side thruster control system, Group starter panel, Alarm monitoring system, Electric equipment, etc.	www.kte.co.kr	GANGSEO-GU, BUSAN / +82 51 265 0255
KTMI CO., LTD.	Emergency towing system, Cargo securing system, Mooring fitting	www.kreatmi.com	GANGSEO-GU, BUSAN / +82 51 971 9911
Kuk Dong Elecom Co., Ltd.	Lighting fixture	www.kukdongelecom.com	SAHA-GU, BUSAN / +82 51 266 0050
KUKDONG ELECTRIC WIRE CO., LTD	All kinds of cables for offshore and shipbuilding including JIS, BS, IEC, DIN, IEEE, etc.	www.cablekukdong.co.kr	JINCHEON-GUN, CHUNGBUK / +82 43 530 2000
Kum Kang Precision Co., Ltd	Marine valve, valve for engine, air reservoir tank	www.kkmarine.co.kr	SAHA-GU, BUSAN / +82 51 262 4890
KWANG SAN CO., LTD.	AIR VENT HEAD, EXP. JOINT, HEATING COIL, PIPE SPOOL, ETC.	www.kwangsan.com	GANGSEO-GU, BUSAN / +82 51 974 6301
Kwang Sung Co., Ltd.	Scrubber System, SCR System	www.ikwangsung.com	GIMHAE-SI, GYEONGNAM / +82 55 338 9973
Kwanglim Marine Tech. Co., Ltd.	Steel Door, Hull Aperture Blank, Radar Mast, Hi-Pressure Water Mist Fire Fighting System	www.klmt.co.kr	GANGSEO-GU, BUSAN / +82 51 313 0055
Kyung Eun Ceramics Co., Ltd.	Ceramic packing	www.ke-ceramics.com	GIMHAE-SI, GYEONGNAM / +82 55 345 7761
Kyungjin Shipping Co., Ltd.	Export & Import of Marine Equipment, Shipping Agent Service, Shipbroking Service, Trading	www.kyungjinshipping.com	CHANGWON-SI, GYEONGNAM / +82 55 224 4383
Kyungsung Industry Co., Ltd.	LNG carrier sus corner & anchor strips & Pipe clamp, etc.	www.e-clamp.com	GANGSEO-GU, BUSAN / +82 51 831 4960
LarsLap Korea	Machine for valve lapping, Valve grinder		YANGJU-SI, GYEONGGI / +82 31 855 3838
LDC CRANE SERVICE CO., LTD.	Hydraulic Press (Marine Crane), Hydraulic Components (Marine Crane)		SASANG-GU, BUSAN / +82 51 710 1883
LDC-KOREA CO., LTD.	Traders (Marine Equipment), Ship Repair		HAEUNDAE-GU, BUSAN / +82 51 266 4037
Leeyoung Industrial Machinery Co., Ltd.	Lashing bridge, T-bulkhead block, Covered-block, Engine casing & funnel, Upper deck & module unit, etc.	www.leeyoung.co.kr	ULJU-GUN, ULSAN / +82 52 231 5800
LHE Co., Ltd.	Plate heat exchanger, Fresh water generator	www.lhe.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 340 0625
LS Cable & System Ltd.	Power cable, Marine & offshore cable, Telecom cable, Submarine cable, Windsol, Superconductivity	www.lscns.co.kr	ANYANG-SI, GYEONGGI / +82 2 2189 9114
LUXCO CO., LTD.	Electrical equipment for internal combustion engines, Magnetic products, etc.	www.luxco.co.kr	SAHA-GU, BUSAN / +82 51 260 1300
MIN SUNG CO., LTD.	Access hatch, Swing away hatch, Cable tray, Electric cable box, etc.	www.minsung.co.kr	GANGSEO-GU, BUSAN / +82 51 305 8862
Mirae Industries Co., Ltd	Winch, Chain Stopper, Capstan	www.miraewinch.com	HAMAN-GUN, GYEONGNAM / +82 55 587 8520
MODERN INTECH CO., LTD.	Fire retardant curtain, Mattress, Upholstery furniture, Fire retardant fabric, Carpet, Rubber flooring	http://mo-dern.com	SASANG-GU, BUSAN / +82 51 325 0260
MRC (Marine Radio Co., Ltd.)	Public address system, Auto telephone system	www.mrcorea.co.kr	YEONGDO-GU, BUSAN / +82 51 414 7891
MSL Compressor Co., Ltd.	Breathing air compressor	www.mslcomp.com	POCHEON-SI, GYEONGGI / +82 31 541 7000

Name	Main Products	Website	Location / Tel.
Mt.H Control Valves Co., Ltd.	Main starting valve, Crankcase relief valve, Cryogenic safety valves & control valve	www.mth.co.kr	GANGSEO-GU, BUSAN / +82 51 974 8800
National Clamp	Vertical clamp, Horizontal clamp, Hook, Puller, etc.	www.clampimt.com	SASANG-GU, BUSAN / +82 51 324 6015
NK Co., Ltd.	Ballast water treatment sys., CO2 sys.	www.nkcf.com	GANGSEO-GU, BUSAN / +82 51 204 2211
NKBMS Co., Ltd.	Ballast Water-Treatment System	www.nkbms.co.kr	SAHA-GU, BUSAN / +82 51 250 1839
NOW Co., Ltd.	Duct, Damper, Fitting, Piston, Ring, Cylinder	http://nowcan.co.kr	YANGSAN-SI, GYEONGNAM / +82 55 387 4811
ONNURIPLAN CO., LTD.	Dust & Gas Masks, Sanitary Mask Covers, etc.	www.onnuriplan.com	BUCHEON-SI, GYEONGGI / +82 32 681 7780
Oriental Precision & Engineering Co., Ltd	Deck house, Funnel & engine casing	www.opco.co.kr	GANGSEO-GU, BUSAN / +82 51 202 0101
ORION TECHNOLOGY Co., Ltd.	Low-Speed Engine Controller, Medium-Speed Engine Controller, Panel PC, Monitor, PC, Pump Controller	www.orion.kr	GIMCHEON-SI, GYEONGBUK / +82 54 434 9574
OSCG Co., Ltd.	Cable gland and accessories, GRP junction box	www.oscg.net	SASANG-GU, BUSAN / +82 51 305 3910
OTS Co., Ltd.	Crane, Winch, A-Frame	www.otshi.co.kr	SUNCHEON-SI, JEONNAM / +82 61 724 4100
PANASIA Co., Ltd.	Ballast water treatment system/level instrument, Seawater coarse filtration/ Emission gas control system, Engineering services	www.worldpanasia.com	GANGSEO-GU, BUSAN / +82 51 831 1010
Pie Plus Co., Ltd.	Crankshaft, Rudder stock, Motor shaft	www.piplus.co.kr	GANGSEO-GU, BUSAN / +82 51 831 9338
POSCO PLANTEC CO., LTD.	Ship block, Fin tube, Header pipe	www.poscoplantec.co.kr	POHANG-SI, GYEONGBUK / +82 54 279 7114
PROSAVE CO., LTD.	Crankcase Explosion Relief Valve, Smart High Velocity Pressure/Vacuum Relief Valve, Air Release & Vacuum Breaker Valve	www.prosave.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 313 3511
S&W Co., Ltd.	Cam/cam shaft, Valve/seat ring, Engine bolts/nuts, Bolts	www.snwcorp.com	SAHA-GU, BUSAN / +82 51 205 7411
S. A. M-Tech	Engine control lever, Engine control cable, Hydraulic steering system, Stern drive, Helm pump, Cylinder, etc.	www.samartkr.com	NAMDONG-GU, INCHEON / +82 32 815 6314
SAMGONG CO., LTD.	Oil purifier, Ship window, Ship accommodation ladder, Cathodic protection system, Elevator type tower gangway, Ship ballast water treatment system, Quick release mooring hook & road monitoring system	www.sam-gong.co.kr	GANGSEO-GU, BUSAN / +82 51 200 3040
Samin Information System Co., Ltd.	Eco Inspection, Eco Server Package	www.saminis.com	HAEUNDAE-GU, BUSAN / +82 70 7771 2104
SAMKUN CENTURY Co., Ltd.	F.W. supply unit, BWTS, PE coating, Paint	www.samkunok.com	MIRYANG-SI, GYEONGNAM / +82 55 338 3030
SAMWOO MCP Co., Ltd.	LNG Carrier, Offshore Plants, Ship Engine Construction Equipment (Securing Device Mark III Membrane Sheet, Non-Ferrous Outfittings, Bolts)	www.samwoomcp.com	GANGSEO-GU, BUSAN / +82 51 780 3000
SAMYANG MARINE EQUIPMENT CO., LTD.	Lightings, Search Lights, etc.		SAHA-GU, BUSAN / +82 51 263 4460
SAMYANG METAL IND. CO., LTD.	Flanges, Fittings	www.cuniship.com	SAHA-GU, BUSAN / +82 51 266 6655
Samyoung Machinery Co., Ltd.	Cylinder head, Cylinder liner, Piston & Carrier, etc.	www.sym.co.kr	GONGJU-SI, CHUNGNAM / +82 41 840 3000
Samyoung M-TEK Co., Ltd.	Cable Lift, Tiller, Propeller Boss, Rudder Casting	www.symtek.co.kr	HAMAN-GUN, GYEONGNAM / +82 55 589 7000
SAMYUNG ENC CO., LTD.	AIS/GMDSS radio equip, etc.	www.samyungenc.com	YEONGDO-GU, BUSAN / +82 51 601 6666
Sancheong Co.,Ltd.	Self-Contained Breathing, Apparatus. (SCBA), Gas Mask, Filter., Protective Suit. (Chemical, Heat proximity, Fire), Fire-Fighting Suit, Helmet, Boots, Gloves., Resuscitator., Air Line Mask.	www.sancheong.com	YONGIN-SI, GYEONGGI / +82 31 321 4077
Sandong Metal Industry Co., Ltd.	Manifold, Plug valve, Choke valve, Integral fittings	www.smi-sdHITEC.com	GUMI-SI, GYEONGBUK / +82 54 472 8311
Saracom Co., Ltd.	GMDSS equipment	www.saracom.com	YEONGDO-GU, BUSAN / +82 51 600 9000
Scana Korea Hydraulic LTD	Actuators, HPU and local control panel, Offloading systems/winches and mooring system/turret/swivel, etc.	www.scana.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 343 9007

# References

Name	Main Products	Website	Location / Tel.
Sejin Heavy Industries Co., Ltd.	Deck House, Upper Deck Unit, LPG Cargo Tank	www.sejinheavy.com	ULJU-GUN, ULSAN / +82 52 231 8000
SEJIN IND CO., LTD.	Tank top unit, Module unit, Purifier unit, Supply unit, etc.	www.sejin89.co.kr	CHANGWON-SI, GYEONGNAM / +82 55 239 4700
Seobu Electric Ind. Co., Ltd.	Ground Monitor		SAHA-GU, BUSAN / +82 51 264 0670
Seoul Electric Wire Co., Ltd.	Offshore & Shipboard Cables, Standard Cable, High Voltage Power Cable, Nuclear Power Plant Cable	www.seoulcable.com	UMSEONG-GUN, CHUNGBUK / +82 43 879 7200
Seun Electric Co., Ltd.	Battery charger, Alarm sys., Junction box, Starter panel	www.seunelectric.co.kr	SAHA-GU, BUSAN / +82 51 208 4641
Sewon Industries Co., Ltd.	High velocity P/V valve, Air vent head, Expansion joint, Flame arrester / Breather valve	www.sewon-ind.com	HAMAN-GUN, GYEONGNAM / +82 55 580 7200
SG Safety Corporation	Inflatable rubber products, Life rafts, River boats, Fishing boats	www.sgsafety.net	PYEONGTAEK-SI, GYEONGGI / +82 31 651 3026
Shin Heung ENG. Co.	Curtain, Upholstery, Sofa & Chair, Mattress, Carpet, Roller blind	www.shinheungeng.co.kr	GANGSEO-GU, BUSAN / +82 51 817 6455
Shin Myung Tech Co., Ltd.	Air motor, Winch, Davit, Crane, Reel, Capstan, Pump, etc.	www.smdavit.com	YANGSAN-SI, GYEONGNAM / +82 55 363 7091
Shin Yeong Co., Ltd.	Manhole, Access hatch	www.sy-ind.com	GIMHAE-SI, GYEONGNAM / +82 55 346 0034
Shin-A Co., Ltd.	Navigational/communication equip.	www.shina-ent.com	SAHA-GU, BUSAN / +82 51 204 6221
Shindong Digitech Co., Ltd.	Navigation & communication, Internal communication equipment, Marine information system	www.shindong.com	DONG-GU, BUSAN / +82 51 461 5000
Shinhan Heavy Industries Co., Ltd.	Deckhouse, Rudder, Top Side Module, SCR	www.shinhanheavy.co.kr	ULJU-GUN, ULSAN / +82 52 240 5000
Shin-Hwa Co., Ltd.	Portable Tank/Painting, Support/Painting (including non-ferrous metal), Steel Outfit/Painting, Cable Tray Packaging		GEOJE-SI, GYEONGNAM / +82 55 636 6434
Shinshin Machinery Co., Ltd.	VID (Cooling FW & S.W pump), EHC (Volute casting centrifugal pump), NLG (External gear pump)	www.sspump.com	GIJANG-GUN, BUSAN / +82 51 713 0000
Shinsung Engineering Corporation	Air Con. Plant, Ref. Plant	www.ishinsung.com	GANGSEO-GU, SEOUL / +82 2 2600 9602
Silla Metal Co., Ltd.	Fixed pitch propeller (FPP), Controllable pitch propeller (CPP, Shafting, Stern equipment)	www.sillametal.com	GANGSEO-GU, BUSAN / +82 51 831 5991
Simulation Tech Inc.	Voyage data recorder	www.simulationtech.co.kr	GEUMCHEON-GU, SEOUL / +82 2 3281 0960
SKMARINTEC CO., LTD.	Electrolytic Sewage Processing Equipment	www.skmarintec.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 314 4620
SMECO CO., LTD.	Piston, Piston liner	www.smecopiston.com	YEONDONG-MYEON, SEJONG / +82 44 864 3030
SMS Co., Ltd.	Hatch cover, Lashing bridge, Ro-Ro equipment, Hydro door	www.sms-marinesystem.com	SAHA-GU, BUSAN / +82 51 290 1000
SPECS Corporation	Actuator, Float Level Gauge, UV System, Oil Mist Detection System, Ship Performance Monitoring System, Shaft Torque Power RPM Meter, Bearing Wear Monitoring System	www.specs.co.kr	SEONGNAM-SI, GYEONGGI / +82 31 706 5211
STACO CHALMERS Co., Ltd.	Unit Cabin, Unit Toilet, Marine Door		GANGSEO-GU, BUSAN / +82 51 790 0508
STACO Co., Ltd.	Wall & ceiling panel, Unit toilet	www.staco.co.kr	GANGSEO-GU, BUSAN / +82 51 831 7000
STX Engine Co., Ltd.	Marine diesel engine, Military diesel engine, power plant diesel engine, electronic communication equipment	www.stxengine.co.kr	CHANGWON-SI, GYEONGNAM / +82 55 280 0114
STX Heavy Industries Co., Ltd.	Turbocharger, Diesel engine parts, Industrial components, Shipbuilding machinery, Cargo pump system, Casting parts	www.stxhi.co.kr	CHANGWON-SI, GYEONGNAM / +82 55 280 0700
Suh Han Ind. Co., Ltd.	Cable tray and duct, Hot dip galvanizing, Ship window	www.suhhani.com	SAHA-GU, BUSAN / +82 51 204 1920
SUNBO Industries Co., Ltd.	Package module unit, Tank top unit, E/R block, etc.	www.sunboind.co.kr	SAHA-GU, BUSAN / +82 51 261 3454
Sungil SIM Co., Ltd.	Pipe bending, Pipe spool, Marine Engine, Gas turbine	www.sungilsim.com	GANGSEO-GU, BUSAN / +82 51 831 8800
SungKwang Bend Co., Ltd.	Butt welding pipe fittings	www.skbind.com	GANGSEO-GU, BUSAN / +82 51 330 0200

Name	Main Products	Website	Location / Tel.
SUNGMI CO., LTD.	Door frame, Wall panel, Ceiling panel, Door hardware, Unit toilet	www.sungmi.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 329 1117
SUNGSIN INDUSTRIES CO., LTD.	Hatch coaming, T-Block, Water mist catcher, Water separator, Louver	http://sungsin.koreasme.com	GYEONGJU-SI, GYEONGBUK / +82 54 776 6441
Suro Propeller & Machinery Co.	Propeller	www.suropump.co.kr	YEONGDO-GU, BUSAN / +82 51 415 0444
TAE YOUNG TRADING LTD.	Receptacles & wire accessories, Flood light, Deck light, Reflector lamps, HRF mercury lamps, Sodium lamps, Marine electrical equipment	www.marine-material.com/	NOWON-GU, SEOUL / +82 2 2272 1960
TAECHANG SYSTEC CO., LTD.	Marine Equipment	www.msbkorea.com	SAHA-GU, BUSAN / +82 51 264 1208
Taekyung Heavy Industries Co., Ltd.	Stair Tower, Pipe Rack, Jacket Pile, Accelerator Equipment, Scrubber, Condenser, etc.	www.tkhic.com	CHANGWON-SI, GYEONGNAM / +82 70 4628 8844
TANKTECH CO., LTD.	Hull Piping, Hull Outfitting, Fire & Safety	www.tanktech.co.kr	SAHA-GU, BUSAN / +82 51 979 1600
Techcross Inc.	Ballast water management system	www.techcross.com	GANGSEO-GU, BUSAN / +82 51 601 4700
TECHMARINE S/W CO., LTD.	Loading computer program, CAOS, Stowage program, LOFOS, LMS	www.techmarine.net	YEONGDO-GU, BUSAN / +82 51 467 7003
TETRADYNE	Marine Monitor, Marine Panel PC	www.tetradyne.co.kr	GURO-GU, SEOUL / +82 2 323 4972
THE SAFETY Co., Ltd.	CNG Transportation & Refilling, Fire Fighting system, Engineering for Fire fighting system & Ballast treatment system, Annual inspection		GANGSEO-GU, BUSAN / +82 51 46331 19
TK Corporation	Butt-welding fittings, Forged fittings, Flanges	www.tkbend.co.kr	GANGSEO-GU, BUSAN / +82 51 831 6550
TMC Co., Ltd.	Marine cables, Oil & rig cables, Onshore cables, Special cables, Optical fiber cables	www.tmc-cable.com	CHEONAN-SI, CHUNGNAM / +82 41 589 6500
TOPSAFE CO., LTD.	High-velocity pressure vacuum valve, Breather valve, Flame arrestor, Emergency vent cover, Detonation flame arrestor	www.topsafe.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 338 9986
TTS Ind. Co., Ltd.	Cuni Pipe, Cuni Flange, Cuni Fitting	www.ttsi.co.kr	GANGSEO-GU, BUSAN / +82 51 832 9977
Valmax Technology Corporation	FGSS, LNG Bunkering System, Custody Metering System, PRS System	www.valmax.co.kr	ANYANG-SI, GYEONGGI / +82 31 478 4020
VISER CO., LTD.	PHE Gasket, Valve seat, Dust packing, etc.	www.viser.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 346 5575
WARTSILA ACCOMMODATION SYSTEMS KOREA, INC.	Unit toilet, Unit cabin, Wall panel, Ceiling panel	www.waskorea.co.kr	HAEUNDAE-GU, BUSAN / +82 51 467 7315
WhaYoung Co., Ltd.	Fuel pump ass'y for ship engine	www.whayoung.co.kr	MIRYANG-SI, GYEONGNAM / +82 55 359 1100
WONIL CO., LTD.	Cylinder cover, Common rail unit, Silencer, Spraying plate, Rotor shaft	www.ms-wonil.com	HAMAN-GUN, GYEONGNAM / +82 55 585 7260
Woo Chang Ind. Co., Ltd.	STEEL DOOR, VENT, ANCHOR CHAIN STOPPER, MOORING FITTING, HATCH COVER FITTING, ETC.	www.woo-chang.co.kr	GIMHAE-SI, GYEONGNAM / +82 55 337 1651
WOOJOO M & E Co., Ltd.	Exp. junction box, Warning alarm, etc.	www.wjme.com	SAHA-GU, BUSAN / +82 51 200 9114
WOORI OCEANTECH CO., LTD.	Marine Propulsion System Sales & Distribution, Warranty & After Sales Service, Overhaul, Advanced Composite High Performance Patrol Craft	www.wooriocean.com	GANGSEO-GU, BUSAN / +82 51 973 1280
WOOSHIN APEC CO., LTD.	Marine Lighting Fixture, LED Flood Light (Factory Light), Aluminium Composite Panel	www.alcowall.com	GANGSEO-GU, BUSAN / +82 51 832 2000
YBC CO., LTD.	HARDWARE OUTFITTING, MARINE OUTFITTING, NEW PRODUCTS	www.byhd.co.kr	GANGSEO-GU, BUSAN / +82 51 974 5000
YOOWON INDUSTRIES LTD.	Steering Gear, Filter, Deck M/C, Console Unit, Fin Stabilizer	www.yoowonind.com	SAHA-GU, BUSAN / +82 51 205 8541
You Jeon Industry Co., Ltd.	Marine engine parts, Engine bed		CHANGWON-SI, GYEONGNAM / +82 55 297 2121
YoungKwang Machine Co., Ltd.	Module Unit for Shipbuilding, Reliquefaction Skid, Pipe Spool and Accessories, Processing & Fabrication of Machine	www.ykmc.com	GYEONGJU-SI, GYEONGBUK / +82 54 776 6456
Younglim Timber Co., Ltd.	Wood Fire Retardant, Flooring Board, Furniture, Wood for Interiors	www.younglim.com	NAMDONG-GU, INCHEON / +82 32 811 9051

## Korean Small to Middle-Size Shipbuilders

(Source: Korea Shipbuilding Industry Cooperative)

Name	Website	Region	Products & Service	Tel.	Fax.
Bando Marine Corporation	<a href="http://www.bandomarine.kr">www.bandomarine.kr</a>	Busan	FRP Ship, Light Metallic Ship	82-51-831-1950	82-51-831-1953
Daewon Marine Tec Co., Ltd.	<a href="http://www.frpship.co.kr">www.frpship.co.kr</a>	Busan	FRP Ship, Light Metallic Ship	82-51-831-7540	82-51-831-7544
Dongil Shipyard Co., Ltd.	<a href="http://www.dongilshipyard.co.kr">www.dongilshipyard.co.kr</a>	Busan	Steel Ship	82-51-200-1211	82-51-200-1288
Heamin Heavy Industries Co., Ltd.	<a href="http://www.haeminshi.com">www.haeminshi.com</a>	Busan	Light Metallic Ship	82-51-266-7968	82-51-266-7969
JY Shipbuilding Co., Ltd.		Busan	Steel Ship	82-51-417-2235	82-51-413-2234
Kwand Dong FRP Industry	<a href="http://www.grp.co.kr">www.grp.co.kr</a>	Busan	FRP Ship, Light Metallic Ship	82-51-831-2266	82-51-831-2269
Mastek Heavy Industries Co., Ltd.	<a href="http://www.mastekhi.com">www.mastekhi.com</a>	Busan	Steel Ship	82-51-604-4300	82-51-441-2729
Samhwa Shipbuilding Co., Ltd.		Busan	Steel Ship	82-51-416-3421	82-51-415-3422
Sindo Ind. Co., Ltd.	<a href="http://www.sindoind.co.kr">www.sindoind.co.kr</a>	Busan	Light Metallic Ship	82-51-971-9101	82-51-831-8490
Tanktech Co., Ltd.	<a href="http://www.tanktech.co.kr">www.tanktech.co.kr</a>	Busan	Steel Ship	82-51-979-1600	82-51-979-1601
Woori Oceantech	<a href="http://www.wooriocean.com">www.wooriocean.com</a>	Busan	FRP Ship	82-51-973-1280	82-51-831-9521
Woosung L&T	<a href="http://woosunglnt.com">http://woosunglnt.com</a>	Busan	Light Metallic Ship	82-51-831-8001	82-51-831-8002
CARNAVICOM	<a href="http://www.carnavi.com">www.carnavi.com</a>	Mokpo	Light Metallic Ship	82-61-462-4622	82-61-462-4633
Chunghaejin Shipbuilding & Marine Engineering Co., Ltd.	<a href="http://www.koreaship.org">www.koreaship.org</a>	Mokpo	Wooden Ship	82-61-461-1341	82-61-461-1342
DAE YANG SHIPYARD	<a href="http://daeyang.wixsite.com">http://daeyang.wixsite.com</a>	Mokpo	Steel Ship, FRP Ship	82-61-276-9090	82-61-276-9091
GHI Yachts	<a href="http://www.ghiyachts.com">www.ghiyachts.com</a>	Mokpo	Light Metallic Ship	82-61-464-0900	82-61-464-0791
Jangbogo Shipyard Co., Ltd.		Mokpo	Steel Ship	82-61-276-6336	82-61-273-9902
Mokpo Shipbuilding Industry Co., Ltd.	<a href="http://www.mokposhipbuilding.com">www.mokposhipbuilding.com</a>	Mokpo	Steel Ship	82-61-274-6142	82-61-274-6140
Yudal Shipbuilding Co., Ltd.	<a href="http://www.yudalship.com">www.yudalship.com</a>	Mokpo	Steel Ship	82-61-273-9901	82-61-273-9903
YUIL Co., LTD	<a href="http://www.yuil.co">www.yuil.co</a>	Mokpo	Light Metallic Ship	82-61-463-9335	82-61-463-9334
DTEC	<a href="http://www.dtec.co.kr">www.dtec.co.kr</a>	Changwon	Light Metallic Ship	82-55-551-6880	82-55-545-6881
Daeyoung Shipbuilding	<a href="http://frp선박.kr">http://frp선박.kr</a>	Changwon	FRP Ship	82-55-272-0144	82-55-714-8144
Human Heavy Industries Co., Ltd.	<a href="http://www.humanhi.co.kr">www.humanhi.co.kr</a>	Changwon	Light Metallic Ship	82-55-283-2337	82-55-587-4790
Kyung Dong FRP Dockyard	<a href="http://경동frp조선소.com">http://경동frp조선소.com</a>	Changwon	FRP Ship	82-55-587-9805	82-55-587-9807
Marine Industry Co., Ltd.	<a href="http://www.wellding.kr">www.wellding.kr</a>	Changwon	FRP Ship	82-55-271-8806	82-55-271-3056

Name	Website	Region	Products & Service	Tel.	Fax.
Seyang Marinorks	<a href="http://www.syamarinorks.com">www.syamarinorks.com</a>	Changwon	FRP Ship	82-55-271-8603	82-55-271-8604
Geumgang Shipbuilding Co., Ltd.	<a href="http://www.geumgangship.co.kr">www.geumgangship.co.kr</a>	Choongnam	Steel Ship	82-41-931-7670	82-41-931-7669
Kunjang Shipbuilding Co., Ltd.	<a href="http://www.kunjang-s.com">www.kunjang-s.com</a>	Choongnam	FRP Ship	82-41-952-9551	82-41-952-9553
Kwangshin Shipyard	<a href="http://ksshipyard.modoo.at">http://ksshipyard.modoo.at</a>	Choongnam	Steel Ship, FRP Ship	82-41-675-5371	82-41-673-5353
Yeunsoo Shipbuilding Co., Ltd.	<a href="http://www.yeunsoo2001.com">www.yeunsoo2001.com</a>	Choongnam	Steel Ship	82-41-956-8825	82-507-883-1495
Samwon Co., Ltd.	<a href="http://www.samwonship.com">www.samwonship.com</a>	Gunsan	Steel Ship	82-63-468-8711	82-63-468-8710
Seohae Shipping Co., Ltd.		Gunsan	Steel Ship	82-63-442-1148	82-70-7610-7407
Shinjin Shipbuilding Inc.		Gunsan	Steel Ship	82-63-445-4950	82-63-443-1393
T&G Heavy Industry Co., Ltd.		Gunsan	Steel Ship	82-63-462-9660	82-63-468-8720
Asia Shipbuilding Co., Ltd.	<a href="http://www.asiashipbuilding.co.kr">www.asiashipbuilding.co.kr</a>	Tongyoung	Steel Ship	82-55-638-0920	82-55-638-0922
DAOyachts Co., Ltd.	<a href="http://www.daoyachts.com">www.daoyachts.com</a>	Tongyoung	Light Metallic Ship	82-70-4821-5495	82-70-8233-5454
Hankuk Shipbuilding Co., Ltd.	<a href="http://www.hankukship.com">www.hankukship.com</a>	Tongyoung	Steel Ship	82-55-835-2120	82-55-835-2143
KHAN PI	<a href="http://www.khanpi.co.kr">www.khanpi.co.kr</a>	Tongyoung	Light Metallic Ship	82-55-637-1717	82-55-634-6401
Kyung In Machinery Co., Ltd.	<a href="http://www.kimcoct.com">www.kimcoct.com</a>	Incheon	FRP Ship	82-32-885-9001	82-32-885-9003
Samkwang Shipbuilding & Engineering Co., Ltd.	<a href="http://www.sksec.co.kr">www.sksec.co.kr</a>	Incheon	Steel Ship	82-32-763-1521	82-32-763-3478
SH Shipbuilding Co., Ltd.	<a href="http://www.shshipyard.com">www.shshipyard.com</a>	Incheon	Steel Ship	82-32-761-1247	82-32-761-1238
Forcem Co., Ltd.	<a href="http://www.forcem.co.kr">www.forcem.co.kr</a>	Gyeonggi	FRP Ship, Wooden Ship	82-31-771-1122	82-31-773-1355
Hyundai Yachts Co., Ltd.	<a href="http://www.hdyachts.com">www.hdyachts.com</a>	Gyeonggi	FRP Ship	82-31-8059-6637	82-31-8059-6638
Dongsung Shipbuilding Co., Ltd.	<a href="http://www.dsship.kr">www.dsship.kr</a>	Pohang	Steel Ship	82-54-247-6048	82-54-242-2399
Hanil News Inc.	<a href="http://www.hanilnews.co.kr">www.hanilnews.co.kr</a>	Pohang	FRP Ship, Light Metallic Ship	82-54-291-0057	82-54-291-0058
HLB Co., Ltd.	<a href="http://www.hldboat.com">www.hldboat.com</a>	Ulsan	FRP Ship, Light Metallic Ship	82-52-237-4850	82-52-237-4855
Sealine Corp.	<a href="http://cafe.daum.net/sealinecorp">http://cafe.daum.net/sealinecorp</a>	Ulsan	FRP Ship	82-52-223-0815	82-52-223-0816
Eunsung Dockyard	<a href="http://www.eunsungship.co.kr">www.eunsungship.co.kr</a>	Yeosu	Steel Ship	82-61-842-3701	82-61-842-1100
Namyang Shipbuilding Co., Ltd.		Yeosu	Steel Ship	82-61-642-7330	82-61-642-4316
Woonam Marine Craft Co., Ltd.	<a href="http://www.riboat.net">www.riboat.net</a>	Gimhae	FRP Ship	82-55-331-8959	82-55-331-9420

## Related Organizations & Institutes

### Associations & Cooperatives

No.	Name	Address	Contact Point	Website
1	Korea Offshore & Shipbuilding Association (KOSHIPA)	18F, 308, Gangnam-daero, Gangnam-gu, Seoul, Korea	Tel: 82-2-2112-8181 Fax: 82-2-2112-8182	www.koshipa.or.kr
2	Korea Marine Equipment Association (KOMEA)	8F, 33, Gukhoe-daero 76-gil, Yeongdeungpo-gu, Seoul, Korea	Tel: 82-2-783-6952/4 Fax: 82-2-785-7647	www.komea.kr
3	Korea Shipbuilding Industry Cooperative (KOSIC)	103, Hyoryeong-ro(st), Seocho-gu, Seoul, Korea	Tel: 82-2-587-3121 Fax: 82-2-588-3671	www.kosic.or.kr
4	Korea Port Logistics Association (KOPLA)	7F, Seo-Kwang Building, 118, Bo-Moon Dong Street 7, Seongbuk-gu, Seoul, Korea	Tel: 82-2-924-2113 Fax: 82-2-924-8226	www.kopla.or.kr

### Research Institutes

No.	Name	Address	Contact Point	Website
5	Korea Institute of Ocean Science & Technology (KIOST)	787 Haean-ro(st), Sangok-gu, Ansan-si, Gyeonggi-do, Korea	Tel: 82-31-400-6000 Fax: 82-31-408-5820	www.kiost.ac
6	Korea Marine Equipment Research Institute (KOMERI)	435, Haeyang-Ro (Dongsam-dong), Yeongdo-gu, Busan, Korea	Tel: 82-51-400-5000 Fax: 82-51-400-5091	www.komeri.re.kr
7	Korea Maritime Institute (KMI)	KBS Media Bldg., 45, Maebongsan-ro, Mapo-gu, Seoul, Korea	Tel: 82-2-2105-2700 Fax: 82-2-2105-2800	www.kmi.re.kr
8	Korea Research Institute of Ships and Ocean Engineering (KRISO)	32, Yuseong-daero 1312 beon-gil, Yuseong-gu, Daejeon, Korea	Tel: 82-42-866-3114	www.kriso.re.kr
9	Research Institute of Medium & Small Shipbuilding (RIMS)	38-6, Noksan Industrial Complex 232-ro, Gangseo-gu, Busan, Korea	Tel: 82-51-974-5500 Fax: 82-51-974-5555	www.rims.re.kr

### Shipping & Certification Bodies

No.	Name	Address	Contact Point	Website
10	Korean Register of Shipping (KR)	36, Myeonji Ocean City 9-ro, Gangseo-gu, Busan, Korea	Tel: 82-1566-1682 Fax: 82-2-739-1558	www.krs.co.kr
11	Korea Shipowners' Association (KSA)	17, Gukhoe-daero 68-gil, Yeongdeungpo-gu, Seoul, Korea	Tel: 82-2-739-1551-7 Fax: 82-70-8799-8799	www.shipowners.or.kr
12	Korea P&I Club	17, Gukhoe-daero 68-gil, Yeongdeungpo-gu, Seoul, Korea	Tel: 82-2-739-9755 Fax: 82-2-739-1138	www.kpiclub.or.kr
13	Korea Ship Safety Technology Authority (KST)	27, Areumseo-gil, Sejong-si, Korea	Tel: 82-44-330-2380 Fax: 82-70-8799-8799	www.kst.or.kr
14	Korea Marine Environment Management Corporation (KOEM)	28, Songpa-daero 28-gil, Songpa-gu, Seoul, Korea	Tel: 82-1566-1682 Fax: 82-44-330-2357	www.koem.or.kr

### Ports & Logistics

No.	Name	Address	Contact Point	Website
15	Busan Port Authority (BPA)	46, Chungjang-daero 9 beon-gil, Jung-gu, Busan, Korea	Tel: 82-51-999-3000 Fax: 82-51-988-8878	www.busanpa.com
16	Incheon Port Authority (IPA)	1,2,5F, 366, Seohae-daero, Jung-gu, Incheon, Korea	Tel: 82-32-890-8000 Fax: 82-32-886-7968	www.icpa.or.kr
17	Ulsan Port Authority (UPA)	271 Jangsaengpograe-ro, Nam-gu, Ulsan-si, Korea	Tel: 82-52-228-5300 Fax: 82-52-228-5329	www.upa.or.kr
18	Yeosu Gwangyang Port Authority (YGPA)	World-Marine Center, 465 Hangmandaero, Gwangyang-si, Jeollanam-do, Korea	Tel: 82-61-797-4300 Fax: 82-61-797-4502	www.ygpa.or.kr
19	Gyeonggi Pyeongtaek Port Corporation (GPPC)	10F, 73, Pyeongtaekhangman-gil, Poseung-eup, Pyeongtaek-si, Gyeonggi-do, Korea	Tel: 82-31-686-0600 Fax: 82-31-686-0641	www.gppc.or.kr

## Finance

No.	Name	Address	Contact Point	Website
20	Korea Ocean Business Corporation (KOBIC)	7F., Haeundae I'Park C1, Marine City 2-ro 38 Haeundae-gu, Busan, Korea	Tel: 82-51-717-0600	www.kobic.or.kr
21	Suhyup Bank	62, Ogeum-ro, Songpa-gu, Seoul, Korea	Tel: 82-2-2240-2114 / 3114	www.suhyup-bank.com
22	Marine Finance Center	20F., 40, Munhyeongeumyung-ro, Nam-gu, Busan, Korea	Tel: 82-51-630-5421 / 5415	www.mfcenter.or.kr
23	The Export-Import Bank of Korea (Korea Eximbank)	38 Eunhaeng-ro, Yeongdeungpo-gu, Seoul, Korea	Tel: 82-2-3779-6114 Fax: 82-2-784-1030	www.koreaexim.go.kr
24	Korea Trade Insurance Corporation (K-SURE)	14, Jong-ro, Jongno-gu, Seoul, Korea	Tel: 82-2-399-6800 Fax: 82-2-399-6598	www.ksure.or.kr
25	Korea Development Bank (KDB Bank)	14 Eunhang-ro, Yeongdeungpo-gu, Seoul, Korea	Tel: 82-2-787-5000	www.kdb.co.kr

## Governments & Subordinate Organizations

No.	Name	Address	Contact Point	Website
26	Ministry of Strategy and Finance (MOEF)	Ministry of Economy and Finance, Sejong Government Complex, 477, Galmae-ro, Sejong-si, Korea	Tel: 82-44-215-2114 Fax: 82-44-215-8033	www.moef.go.kr
27	Ministry of Trade, Industry and Energy (MOTIE)	402 Hannuri-daero, Sejong-si, Korea	Tel: 82-1577-0900	www.motie.go.kr
28	Ministry of Oceans and Fisheries (MOF)	Sejong Government Complex, 94, Dasom 2ro, Sejong-si, Korea	Tel: 82-44-200-5555	www.mof.go.kr
29	Ministry of Science and ICT (MSIT)	Government Complex-Gwacheon, 47, Gwanmun-ro, Gwacheon-si, Gyeonggi-do, Korea	Tel: 82-1335 Fax: 82-2-2110-0671	www.msit.go.kr
30	Ministry of SMEs and Startups (MSS)	189 Cheongsara-ro, Seo-gu, Daejeon, Korea	Tel: 82-42-481-6894	www.mss.go.kr
31	Korea Trade-Investment Promotion Agency (KOTRA)	13, Heolleung-ro, Seocho-gu, Seoul, Korea	Tel: 82-1600-7119	www.kotra.or.kr
32	Korea Federation of SMEs (K-BIZ)	30, Eunhaeng-ro, Youngdeungpo-gu, Seoul, Korea	Tel: 82-2-2124, 3114 Fax: 82-2-3775, 1981	www.kbiz.or.kr
33	Korea International Trade Association (KITA)	511, Yeongdongdae-ro, Gangnam-gu, Seoul, Korea	Tel: 82-1566-5114	www.kita.net
34	Small & Medium Business Corporation (SBC)	430, Dongjin-ro, Jinju-si, Gyeongsangnam-do, Korea	Tel: 82-1357	www.sbc.or.kr

## Region & Cluster

No.	Name	Address	Contact Point	Website
35	Busan Metropolitan City	1001, Jungang-daero, Yeonje-gu, Busan, Korea	Tel: 82-51-120	www.busan.go.kr
36	Geoje City	Geoje-si Gyeryong-ro 125 (Gohyeon-dong), Korea	Tel: 82-55-639-3000	www.geoje.go.kr
37	Ulsan Metropolitan City	201, Jungang-ro, Nam-gu, Ulsan, 44675, Korea	Tel: 82-52-120	www.ulsan.go.kr
38	Mokpo City	Yangeulro 203, Mokpo-si, Jeollanam-do, Korea	Tel: 82-61-272-2171 Fax: 82-61-270-3598	www.mokpo.go.kr
39	Goseong Gun	130, Seongnae-ro, Goseong-eup, Gyeongsangnam-do, Korea	Tel: 82-55-670-2633	www.goseong.go.kr
40	Tongyeong City	515, Tongyeonghaean-ro, Tongyeong-si, Gyeongsangnam-do, Korea	Tel: 82-55-645-0101	www.tongyeong.go.kr

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KOMEA Members (221)	Region & Cluster (221)	KSE-Listed Companies (27)	World-Class Korea Producers (41)
Korea Pavilions Exhibitors (125)	Foreigners Invested Companies (50)	Top 100 Turnover Companies (100)	Quality-Reliable Enterprises (31)

## Korean Marine Equipment Products (937)

**A B C D E F G H I J K L M N O P R S T U V W Z**

Hull (74)	- Chemical Product (18) - Metallic Product (43)	- Welding Material (5)	- Casting & Forging (8)
Engine & Machinery (266)	- Propulsion Arrangement (35)	- Auxiliary Arrangement (221)	
Outfitting (383)	- Steering Arrangement (21) - Cargo Arrangement (55) - Piping Equipment (74)	- Nautical Equipment (19) - Safety Equipment (65) - Fish Arrangement (4)	- Mooring Arrangement (19) - Accommodation Equip. (126)
Electric & Electronics (177)	- Power Arrangement (33) - Communication Equip. (39)	- Wiring Equipment (38) - Meters (54)	- Illumination Arrangement (13)

## Latest News

- 10 Korean Companies to Take Part in 2018 APM
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