

# Shipbuilding Korea 2011



## Greenest, Fairest, Smartest

With the sea change in global economic paradigm, the shipbuilding industry needs new norms to respond to such key mega-trends as shared growth, green growth & smart economy.

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## Shared Growth Beyond a Borderless Biz World



As the new chairman of the Korea Shipbuilders' Association (KOSHIPA), it is my pleasure to have the opportunity to introduce myself to fellow shipbuilding and maritime people from around the world as all of us share in shaping the current maritime industry landscape in our common pursuit of prosperity.

Over the last two years, world shipbuilders in general have suffered difficult times, stricken by the global economic malaise triggered by the U.S. financial crisis. This year, conditions are not expected to improve significantly due to fewer orders and shipyards' excess capacity.

The current and future shipbuilding markets seem to possess more diverse and complex issues than ever. As a result, we shipbuilders need to pay greater attention to common issues and build a united front in their resolution, specifically by providing more environmentally-friendly and economical solutions for healthy and sustainable growth.

Domestically, Korea's major shipbuilders have doubled their efforts to support cooperating companies based on the principle of shared growth -- the universally recognized path to achieving true sustainable growth.

Of course, the principles and practices of shared growth should be applied to global partners as well. Thus we, shipbuilders around the world, are in the same boat and must work hand-in-hand in our pursuit of it.

Bidding good fortune and prosperity to all our clients and partners, I also solicit your continued support and patronage at this critical point in time and ask that we all participate in sharing knowledge and information as we build a better future for all peoples of the global village.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Sang-Tae Nam'.

**Sang-Tae Nam**  
Chairman  
The Korea Shipbuilders' Association



# Executive Summary

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## Message From The Chairman

### Shared Growth Beyond a Borderless Biz World

- The current and future shipbuilding market presents us with more diverse and complex issues than ever. Shipbuilders around the globe need to combine efforts, pooling wisdom to remove bottlenecks and to build a better future with an in-the-same-boat spirit.

## Statistical Highlights

### Five Key Indicators Reflect Shipbuilding Business Landscape

- Scoring the Korean and global shipbuilding performance are five indicators - Global Overview, Korea Overview, World Market Share, Shipbuilding Workforce, and Ship Machinery & Equipment Production.

## Review of 2010

### From Shipbuilders to Ocean Developers

- Overcoming hardships triggered by the global economic crisis, Korean shipbuilders are striving to upgrade their blue-ocean journey on the strength of innovative technologies and creative processes.
  - Drilling Offshore Units Into Main Breadwinner
  - Smart Innovations in Tech & Management
  - Navigating the Vision of Green Ship & Ocean Systems
  - From Shipbuilders to Ocean Developers
  - Full Speed Ahead With Global Value Network

## Preview of 2011

### Greenest, Fairest, Smartest

- Armed with their patented can-do spirit, Korean shipbuilders are poised to translate crisis into opportunities, quickly adapting to green ship and smart ship concepts.
  - Green Ships Generate Eco Prosperity
  - 2nd Wave of Digital Innovation Fuels New Challenges
  - Spirit of Inclusive Growth on the Horizon
  - Human Resource Fleet to Sail 'Blue-Ocean' Voyage



## International Cooperation

### The Benefits of Global Shipbuilding Value Network

- Korea is responsible and responsive, going hand-in-hand with other countries and energizing international cooperation and coordination in pursuit of common benefits for all.

- JECKU Top Executive Meeting
- Nor-Shipping, Posidonia, SMM
- OECD WP6 Meeting
- Asian Shipbuilding Experts Forum
- International Maritime Organization

## Nine Stars of Korean Shipbuilding Industry

### Success Partners in Ocean-Going Business

- Introducing KOSHIPA's nine member companies, delivering best quality and full ships on time.

## Major Products

### World-Best Products for Ocean-Going Business Success

- Showcasing Korea's world-top quality products - Tankers, Containerships, Gas Carriers, Bulk Carriers & Special Purpose Vessels, and Offshore Units.

## Introduction to KOSHIPA

### A Hub of Global Shipbuilding Affairs

- KOSHIPA's mission is not only to promote member companies' common interests but also to pursue international cooperation for the sound development of the global shipbuilding industry.

## Scoreboard: Korean & World Shipbuilding

## Korean Shipyard Location Map

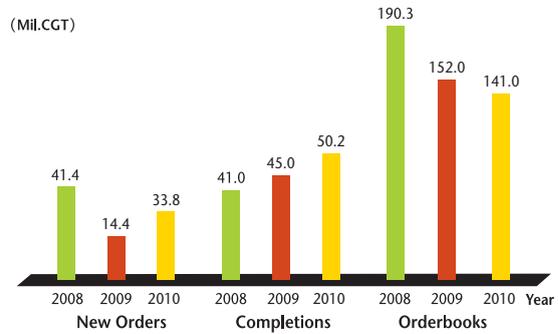
## Related Organizations

# Statistical Highlights

## Global Overview

### Orders on the Rise

Global shipbuilding orders reached 33.8 million CGT in 2010, a 134.2% surge over the 14.4 million CGT in 2009. Ship completions also rose to 50.2 million CGT from 45.0 million in 2009. The orderbook of shipyards around the world recorded 141.0 million CGT, compared with 169.1 million CGT in the preceding year.

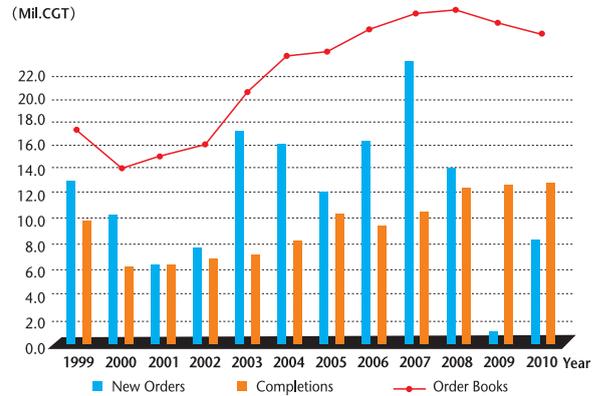


Source: World Shipyard Monitor, Clarkson

## Korea Overview

### Higher Order Amount

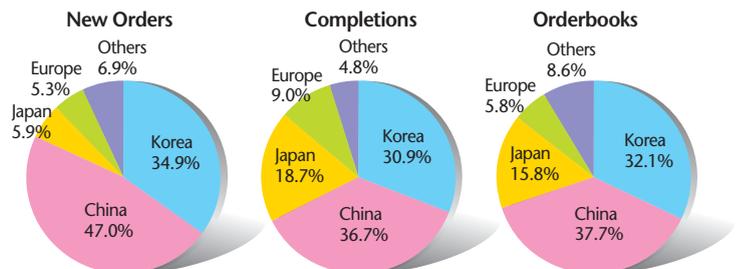
Korea's receipt of shipbuilding orders reached 8.2 million CGT in 2010, a 455.5% rise over the 1.4 million CGT in 2009. In terms of combined order value, the Korean-won order amount reached US\$19.0 billion in 2010, US\$14.9 billion higher than that of 2009. Ship production in 2010 marked 12.7 million CGT, a 3.5% increase over the preceding year. Meanwhile, Korean shipbuilders' orderbook recorded 34.6 million CGT at the end of 2010, a 20.6% drop from a year earlier.



## World Market Share

### China Topped World Shipbuilding League

Korea's market share of global shipbuilding orders recorded 34.9% in 2010, trailing China's 47.0%. In terms of completions and orderbook, Korea also recorded 30.9% and 32.1%, respectively, which were also dwarfed by China's comparable figures of 36.7% and 37.7%. The shares of Japan and Europe, however, also fell because of China's growth.



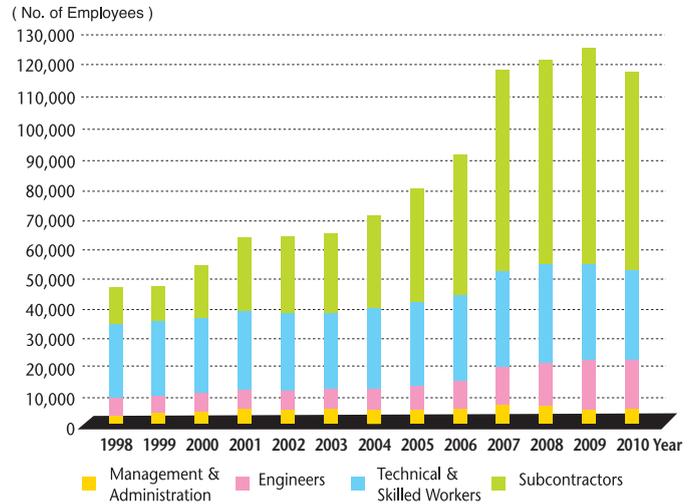
Source: World Shipyard Monitor, Clarkson  
Note: Based on CGT

## Shipbuilding Workforce



### Total Manpower on the Decline

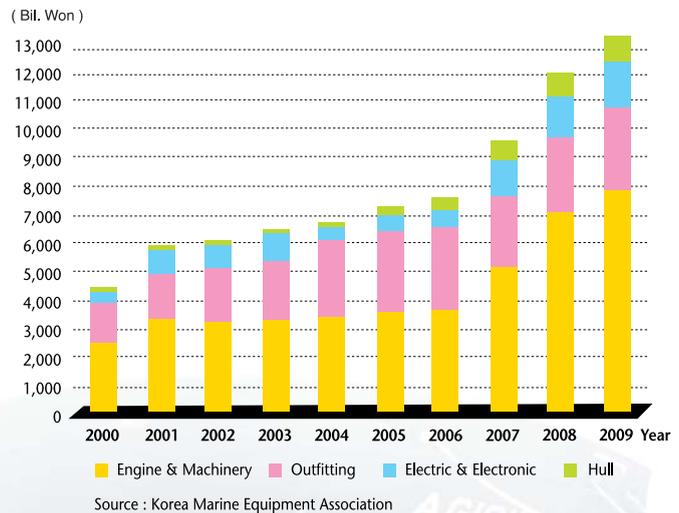
Total shipbuilding and offshore manpower stood at 118,300 as of the end of 2010, down 7.5% from 127,900 in 2009. The manpower structure broke down to 4,830 in management & administration areas, 16,400 engineers and 97,050 production workers.



## Ship Machinery & Equipment Production

### Crossing the 13.5 Trillion Won Level

In 2009, ship machinery & equipment production increased to 13.55 trillion won, up 8.9% from 12.46 trillion won in 2008, keeping pace with the higher level of ship completions for the year, according to KOMEA's preliminary estimate. Machinery & equipment output in 2008 consisted of 683 billion won in hulls; 7.15 trillion won in engines & machinery; 3.26 trillion won in outfittings; and 1.37 trillion won in electric & electronics.



# Review of 2010

Overcoming hardships triggered by the global economic crisis, Korean shipbuilders are striving to upgrade their blue-ocean journey on the strength of innovative technologies and creative processes.

## Drilling Offshore Units Into Main Breadwinner

Korea maintained its patented blue-ocean competitiveness in the offshore facilities field in 2010, taking the lion's share of global market orders for offshore units and platforms such as FPSOs, deep-water drill ships, etc.

Extending a virtual technology monopoly on building high-end, high-value vessels, Korean shipyards have upgraded value chain productivity, providing customized products and services in this future-oriented maritime sector.



Hyundai Heavy Industries (HHI) has concentrated efforts on expanding its territory in the world offshore facility market by developing innovative and high-tech drillships.

HHI built a thruster-canister-equipped drillship for Transocean, which was christened Deepwater Champion on September 10. Deepwater Champion can drill in depths up to 12km.

The drillship measures 229.2m in length, 36m in width and has six 5,000kW thrusters. It can control its position in rough seas with a dynamic positioning control system, automatic vessel management control system and computerized control propulsion system.

The drillship's thrusters are the critical equipment for position control. The canister, the housing for the thruster, improves performance and efficiency because the ship does not need to be drydocked for repairs; the thrusters can be lifted onto the ship through the canister to allow access. Only four other drillships in the world have this type of thruster canister.



Daewoo Shipbuilding & Marine Engineering (DSME) has acquired the most sophisticated technology in hydrodynamics design, which is used in designing ships and propulsion systems.

DSME successfully completed construction of the largest FPSO, which was christened Pazflor, on Jan. 12, 2011.

The FPSO, ordered by Total of France, boasts not only the biggest size but also the largest scale among the FPSOs constructed in the world to date. The FPSO, which cost KW 2.6 trillion to construct, measures 325m in length, 61m in width and 32m in height and weighs 120,000 tons.

It is capable of producing crude oil up to a maximum of 220,000 barrels and natural gas up to 4.4 million m<sup>3</sup> per day and storing up to 1.9 million barrels of crude oil daily, which is equivalent to Korea's

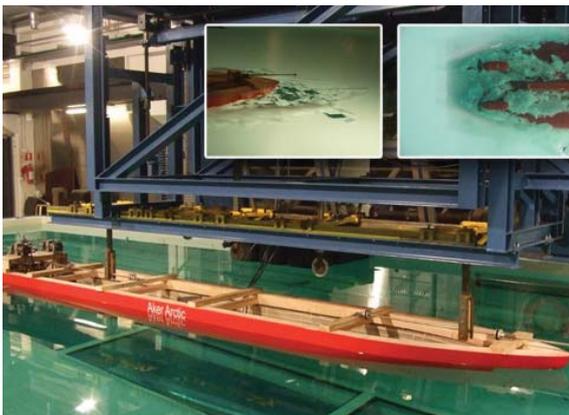
daily oil consumption quantity. Also, it can produce oil from two wells at the same time.



Samsung Heavy Industries (SHI) has developed an LNG-FPSO top-side plant, a self-propelled offshore liquefied natural gas (LNG) floating production, storage and offloading (FPSO) vessel with the installation of a top-side plant to liquefy natural gas on an LNG vessel.

SHI secured long-term orders from Royal Dutch Shell, a global energy and petroleum company, to construct large LNG-FPSOs over fifteen years. This deal not only bolsters SHI's market share but also firmly establishes the company's global dominance in the emerging LNG-FPSO market. It signed a contract with Royal Dutch Shell for the supply of one unit of LNG-FPSO on March 9, 2010.

The length, width, height and weight of the LNG-FPSOs are 468m, 74m, 100m and 200,000 tons, respectively. SHI and TECHNIP, a French firm, jointly designed the ship, and Geoje Shipyard is exclusively building the ship. When delivered, the LNG-FPSO will produce 3.5 million tons of LNG per year at LNG fields in Australia, starting in 2016.



STX Offshore & Shipbuilding, in technological cooperation with STX Europe, achieved great success in 2010 in constructing an arctic ice breaking shuttle LNG carrier and large ice breaking container carrier, which was the first outcome of mutual R&D work in the global production network.

The arctic ice breaking shuttle LNG carrier was designed especially for navigating routes linking offshore plants producing LNG and ports located in the polar region. In particular, the carrier is equipped with notable ice-breaking technology allowing its independent operation without the help of a special ice breaker for cracking 1.5-meter-thick ice. In addition, with the adoption of a Double Acting System (DAS), the vessel boasts outstanding operating performance through sea ice, cracking ice and navigating in any direction.

With the installation of DAS and a Hybrid Propulsion System, the ice breaking container carrier was characterized as a remarkable ice-breaking technology allowing breakthrough, independent operation through the Northern Sea Route as well as high propulsion efficiency.

In the meantime, starting with STX Europe's winning the order for 200-billion-won worth of polar supply and research vessels in 2009, STX has accelerated the securing of sophisticated ice cracking technology through its global production network.

## Smart Innovations in Tech & Management

Korea, home to major global shipbuilders, has enriched its wealth of competitiveness by focusing on smart innovations in technology and management. In 2010, their innovations led the consistent pursuit of client-first priorities in supplying world-best products and services at competitive prices.



Last year, Hyundai Heavy Industries (HHI) announced the development of digital welding technologies, replacing a conventional analogue welding system which had been used for more than 40 years in the shipbuilding industry.

The digital welding process can improve productivity by 20%, reducing 1 million manpower hours from welding work each year, which is equivalent to welding five 300,000DWT VLCCs. HHI expects this will reduce costs by more than US\$100 million.

The new technology digitalizes data gathered from welding machines, transmitters, carriages and cables by adopting digital communication and control systems. As the digital welding system monitors voltage and electric current involved in welding via an LCD screen, it dramatically increases productivity and quality. The system also lets operators address malfunctions much quicker than before.



In May 2010, Daewoo Shipbuilding & Marine Engineering (DSME) succeeded in developing a new concept for cargo hold structures that can be used with very large crude oil carriers.

As VLCCs need cross ties (horizontal stiffeners) installed to protect the hull from the crude-oil-sloshing phenomenon, DSME developed a new cargo hold structure without the horizontal stiffeners, advancing traditional methods.

The new method of constructing a cargo hold structure without cross ties is expected to boost building efficiency and eliminate height risks that were inherent when installing cross ties. DSME now strengthens the vertical hull wall to enhance the structural integrity of the vessel.

In 2010, Samsung Heavy Industries (SHI) became the first company in the world to apply Wibro Wave 2, a next-generation technology with a capacity double that of existing Wibro technology, maximizing the benefits of Wibro network building.

As coverage of the system is expanded to the industrial complex near the shipyard, the new Wibro service provides the world's largest service area for a single business site at 8.22 million m<sup>2</sup>.

SHI decided to expand the Wibro service coverage to the industrial complex near the shipyard in order to improve its logistics network with partners and pursue shared growth by providing them with a Wibro infrastructure.



Previously, the company had been using a CDMA-based wireless network, but the scope of application was limited to simple data transmissions due to the transmission speed of CDMA.

STX Offshore & Shipbuilding successfully delivered the MSC BERYL, a 13,000TEU class super-large container ship equipped with significantly reinforced environmentally

friendly functions, to NIKI, a Greek shipping company, on Sept. 30, 2010.

The MSC BERYL, with a deck area as large as 3.5 football fields, can utilize an onshore power supply while in port using its AMP (Alternative Maritime Power) system to minimize unnecessary engine operation for self power generation, thereby reducing exhaust gas emissions. In addition, since the ship can use low sulfur oil with a sulfur content of less than 0.1% as fuel, it can reduce emissions of sulfur oxide. It also reduced fuel consumption by approximately 2% by applying a high-efficiency rudder that significantly improved steering performance.

The MSC BERYL with its maximized energy efficiency had its outstanding performance recognized by acquiring the EEDI (Energy Efficiency Design Index) certification from Germanischer Lloyd (GL), the first time a super-large container ship transporting more than 10,000 TEUs has received the certification.



KOSHIPA launched an initiative to effectively facilitate the development of next-generation high-value ships, mobilizing a pool of technology-savvy shipyards.

### Next-Gen Value-Added Ship Development Project

Task	Lead Co. / Institute	Development Content
Ship Function	Hyundai Heavy Industries	- Differentiated layout & eco-friendliness - Optimum exterior via wind vibration test - Adjustment function by module & adoption of automated sailing
Low Vibration & Noise	Daewoo Shipbuilding & Marine Engineering	- Optimal design of equipment - High-efficiency noise-abatement panel - Low-noise, high-capacity HVAC room unit - Proper noise source for propeller
Safety	Samsung Heavy Industries	- Optimum location redundancy design - Safety appraisal methodology for exterior design system - Analysis of water-mist system effect via simulation
Interior Technology	STX Offshore & Shipbuilding	- Vacant room interior process management technology
Localization of Marine Equipment	Korea Marine Equipment Research Institute	- Photovoltaic power generation room system

## Navigating the Vision of Green Ship & Ocean Systems

Navigating future-oriented global vision and leadership, Korean shipbuilders have moved ahead to embrace safety and environmental protection. Key projects in realizing this new direction feature technology development for next-generation and eco-friendly vessels and ocean systems.



Hyundai Heavy Industries (HHI) is a global leader in developing environmentally friendly solutions, having already introduced a ballast water treatment system and building Korea's first LNG carrier with Dual-Fuel Diesel-Electric (DFDE) propulsion and a hybrid patrol vessel.

HHI delivered the first vessels equipped with an advanced chemical-free EcoBallast ballast water treatment system and hybrid diesel-electric propulsion system as it positioned the company to take a leadership role in the green shipbuilding

arena.

In March last year, HHI finished the trial run for a marine engine that reduces NOx emissions by 15%, and delivered it to Yangfan Shipyard, China. HHI began working on the environmentally friendly marine engine in 2008 and has since developed turbochargers, fuel valves, air coolers and refined the engine design to meet new regulations.



In January 2011, Daewoo Shipbuilding & Marine Engineering (DSME) stole the global maritime headlines by striking an order to build the world's greenest container ship. Container vessel giant Maersk of Denmark cut a deal with DSME for an initial order of ten of the world's most eco-friendly vessels to run routes between Asia & Europe.

In fact, US\$30 million of the entire price of the vessels is dedicated to making the new "Triple-E" vessel the single most energy efficient container vessel that the world has ever seen, according to Maersk chief executive Eivind Kolding's comments at a press conference to announce the deal. The vessels are set to launch in 2013.

The ship's energy consumption and carbon emissions will be half of the industry average for vessels that service Asian-European trade. It will also be 20% lower than the previous best-in-class eco-vessel, the Emma Maersk. Though the vessel is four hundred meters long, fifty-nine meters wide and seventy-three meters high, making it much larger than the Emma Maersk, it has a marginally slower top speed. That slower top speed lowers the power output and creates greater fuel economy. Other eco-friendly features include a waste-heat recovery system that reduces fuel consumption and CO2 emissions by 9%.



On January 28, Samsung Heavy Industries (SHI) declared its new green management policies, unveiling its plan to build only eco-friendly ships from 2015, achieving a 30% reduction in greenhouse gas emissions.

The announcement makes SHI the first shipbuilder in the global shipbuilding industry to declare a green management policy that includes a detailed vision for the development of eco-friendly products and the reduction of greenhouse gas emissions.

In relation to its green management plan, SHI announced three key strategies, which include the development of eco-friendly ships with up to 30% less greenhouse gas emissions, the development of green workplaces and green networks, and the development of zero-energy houses.

SHI has set a goal of building the world's first eco-friendly ship by developing LNG and hydrogen fuel cells, superconduction electricity-powered motors and cables, and CO<sub>2</sub> collection technology jointly with universities and private research centers.

"The greenhouse gas reduction achieved by building a single ship in this manner is the equivalent to the gases absorbed by 12 million pine trees in a year. In other words, building a single eco-friendly ship is like planting 12 million pine trees in the sea," SHI officials said.

"The green technology shipbuilding market will lead the shipbuilding and marine transportation industries in the future, as ships account for 3.3% of CO<sub>2</sub> emissions worldwide, and IMO is introducing standards for the reduction of greenhouse gas emissions by ships," they added.

"SHI is favorably positioned to respond to this trend, as it built double-skin oil tankers in 1992 and electricity-powered LNG carriers in 2001, both of which were world firsts that gained the company high recognition for the excellence of its green shipbuilding technology, including the Environment Minister's Prize as the leading company with the best resource management practices, the Special Prize at the Korea Technology Awards, and the Eco-Friendly Ship Award of Nor-Shipping in 2009."

STX Europe came up with an ultimate "green ship" concept in 2010, changing the way ships have been built and used to date.

The "green ship" concept features some of the most sophisticated technologies. Specifically, energy management and conservation will be done by 12,000 m<sup>2</sup> of innovative sails, air lubrication system, innovative propulsion system, solar panels, and double skin concept. Moreover, energy and air emission management will be done by a trigeneration energy power plant, which will have an innovative LNG storage system.



## From Shipbuilders to Ocean Developers

Under the concept of “borderless” expansion into new business areas, Korean shipbuilders continued to develop the future horizon of the shipbuilding industry in 2010, diversifying business portfolios, notably new growth engines. The emergence of the smart and convergence wave has provided additional steam for Korean shipbuilders to expand their status “from shipbuilders to ocean developers.”



Hyundai Heavy Industries (HHI) has actively pushed ahead with next-generation growth engines in renewable energies and fuel cells in line with the sweeping green trend.

The company channeled 105.7 billion won to build the country's largest wind turbine factories in Gunsan, North Jeolla Province, in March.

Currently, it churns out 1.65 megawatt-class products and is vying to increase its annual capacity to 800 megawatts.

HHI has also advanced into the Chinese market, dubbed the world's No. 1 wind power generation market. It signed a memorandum of understanding with Datang Shandong Power Generation and Weihai City Government to build large-scale wind turbine production lines with a yearly capacity of 600 megawatts.

In addition, the company is making a brisk foray into solar power generation industries and the polysilicone sectors, the main material to build solar cells.



Daewoo Shipbuilding & Marine Engineering (DSME) paved the way to enter the South African shipping business market in 2010.

DSME signed a memorandum of understanding (MOU) with Impinda of South Africa, following DSME President Sang-Tae Nam's meeting with South African President Jacob Zuma. At the meeting, President Jacob Zuma asked DSME to share its wealth of experience in various business fields such as shipbuilding, construction, energy, and shipping for the economic development of South Africa.

DSME E&R, a subsidiary of DSME, Norway-based Hoegh LNG Ltd. and Petromin PNG Holdings Ltd., which is a gas and minerals company in Papua New Guinea, signed a cooperative development agreement (CDA) to evaluate the potential for the development of gas fields in the sea near Papua New Guinea by adopting a state-of-the-art LNG floating production, storage and offloading (FPSO) platform.



Samsung Heavy Industries (SHI), became the first Korean turbine maker to receive full GL type certification for its wind turbine in Nov. 2010.

SHI has advanced into the wind power generation facility market and operated the business based on its world-leading shipbuilding technology. SHI is applying the expertise it built during its decades of work in the shipbuilding sector to blades, the core part of wind power generators, as well as to the

control systems that determine the performance of wind power generators. It has also created synergies in the facility installation area by utilizing the technological capability of its construction business unit, which has completed large-scale civil engineering and plant construction projects.

In January 2010, STX Offshore & Shipbuilding signed a memorandum of understanding (MOU) with ADSB of the United Arab Emirates (UAE) to create new business opportunities in the UAE in a variety of sectors such as resources development, port construction and new ship orders.

Under the MOU, STX is set to provide full support for the development of the shipbuilding industry in the UAE on the basis of its rich experience of achieving high production efficiency at Jinhae shipyard in Korea and establishing a “one-stop” shipbuilding base in Dalian, China.

STX and ADSB also agreed to join forces to exploit potential markets in the Middle East to build merchant ships, naval vessels and offshore supply vessels.



Fueling massive investment into the new & renewable energy sector, the Korean government unveiled a series of policy initiatives to implement green growth programs. Last year, the Ministry of Knowledge Economy announced a plan to build a massive offshore wind farm off Korea's west coast by 2019 to develop new sources of renewable energy and help wind turbine exporters. Under the US\$8.2 billion project, companies such as Hyundai Heavy Industries and Daewoo

Shipbuilding & Marine Engineering plan to build 500 turbines. “Basically, the scheme is composed of three phases,” said MKE officials. “By 2013, we will have raised 20 5-megawatt turbines and add 180 by 2016 and 300 more by 2019.”

## Full Speed Ahead With Global Value Network

Armed with a win-win spirit, Korean shipbuilders displayed fleet-footed global management in 2010, diversifying the areas of cooperation in terms of region as well as business segment. A noteworthy trend with respect to global outreach last year was the shipbuilders' active practice of social responsibility as a true global corporate citizen.



Hyundai Heavy Industries (HHI) signed an MOU to construct a joint wind turbine manufacturing plant with Datang Shandong Power Generation Co., Ltd. and Weihai City Government.

The joint wind turbine manufacturing plant, covering 231,404m<sup>2</sup> at Weihai, Shandong province, was planned to have an annual production capacity of 600MW (300 units of 2MW wind turbines). As a subsidiary of Datang

Group, the second largest state-owned electricity company in China, Datang Shandong Power Generation is generating and providing electricity to the Shandong region.

Daewoo Shipbuilding & Marine Engineering (DSME) made a big push to establish a global production network in 2010. DSME entered the African shipbuilding market by acquiring a 30% stake in Angola's Paenal Shipyard.



Through the investment, Daewoo can participate directly in the management of the Paenal Shipyard, providing its expertise on the operation and management of shipyards and offering consulting services on the construction techniques of marine structures.

DSME also made big strides in its business in Russia with advanced technologies and an agreement with Russia's United Shipbuilding Corp. to collaborate in modernizing

the Zvezda shipyard near Vladivostok.

Following completion, which is scheduled for 2012, the Zvezda shipyard will become Russia's largest shipyard, capable of building merchant vessels, liquefied natural gas carriers and marine industrial plants. This modernization project will allow the production of marine equipment needed for developing the energy resources found in eastern Russia.

"With the investments, DSME strengthened our global production network in Africa, Asia, Russia, and the Far East," President & CEO Sang-Tae Nam said. He concluded, "Our company will play a key role in the field by seeking local business opportunities in the market."



On May 8, 2010, Samsung Heavy Industries (SHI) hosted a successful launch ceremony for the first of ten 15,000 ton-class oil tankers at Atlantico Shipyard in Brazil. The ten ships are being built through technology transfer by Samsung Heavy Industries.

After SHI selected Atlantico as a strategic partner, it entered into a wide-ranging collaboration agreement for technical support in the construction of a shipyard and supply of drawings for shipbuilding.

Under the agreement, SHI has exported a drawing for a 15,000 ton-class standard oil tanker, and provided knowledge on safety management and procurement, as well as worker training for shipbuilding techniques and skills development, in order to improve the efficiency of shipyard operation and build high-quality ships.

STX Europe officially launched its shipyard in Vung Tau, Vietnam, on April 28, 2010, in connection with the naming of the brand new first vessel. Part of Korea-based STX Business Group, STX Europe's shipyard has taken a strategically important position in the Asian market for offshore vessels.

With an investment in excess of US\$30 million, located in the heart of Vietnam's growing offshore operations, the new yard in Vung Tau will strengthen STX Europe's ability to serve its international customers in the region.

The STX Vietnam Offshore shipyard is the most modern shipyard in the company, set up to the highest international standards. At full operation, the yard can reach a capacity of four medium-size vessels per year. As an international shipbuilding group, STX Europe aims to be the preferred builder of offshore and specialized vessels serving the oil industry.



Reflecting the Korean shipbuilder's successful construction and operation of overseas shipyards, Hanjin Heavy Industries and Construction-Philippines, Inc. (HHIC-Phil. Inc.) bagged another contract with a Taiwanese shipping company, Hsin Chien Marine Co., Ltd., to build two 180K Cape Size bulk carrier vessels.

The vessels to be built at Hanjin Subic Shipyard are due for delivery on a staggered basis starting in September 2011.

HHIC-Phil. Inc. won the contract due to its well-trained workforce, state-of-the-art technology, highly efficient shipbuilding processes, and high quality of workmanship. These circumstances laid the foundation for highly cost-efficient vessels.

With its 17,000-strong workforce, HHIC-Phil., Inc. has already expanded its operations by producing 10,000 TEU and 4,000 TEU container ships, tankers and bulk carriers. It aims to undertake the construction of 260K CBM (Q-Max Class) LNG carriers, drill ships, FPSO and marine plants.



# Preview of 2011

Armed with their patented can-do spirit, Korean shipbuilders are poised to translate crisis into opportunities, quickly adapting to green ship and smart ship concepts.

## Green Ships Generate Eco Prosperity

Green is no longer a matter of choice, but one of survival, as the global shipbuilding market rapidly changes centering on eco-friendly ships.

Under the slogan "Beyond green challenge toward new opportunities," Korea's leading shipyards are accelerating green ship technology development as their core strategy to strengthen their competitiveness.

Over the next 10 years, investment for green ship technology is projected to exceed 300 billion won, according to a preliminary poll of the maritime sector.

Meanwhile, the skyrocketing increase in the price of Bunker C fuel is raising client demand for fuel-efficient vessels. Maersk, the world's largest containership operator, commissioned gas-powered ships for part of its order in 2011.



Daewoo Shipbuilding & Marine Engineering (DSME) maintains that its new gas-powered technology can cut annual fuel costs by more than 13.4 billion won for a 14,000 TEU containership. It is also working with POSCO Power to develop a fuel cell for vessels. The joint research project started at the end of 2009 and is only a few steps away from developing a three megawatt (MW) fuel cell that can be used as a supplementary energy source for LNG transporters.



Samsung Heavy Industries (SHI) is going all out to improve ship design and propeller efficiency, developing complex new ships and platforms that preserve the earth, save energy and cost less to operate.

STX Offshore and Shipbuilding is working on a wind-powered system involving a three-blade propeller, which will drive down fuel costs by more than 50%. It is also honing a recycling mechanism that allows the use of gases emitted as waste products in ship engines.

## 2nd Wave of Digital Innovation Fuels New Challenges

Digital shipyards have become a traditional engine of Korean shipbuilding competitiveness, showcasing process innovation focused on productivity enhancements and high client confidence.

Building on the success, Korean shipbuilders are now pursuing "digital supremacy" & "green" in the entire industry process.

The concepts and strategies feature the application of information technology to operation and navigation systems of vessels.

Considering Korean shipbuilders' unchangeable client-first policy, they are expected to combine with IT giants to maximize convenience and meet the requirements of the new era. As a matter of fact, Hyundai Heavy Industries (HHI) has launched a digital shipbuilding yard using Wibro, a wired and wireless communication service, on the production line.

Daewoo Shipbuilding & Marine Engineering (DSME), based on advanced IT and systemized shipbuilding technologies paired with a vast quantity of large plant and offshore structure management experience, provides an extensive range of highly specialized vessels and offshore structures for use in the shipping, naval and energy industries.

Samsung Heavy Industries (SHI) has developed an integrated anti-piracy system to carry out processes ranging from identification and tracking to fending off pirate ships from the bridge. Amid a situation in which agonies of shipping companies are ever-deepening over pirate attacks, SHI developed the first high-tech system among related business communities.

The system features integrated core technologies and devices required for identification of pirate ships through analysis of navigation information, tracking and surveillance through high-definition 'Night Vision,' remote control of water cannon, etc.

As shown in the Wibro case, Korean shipyards are blessed with the state-of-the-art, blue-ocean competitiveness of Korean IT-related companies. Last year, a small-sized Korean company surprised the world by winning a marine electronic highway data center establishment project, the first phase project for construction of a Marine Electronic Highway (MEH) at the Malacca Straits, which is being promoted by the IMO (International Maritime Organization).



## Spirit of Inclusive Growth on the Horizon

Korea's large shipyards, principally the nine member companies of KOSHIPA, are expected to lead the nationwide move for shared growth this year. Anchoring the "in-the-same-boat spirit," shipbuilding leaders believe that win-win growth will in the long run generate common benefits for all businesses concerned.

Hyundai Heavy Industries (HHI) is operating a shared growth center and joint fund, a vehicle for enterprises nationwide. The fund is sized at 70 billion won, carrying a lower interest rate for borrowers. Hyundai also plans to combine with the Small & Medium Business Administration (SMBA) to organize a joint technology development fund, investing 15 billion won each.

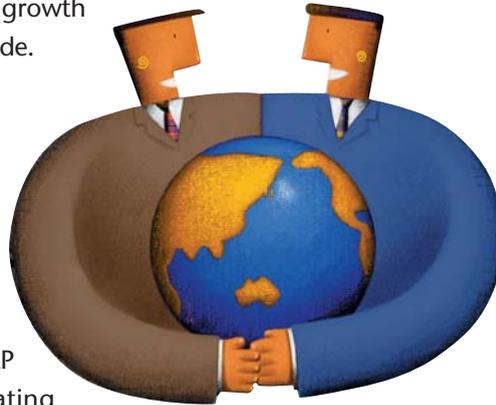
Daewoo Shipbuilding & Marine Engineering (DSME) is providing advanced management knowhow such as ERP (enterprise resource planning) development, generating momentum for beneficiaries' competitive muscle in price, quality and technology.

Samsung Heavy Industries (SHI) is transferring green management techniques to its cooperating companies. Specific support includes sharing expertise to acquire ISO 14001 and establishing a greenhouse gas emission inventory.

Holding regular meetings with equipment manufacturers, large shipyards are issuing certificates of product quality for equipment makers, helping them expand their market access at home and abroad.

To facilitate cooperation & collaboration between large shipyards and marine equipment makers for the servicing and maintenance of Korean marine equipment, the Korea Marine Equipment Service Center (KOMECS) aims to provide one-stop, total A/S for all vessels equipped with Korean marine equipment.

The Korean shipbuilders' initiative for shared growth embraces not only domestic enterprises but also foreign partners and clients in their consistent pursuit of global networking, aiming at creating a better future for all peoples on the planet.



### KOSHIPA Initiative for Shared-Growth Programs

- o Lead Meeting of Shared Growth Committee & of working level officials
- o Promote quality certification system for marine equipment makers
- o Extend export support package
  - Joint participation in exhibitions at home and abroad, etc.
- o Develop & spread best practices



## Human Resource Fleet to Sail 'Blue-Ocean' Voyage

Korean shipbuilders are reinforcing their skilled manpower to maintain blue-ocean competitiveness. At the dawn of the new year, shipbuilding conglomerates unveiled their plans to establish research centers to strengthen their fleet of related engineers, skilled workers, etc.

The focus of their manpower development programs is on offshore plants and other high-value next-gen growth sectors.

The centers will continue to strengthen industry-academia-research institute collaboration tailored to the needs of worksites. KOSHIPA also plans to develop educational texts and content for three shipbuilding-specialized meister high schools, which opened last year. The project aims to implant a new vision for the Korean shipbuilding industry.

The centers, in collaboration with the Ministry of Employment & Labor, will run the program to generate greater job opportunities for youth.

Meanwhile, Korean shipyards will deliver a variety of on-the-job training programs for foreign workers. At the same time, foreign advanced shipbuilding software companies are becoming more keen for R&D activities in Korea, valuing the combination of their specialties with Korean shipbuilding competitiveness.

For example, Dassault Systems, a French shipbuilding software-specialized company, opened an R&D center in Daegu last year. Over the next five years, the company plans to invest 36 billion won to develop 3D shipbuilding software products involving such next-generation growth engines as cruise ships, yachts and leisure-craft.

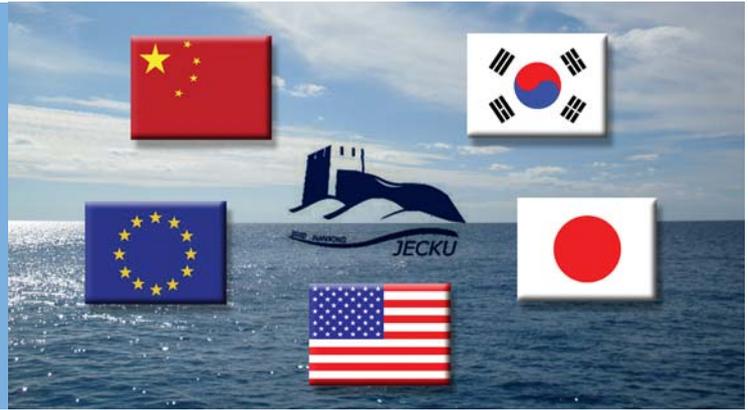


# International Cooperation

Korea is responsible and responsive, going hand in hand with other countries and energizing international cooperation and coordination in pursuit of common benefits for all.



# JECKU Top Executive Meeting



The 19th JECKU Top Executive Meeting was held on Oct. 28, 2010, in Nantong, China. Some 125 delegates from the leading shipbuilding companies in Japan, Europe, China, Korea and the United States attended the meeting.

The meeting covered presentations and comprehensive discussions on the global economic environment and the development of the shipbuilding industry. The delegates reviewed the market situations of various ship types and offshore structures, and estimated the future of shipbuilding demand and world shipbuilding capacity. Responding to the concerns expressed by some delegates, in the long-term overcapacity could be a real obstacle for a recovering shipping and shipbuilding market. Also, the meeting introduced the influence of raw material cost, labor cost, exchange rate fluctuation and other factors on the shipbuilding industry.

All delegations shared efforts made on a global basis to cope with the crisis and progress they've achieved. Most delegates believe that the price of raw materials will remain at a high level. The depreciation of the US dollar has had a significant influence on the earning capacity of shipbuilding.

All participants realized that environmental protection measures will impact the shipbuilding and shipping industries greatly.



## 2011 JECKU Convention Schedule

- Experts Preliminary Meeting:  
September 2011 in Gyeongju,  
Gyeongsangbuk-do (Tentative)
- Top Executive Meeting:  
Oct. 26-28 in Jeju-do

# Nor-Shipping, Posidonia, SMM



**K**OSHIPA organized and operated a Korean Pavilion at Posidonia 2010, which took place in Athens, Greece, June 7-11.

The Korean Pavilion, occupying 250 square meters, displayed state-of-the-art shipbuilding modules, attracting a lot of visitors. In particular, the pavilion was flanked by exhibitions of marine equipment, mostly manufactured by Korean small & medium-size enterprises.

KOSHIPA hosted a reception on Korea Day with the participation of more than 450 guests, generating momentum for visitors to better understand the achievements, status and vision of the Korean shipbuilding industry.

This year, Korea will participate in Norshipping 2011, scheduled for May 24-27 in Oslo, Norway. Member companies of KOSHIPA and KOMEA (Korea Marine Equipment Association) will take part in the global event, tailored to the tastes of foreign visitors, including shipowners, journalists, etc.

KOSHIPA also operated a Korean pavilion at SMM 2010, which took place on Sept. 9~10 in Hamburg, Germany. Especially targeting German and other European shipowners, the Korean pavilion featured exhibitions and colorful events.



## List of Korean Exhibitors in Posidonia 2010

Company	Ship Type
Hyundai Heavy Industries Co., Ltd.	Drillship
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	317K VLCC
Samsung Heavy Industries Co., Ltd.	Drillship
Hyundai Samho Heavy Industries Co., Ltd.	162K TK
Hanjin Heavy Industries & Construction Co., Ltd.	320K VLCC
STX Offshore & Shipbuilding Co., Ltd.	Cruise
Hyundai Mipo Dockyard Co., Ltd.	Con-Ro

# OECD WP6 Meeting



Under the spirit of fair trade and win-win cooperation, Korea actively participated in Negotiations on Shipbuilding Agreement in 2010. In the end, OECD decided to terminate the negotiations and allow the working party to focus on other important work, such as a better understanding of market distortion, greater transparency of government support, the state of the shipbuilding market and environmental and climate change issues affecting the industry.

The decision to terminate the negotiations will not affect the Working Party on Shipbuilding, which will continue to carry out work in fulfillment of its mandate, which is scheduled for review by the end of 2013.

In particular, WP6 will continue its efforts to strengthen its contact with non-OECD economies with significant shipbuilding sectors, which are becoming increasingly important in world shipbuilding.

China, now acknowledged as the world's largest shipbuilder, reaffirmed its desire to continue to be involved in the work of WP6 when it participated at the last WP6 meeting held at the beginning of November 2010.

KOSHIPA has actively participated in the OECD WP6 Meeting, aiming at establishing normal competitive conditions, encouraging transparency through data collection and analysis and seeking to expand policy dialogue with non-OECD economies that have significant shipbuilding industries.

# Asian Shipbuilding Experts' Forum



Asian countries account for about 90% of the global new shipbuilding market, requiring their active role in the rule-making process for a new international shipbuilding order.

Against this backdrop, Asian Shipbuilding Experts' Forum (ASEF) is regarded as the ideal forum for discussing regional cooperation and to pool the wisdom of Asian players so that it can be duly reflected in global rules and standards, which are decided at such global organizations as ISO and IMO.

The 4th ASEF was held on Nov. 17-18 in Kyoto, Japan. This forum was hosted by The Shipbuilders' Association of Japan (SAJ) and Japan Ship Technology Research Association (JSTRA), with the Korea Shipbuilders' Association (KOSHIPA) and China Association of the National Shipbuilding Industry (CANSI) as co-hosts.

Approximately 130 experts participated in the forum from nine countries including Korea, China, Japan, Bangladesh, India, Indonesia, Philippines, Singapore and Sri Lanka.

Themes were selected from issues that have major impacts on the shipbuilding industry, namely "Standardization of inventory of hazardous materials for newly built ships," "Performance standards for protective coatings (PSPC) for ballast water tank," "Goal-based ship construction standards (GBS) - Design transparency and intellectual property protection," and "GBS - Harmonized common structural rules" (HCSR) for topics of conventions and guidelines already adopted despite unresolved major issues, "Environmental FSA for oil tankers" as a topic currently discussed at IMO actively, and "Protection against noise onboard ships" and "Testing of watertight compartments" as issues expecting active discussion over the next several years. Deliberation status at IMO on those themes were introduced and opinions were exchanged among experts. Smaller session groups were formed for further discussions among experts of each theme for ship recycling, PSPC and GBS.

Korea will host the fifth ASEF in the latter half of this year.

# International Maritime Organization



Korean shipbuilding, capping a drive to pool wisdom for marine safety and environmental protection, has actively participated in IMO-initiated meetings.

Under KOSHIPA initiatives, Korea participates in international rule and regulation revision and enactment activities like the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL).

Korea is also an active player related with IMO GBS (goal-based standard), based on Korean supremacy in shipbuilding technology and experience.

The participation also reflects Korean shipbuilders' fleet-footed movement to build green ships, requiring state-of-the-art technology and knowhow.

## IMO's Mission Statement

The mission of the International Maritime Organization (IMO) as a United Nations specialized agency is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation. This will be accomplished by adopting the highest practicable standards of maritime safety and security, efficiency of navigation and prevention and control of pollution from ships, as well as through consideration of the related legal matters and effective implementation of IMO's instruments with a view to their universal and uniform application.



# Nine Stars of Korean Shipbuilding Industry



HYUNDAI HEAVY INDUSTRIES CO., LTD.



DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD.



SAMSUNG HEAVY INDUSTRIES CO., LTD.



HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.



HANJIN HEAVY INDUSTRIES & CONSTRUCTION CO., LTD.



STX OFFSHORE & SHIPBUILDING CO., LTD.



HYUNDAI MIPO DOCKYARD CO., LTD.



SLS SHIPBUILDING CO., LTD.



DAE SUN SHIPBUILDING & ENGINEERING CO., LTD.

# HYUNDAI HEAVY INDUSTRIES CO., LTD.



## New History in World Shipbuilding

As the world's leading shipbuilder, Hyundai Heavy Industries (HHI) has a 10% share of the world shipbuilding market. The shipyard had its ground breaking in 1972 and has since then delivered around 1,600 ships aggregating some 143 mil. DWT to 255 shipowners in 47 countries. HHI prides itself on its sterling record of client satisfaction.

HHI's shipbuilding facility is something that probably cannot be found anywhere else in the world. With a high level of automation and new production technologies ranging from welding robots, indoor production of 40m long blocks, to the environmentally-controlled painting shop, HHI offers a number of advantages: greater productivity gains, reduced building times and, above all, superb ship quality.

### HYUNDAI HEAVY INDUSTRIES CO., LTD (HHI)

- Address: 1000 Bangeojjinsunhwan-Doro, Dong-gu, Ulsan, Korea
- Tel: (82-52) 202 - 2114
- Fax: (82-52) 202 - 3470
- Website: www.hhi.co.kr

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Ulsan Shipyard	B.D No.1	390 x 80 x 12.7	700,000
	B.D No.2	500 x 80 x 12.7	700,000
	B.D No.3	672 x 92 x 13.4	1,000,000
	B.D No.4	380 x 65 x 12.7	400,000
	B.D No.5	380 x 65 x 12.0	400,000
	B.D No.6	260 x 43 x 12.0	150,000
	B.D No.7	170 x 25 x 11.0	15,000
	B.D No.8	460 x 70 x 12.7	500,000
	B.D No.9	460 x 70 x 12.7	500,000
	B.D (Gunsan)	700 x 115 x 18	1,300,000

### Products

- Containerships
- Tankers/Product Carriers
- VLCCs
- Shuttle Tankers
- Bulk Carriers
- LNG Carriers
- LPG Carriers
- Drillships
- Ropax
- Pure Car Carriers
- OBO Carriers
- Naval ships

# **DSME** DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD.



## ● **DSME, Your Partner with Trust & Passion**

Daewoo Shipbuilding & Marine Engineering Co., Ltd. (DSME) started shipyard construction in 1973, was established in 1978 as a member of the Daewoo Business Group and was reborn as an independent company in October 2000. DSME has positioned itself as a leading shipbuilder through the performance of various projects, including 742 commercial ships, 73 naval and specialty vessels, 7 passenger car ferries, 19 offshore drilling rigs and many other onshore & offshore plants to date. Its annual production capacity includes 70 large-scale commercial ships, 10 large-scale onshore & offshore plants, 2 submarines and 3 frigates.

DSME has its shipyard at Okpo Bay on Geoje Island off the southeastern coast of the Korean Peninsula. Okpo shipyard is an ideal site for shipbuilding and manufacturing of various plants and offshore structures with its favourable environmental conditions including weather, water depth, tidal variation, easy access, etc. The headquarters for DSME is in Seoul, where sales and financing functions are carried out.

### DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD. (DSME)

- Address: 85, Da-dong, Jung-gu, Seoul, Korea
- Tel: (82-2) 2129-0114
- Fax: (82-2) 2129-0077~8
- Website: www.dsme.co.kr

### Products

- LNG Carriers, LNG-RVs, LNG-FPSOs / FSRUs
- LPG Carriers, LPG-FPSOs
- ULCCs, VLCCs, Suezmax / Aframax / Panamax Tankers
- Shuttle/Chemical Tankers, Product Carriers
- Containerships
- Capesize / Kamsarmax / Supramax Bulk Carriers
- Ore Carriers, VLOCs
- Ro-Ro Ships, PCTCs
- TIVs (Turbine Installation Vessels)
- Passenger Car Ferries
- FPSOs, FSOs, FPU's
- Drill Ships, Semi-Submersible Drilling Rigs
- Fixed Platforms
- Submarines, Submarine Rescue Vessels, AUVs
- Destroyers, Battleships

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Geoje Shipyard	B.D No.1	530 x 131 x 14.5	1,000,000
	B.D No.2	539 x 81 x 14.5	700,000
	F.D No.1	298 x 51.5 x 20.3	182,000
	F.D No.2	238 x 38.8 x 26.9	82,000
	F.D No.3	361.5 x 62 x 21	155,000
	F.D No.4	438 x 70 x 23.5	400,000
	Heavy Zone	320 x 80	182,000



## High Technology, High Value, High Productivity

We're building tomorrow's ships... and much more. Samsung Heavy Industries got started in 1974 with a simple mission: contributing to global economic growth and prosperity by building faster, safer, more versatile, and eco-friendly ships. Located on the island of Geoje just off the south coast of the Korean Peninsula, the company's ultramodern 3.3-million-square-meter shipyard today boasts three drydocks and four floating docks supported by an integrated and automated production system that's helping it make good on the commitment to deliver defect-free vessels.

In recent years, Samsung Heavy Industries also established itself as a global leader in several specialty areas such as drillships, floating production, storage and offloading facilities, LNG carriers, and ultra-large container ships while making a strong debut in the ferry and cruise ship fields.

### SAMSUNG HEAVY INDUSTRIES CO., LTD. (SHI)

- Address: 1321-15, Seocho-Dong, Seocho-Gu, Seoul, Korea 137-857
- Tel: (82-2) 3458-7312
- Fax: (82-2) 3458-7319
- Website: [www.shi.samsung.co.kr](http://www.shi.samsung.co.kr)

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Geoje Shipyard	B.D No.1	283 x 46 x 11.0	150,000
	B.D No.2	390 x 65 x 11.0	400,000
	B.D No.3	640 x 97.5 x 12.7	1,000,000
	F.D (G1)	270 x 52 x 15	150,000
	F.D (G2)	400 x 55 x 15	400,000
	F.D (G3)	400 x 70 x 16	400,000
	F.D (G4)	420 x 70 x 16	400,000

### Products

- Arctic Shuttle Tankers
- VLCCs
- Crude Oil Tankers
- Container Vessels
- LNG/LPG Carriers
- FPSO, FSO, Drillships, etc.
- LNG FPSO
- Offshore Platforms
- TLP, SEMI
- Cruise Ships & Ferries
- Steel Structures
- Bridges & Buildings
- Cargo & Material Handling Equipment

# HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.



## Innovation to Shape the Future

Building on the legacy of Halla shipyard established in 1992, Hyundai Samho Heavy Industries (HSHI) has achieved remarkable growth and accelerated business with synergies in various spheres including technology, marketing, design and purchase through integration with HHI group since 1999. After changing its name to HSHI in 2003, HSHI has enhanced its position as one of the world-class shipbuilding companies with leading edge technology and the most up-to-date facilities.

With a restless drive for creating long-term sustainable and quality growth, HSHI has continued to expand the scale and is poised to take a major step forward to high-tech ships such as LNG carrier, Drill ship and FPSO.

HSHI takes great pride in its reliable performance and competitive edge in terms of quality, price and service, which entrench customer loyalty and entice potential customers pursuing innovative insights and solutions that will enable them to meet their strategic needs today and tomorrow.

### Products

- Tankers
- VLCCs
- Product Carriers
- Chemical Tankers
- Containerships
- LNG Carriers
- LPG Carriers
- Ro-Ro Ships, PCTCs
- FPSOs
- Drillships
- Bulk Carriers
- Other Vessels

### HYUNDAI SAMHO HEAVY INDUSTRIES CO., LTD.

- Address: 1700, Yongdang-ri, Samho-eup, Yeongam-gun, Jeollanam-do, Korea
- Tel: (82-61)460-2114
- Fax: (82-61)460-3762
- Website: www.hshi.co.kr

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Samho Shipyard	B.D No.1	504 x 100 x 13	800,000
	B.D No.2	594 x 104 x 13	1,000,000
	B.B No. 1	465 x 65	500,000
	F.D	335 x 70 x 24	80,000 Ton (Lifting Cap.)



## Eco-Friendly, High-Tech Ships

Established in 1937 as the first modern shipbuilding company in Korea, Hanjin Heavy Industries & Construction Co., Ltd. has built and delivered over 1,000 ships for diverse purposes with a pioneer spirit. Now the combination of HHIC's technologies with the Subic Shipyard's competitive labor force will create a new challenge to be the world best. The Subic Shipyard has the capacity, which will reach 539,000 CGT by 2015, to build a wide range of high value-added vessels including mega-sized 12,800 TEU containerships, VLCCs and LNG and LPG carriers.

HHIC always works tirelessly to comply with customer needs, focusing on top quality vessels with well-accumulated technology and high-tech facilities.

### HANJIN HEAVY INDUSTRIES & CONSTRUCTION CO., LTD.

- Address:
  - Head Office: 29, 5-ga, Bongnae-dong, Yeongdo-gu, Busan, Korea
  - Tel: (82-51)410 - 3240
  - Fax: (82-51)410 - 8477
  - Seoul Office (Shipsale & Marketing Team): 168-23, Samsung-dong, Gangnam-gu, Seoul, Korea
  - Tel: (82-2)2006-7022
  - Fax: (82-2)2006-7116/7117
- Website: [www.hanjinsc.com](http://www.hanjinsc.com)

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Yeongdo Shipyard	B.D No.2	232.5 x 35 x 9.0	60,000
	B.D No.3	301.8 x 50 x 11.5	150,000
	B.D No.4	301.8 x 50 x 11.5	150,000
	B.B No.1	170 x 24	25,000
Subic Shipyard	B.B No.2	115.1 x 12.8	6,000
	B.D No.5	370 x 100 x 12.5	220,000
	B.D No.6	550 x 135 x 13.5	450,000

### Products

- Container Carriers
- Product/Chemical/Crude Oil Tankers
- LNG/LPG Carriers
- Cable Ships
- Supply Boats
- Semi-Submersible Drilling Rigs
- Dredgers
- Naval Ships
- Special Purpose Ships
- Bulk Carriers

# stx STX OFFSHORE & SHIPBUILDING CO., LTD.



## ○ Creativity & Challenge Toward World Best

Cherishing to be a “World Best” shipyard, STX Offshore & Shipbuilding continuously pursues its advance into world markets. STX has modern and advanced newbuilding facilities. Its dry dock accommodates VLCCs and is efficiently arranged and reserved for the simultaneous construction of a VLCC and two MR beam ships in the semi-tandem method. Its SLS “Skid Launching System” is the newest shipbuilding method, in which a ship is built on the ground and loaded onto a skid barge for assembly and/or launching. Extending our dream to the world, furthermore, STX has reached out to embrace the infinite possibilities of China. Combining the highly-developed Korean shipbuilding technology with competitive manpower assets and a geographic advantage in China, STX Dalian Complex is recording a milestone for the global industry with a cutting-edge production base for ships, equipment and marine structures.

STX Jinhae shipyard constructs up to VLCC, 210K class LNG carriers and 14,000 TEU containerships while its Busan shipyard accommodates small tankers and 9,000 CBM ethylene carriers and the Dalian shipyard constructs all kinds of commercial ships and off-shore structures. As a result, its containerships and product tankers have won international recognition for superb technology and productivity in the newbuilding market. By acquiring Aker Yards (now STX Europe), STX completed a global triangle of production bases - Jinhae/Busan in Korea, Dalian in China, and 15 shipyards in Europe.

### Products

- LNG/LPG Carriers
- Container Ships
- Tankers
- Bulk Carriers
- Pure Car & Truck Carriers
- Special Purpose Ships
- Offshore Support Vessels
- Floating Storage & Production
- LNG Floaters
- Drilling Rigs
- Fixed Platforms
- Cruise Ships & Ferries
- Naval Ships

### STX OFFSHORE & SHIPBUILDING CO., LTD.

- Address: 100 Wonpo-dong, Jinhae-gu, Changwon-si, Gyeongnam, Korea, 645-350
- Tel: (82-55)548-1122
- Fax: (82-55)546-7928
- Website: www.stxons.com

### Facilities

Business Site	Facilities	L X B (m)	Maximum Ship Size (DWT)
Jinhae Shipyard	B.D No.1	385 X 74	400,000
	B.B No.1	360 X 48	80,000
	B.B No.2	360 X 48	80,000
Busan Shipyard	F.D No.1	355 X 58	300,000
	B.B No.1	120 X 20	14,000
	B.B No.2	120 X 20	14,000
Dalian Shipyard	B.B No.1	680 X 67	320,000
	B.B No.2	680 X 47	181,000
	B.B No.3	615 X 36	81,000
	B.B No.4	615 X 56	98,000
	B.D No.1	430 X 135	320,000

# ▲ HYUNDAI MIPO DOCKYARD CO., LTD.



## The Fame of Prestige Ships

Hyundai Mipo Dockyard Co., Ltd. (HMD), founded in 1975, has been acknowledged as one of the leading and most versatile shipbuilders in the sectors of medium-sized conventional and specialized vessels. HMD has achieved world-wide recognition for its medium-range product/chemical tankers and Feeder~Panamax containerships with optimized superior specifications and unchallenged quality gained by a competent design team and highly qualified workforce. HMD's customer-oriented flexibility to meet the various requirements of buyers is another HMD advantage, which has led to its current unique position in the market.

HMD has the vision to be one of the most reliable shipyards in the newbuilding of medium-sized conventional and specialized vessels. Never resting on its past accomplishments, HMD will always move forward to share its vision of a bright future with customers.

### HYUNDAI MIPO DOCKYARD CO., LTD. (HMD)

- Address: 1381, Bangeo-dong, Dong-gu, Ulsan 682-712, Korea
- Tel: (82-52)250-3031~3040
- Fax: (82-52)250-3056
- E-mail: sales@hmd.co.kr
- Website: www.hmd.co.kr

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Ulsan Shipyard	B.D NO.1	380 x 65 x 12.5	400,000
	B.D NO.2	380 x 65 x 12.5	400,000
	B.D NO.3	380 x 65 x 12.5	400,000
	B.D NO.4	300 x 76 x 12.5	350,000
Vietnam Shipyard (HVS)	B.D NO.1	260 x 45 x 13.0	80,000
	B.D NO.2	380 x 65 x 13.0	400,000

### Products

- Product / Chemical Tankers
- Containerships
- Bulk Carriers
- LPG Carriers
- Con/Ro-Ro Carriers
- Pure Car & Truck Carriers
- General Cargo Carriers
- Drillships
- FPSOs
- Cable Layers
- Pipe Layers
- Offshore and Offshore Support Vessels
- Car Ferry & Passenger Ships
- Multipurpose Cargo Carriers
- Specialized Vessels

# SLS SHIPBUILDING CO., LTD.



## The True Expert in Medium-size Vessels

SLS Shipbuilding Co., Ltd. is well known as one of the market-leading shipyards with more than 60 years of shipbuilding history and cutting-edge engineering.

Based on its proven performance and accumulated know-how, SLS has successfully delivered more than 120 MR product/chemical tankers since 2000 and is now ready to serve clients in the field of medium-size bulk carriers and container ships as well.

Thanks to the full support of K-SURE (Korea Trade Insurance Corporation), its new majority shareholder, SLS has been overcoming recent financial difficulties and enhancing its capacity for innovation and customer satisfaction.

### Products

- 43,000DWT IMO I  
Stainless Steel Chemical Tankers
- 44,000DWT IMO II  
Chemical Tankers
- 45,000DWT IMO II  
Chemical Tankers
- 51,000DWT IMO III  
Product / Chemical Tankers
- 41,000DWT IMO III  
Product / Chemical Tankers
- 40,000DWT IMO III  
Product / Chemical Tankers
- 49,700DWT Product Tankers
- 58,000DWT Supramax Bulk Carriers

### SLS SHIPBUILDING CO., LTD.

- Address: 227, Donam-dong, Tongyeong, Gyeongnam, Korea
- Tel: (82-55)640-3300 / 3302
- Fax: (82-55)649-2114
- E-mail: sales@slsship.co.kr
- Website: www.slsship.co.kr

### Facilities

Business Site	Facility	L x B (m)	Annual Building Capacity
Tongyeong Shipyard	B.B. No. 1	190 x 37	MR Tanker x 5 ships
	B.B. No. 2	180 x 35	MR Tanker x 5 ships
	B.B. No. 3	240 x 50	MR Tanker x 5 ships
	F.D.	195 x 37	MR Tanker x 5 ships



## Uniquely Positioned to Maximize Client Satisfaction

Established in 1945, Dae Sun Shipbuilding & Engineering Co., Ltd. has played an important role in the medium shipbuilding industry in Korea.

Situated at the center of the port of Busan, which provides optimum geographical advantages, Dae Sun has built approximately 500 ships of various types including oil tankers, bulk carriers, container carriers, special purpose cargo ships, etc. Dae Sun is equipped with state-of-the-art facilities capable of building all types of vessels up to 62,000 DWT.

Based on accumulated experience and diversified technology acquired over the past 65 years, Dae Sun is uniquely positioned to satisfy the needs and requirements of its present and future clients.

### DAE SUN SHIPBUILDING & ENGINEERING CO., LTD.

- Address: 12, 4-ga, Bongrae-dong, Yeongdo-gu, Busan, Korea
- Tel: (82-51)419-5090-1
- Fax: (82-51)416-7965
- Website: www.daesunship.co.kr

### Facilities

Business Site	Facility	L x B x D (m)	Maximum Ship Size (DWT)
Busan No.1 Shipyard	B.D	109 x 19 x 8	6,000
	F.D	191 x 35 x 15	62,000
	B.B	122 x 25	20,000
Busan No.2 Shipyard	B.B	173 x 40	30,000
Busan No.3 Shipyard	-	-	-

### Products

- Container Ships
- Bulk Carriers
- Tankers
- MPC & General Cargo Ships
- Gas Carriers
- RO/RO Ships
- Tug Boats
- Fishing Boats/Vessels
- Special Purpose Vessels

# Tankers

Korean Technology in this field now leads the world and its shipbuilders' price competitiveness is widely understood as a strength.



1 A 309,000 DWT VLCC for Hyundai Merchant Marine Co., Ltd. built by Hyundai Heavy Industries Co., Ltd.

2 A 51,000 DWT Product & Chemical Tanker Ice Class 1B for Gestioni Armatoriali S.p.A. built by SLS Shipbuilding Co., Ltd.

3 A 115,000 DWT Crude Oil Tanker built by Hanjin Heavy Industries & Construction Co., Ltd.

4 A 114,100 DWT Tanker Ice Class 1B for SOVCOMFLOT built by Hyundai Samho Heavy Industries Co., Ltd.





1



2



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1 A 49,700 DWT Product Oil Tanker for Ocean Tankers Pte Ltd. built by SLS Shipbuilding Co., Ltd.

2 A 46,000 DWT Product Oil/Chemical Tanker for STX PanOcean built by STX Offshore & Shipbuilding Co., Ltd.

3 A 162,000 DWT Tanker for Sovcomflot built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.

4 A 105,000 DWT Crude Oil Tanker for Novoship built by Hyundai Heavy Industries Co. Ltd.

5 A 115,000 DWT Crude Oil Tanker for Aktif built by STX Offshore & Shipbuilding Co., Ltd.



1

1 A 46,000 DWT Product/Chemical Tanker for British Petroleum Shipping Ltd. built by Hyundai Mipo Dockyard Co., Ltd.



2

2 A 45,500 DWT Product Carrier for The Great Eastern Shipping Co., Ltd. built by Hanjin Heavy Industries & Construction Co., Ltd.



3

3 A 120,000 DWT Product Carrier for K. G. JEBSEN built by Hyundai Samho Heavy Industries Co., Ltd.



4

4 A 75,000 DWT Product Carrier for GEM built by Hyundai Mipo Dockyard Co., Ltd.



5

5 A 37,000 DWT Product / Chemical Tanker for Interorient Navigation built by Hyundai Mipo Dockyard Co., Ltd.



- ① A 40,000 DWT Product & Chemical Tanker for Morfini S.p.A. built by SLS Shipbuilding Co., Ltd.
- ② A 37,000 DWT Product Chemical Tanker for Unicorn Tankers (International) Ltd. built by SLS Shipbuilding Co., Ltd.
- ③ A 52,800 DWT Product/Chemical Tanker for Western Petroleum Inc. built by Hyundai Mipo Dockyard Co., Ltd.
- ④ A 318,000 DWT Tanker for Vela built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.

# Containerships

With global trade on the rebound, Korean-built containerships will be the mainstay of fleets around the world.



1 A 13,800TEU Container Carrier for MSC built by Samsung Heavy Industries Co., Ltd.

2 A 1,043 TEU Containership for JOSCO Star Shipping Co., Ltd. built by Dae Sun Shipbuilding & Engineering Co., Ltd.

3 A 11,000TEU Containership for CMA-CGM built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.

4 A 13,100 TEU Containership for Rickmers built by Hyundai Heavy Industries Co., Ltd.

5 A 13,100 TEU Containership for ZODIAC built by Hyundai Samho Heavy Industries Co., Ltd.

6 A 13,000TEU Containership for Niki Shipping built by STX Offshore & Shipbuilding Co., Ltd.





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1 A 4,300TEU Containership built by Hanjin Heavy Industries & Construction Philippines Inc.

2 A 9,200 TEU Containership for A.P. Moller built by Samsung Heavy Industries Co., Ltd.

3 A 9,500 TEU Containership for Costamare built by Hyundai Heavy Industries Co., Ltd.

4 A 2,824 TEU Containership for Christian F. Ahrenkiel GmbH & Co. built by Hyundai Mipo Dockyard Co., Ltd.

5 A 4,300 TEU Containership for E.R. Schiffahrt built by Hyundai Mipo Dockyard Co., Ltd.

# Gas Carriers

Addressing energy concerns for a sustainable future, Korean-made gas carriers are the workhorses that fuel global economies.

- ① A 20,600m<sup>3</sup> LPG Carrier for ZODIAC built by Hyundai Mipo Dockyard Co., Ltd.
- ② A 35,000m<sup>3</sup> LPG Carrier for ELETSON built by Hyundai Mipo Dockyard Co., Ltd.
- ③ A 261,700m<sup>3</sup> LNG Carrier for QGTC built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.
- ④ A 153,000m<sup>3</sup> LNG Carrier built by Hanjin Heavy Industries & Construction Co., Ltd.
- ⑤ A 174,000m<sup>3</sup> LNG Carrier for Elcano built by STX Offshore & Shipbuilding Co., Ltd.
- ⑥ A 145,000m<sup>3</sup> LNG-RV for Lief Hoegh built by Samsung Heavy Industries Co., Ltd.
- ⑦ A 216,000m<sup>3</sup> LNG Carrier for OSG Inc. built by Hyundai Heavy Industries Co., Ltd.
- ⑧ A 177,000m<sup>3</sup> LNG Carrier for MOL built by Hyundai Samho Heavy Industries Co., Ltd.



# Bulk Carriers & Special Purpose Vessels

Clients prefer Korean shipyards for quality, price and after-service.



1



2

1 A 168,300 DWT Bulk Carrier for Zenas Navigation Pte., Ltd. built by Hyundai Samho Heavy Industries Co., Ltd.

2 A 180,000 DWT Bulk Carrier for E.R. Schiffahrt built by Hyundai Heavy Industries Co. Ltd.

3 A 180,000 DWT Bulker for Lykiardopulo built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.

4 An Ice-breaking research vessel for the Korea Polar Research Institute built by Hanjin Heavy Industries & Construction Co., Ltd

5 A 6,500unit PCTC for Ray Shipping built by Hyundai Mipo Dockyard Co., Ltd.

6 A 181,000 DWT Bulk Carrier for STX Panocean built by STX Offshore & Shipbuilding Co., Ltd.



3



4

7 A Low and Intermediate Level Radioactive Waste Transport Ship for Hanjin Transportation Co., Ltd. built by Dae Sun Shipbuilding & Engineering Co., Ltd.

8 A Multipurpose Hospital Ship for the Indonesian Navy built by Dae Sun Shipbuilding & Engineering Co., Ltd.

9 A 24.4K Con-Ro for Grimaldi Lines built by Hyundai Mipo Dockyard Co., Ltd.

10 A 49,000 DWT General Cargo Carrier for Grieg Shipping built by Hyundai Mipo Dockyard Co., Ltd.



5



6



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9



10

# Offshore Units

The range of facilities and conveniences offered by Korean shipbuilders is unmatched anywhere else.

- ① A 40,000ft Drilling Depth Drillship for Noble built by STX Offshore & Shipbuilding Co., Ltd.
- ② A Semi-Submersible Production and Quarters Facilities for BP built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.
- ③ A Semi-Submersible Rig for Seadrill II built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.
- ④ A Semi-Submersible Rig for Odfjell built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.
- ⑤ A Drillship for Foramer S.A built by Hyundai Mipo Dockyard Co., Ltd.
- ⑥ A Gusto P-10000 drillship for Transocean built by Hyundai Heavy Industries Co., Ltd.





- ① A 97,000 DWT Displacement Deep-sea Drillship for STENA built by Samsung Heavy Industries Co., Ltd.
- ② A 220K FLNG for Flex built by Samsung Heavy Industries Co., Ltd.
- ③ A West Phoenix Semi-Submersible Rig for Easter built by Samsung Heavy Industries Co., Ltd.
- ④ An Offshore Platform Lun-A for Sakhalin Energy Investment Co., Ltd. built by Samsung Heavy Industries Co., Ltd.
- ⑤ Agbami FPSO for Star Deepwater Petroleum Ltd. built by Daewoo Shipbuilding & Marine Engineering Co., Ltd.
- ⑥ An AKPO FPSO for Total built by Hyundai Heavy Industries Co., Ltd.

The Korea Shipbuilders' Association (KOSHIPA) was established as a non-profit organization on July 19, 1977, at a time when the Korean shipbuilding industry had just made inroads into the world shipbuilding market. Nine shipbuilding companies, capable of building ships of 5,000 GT and over, are currently members of KOSHIPA.

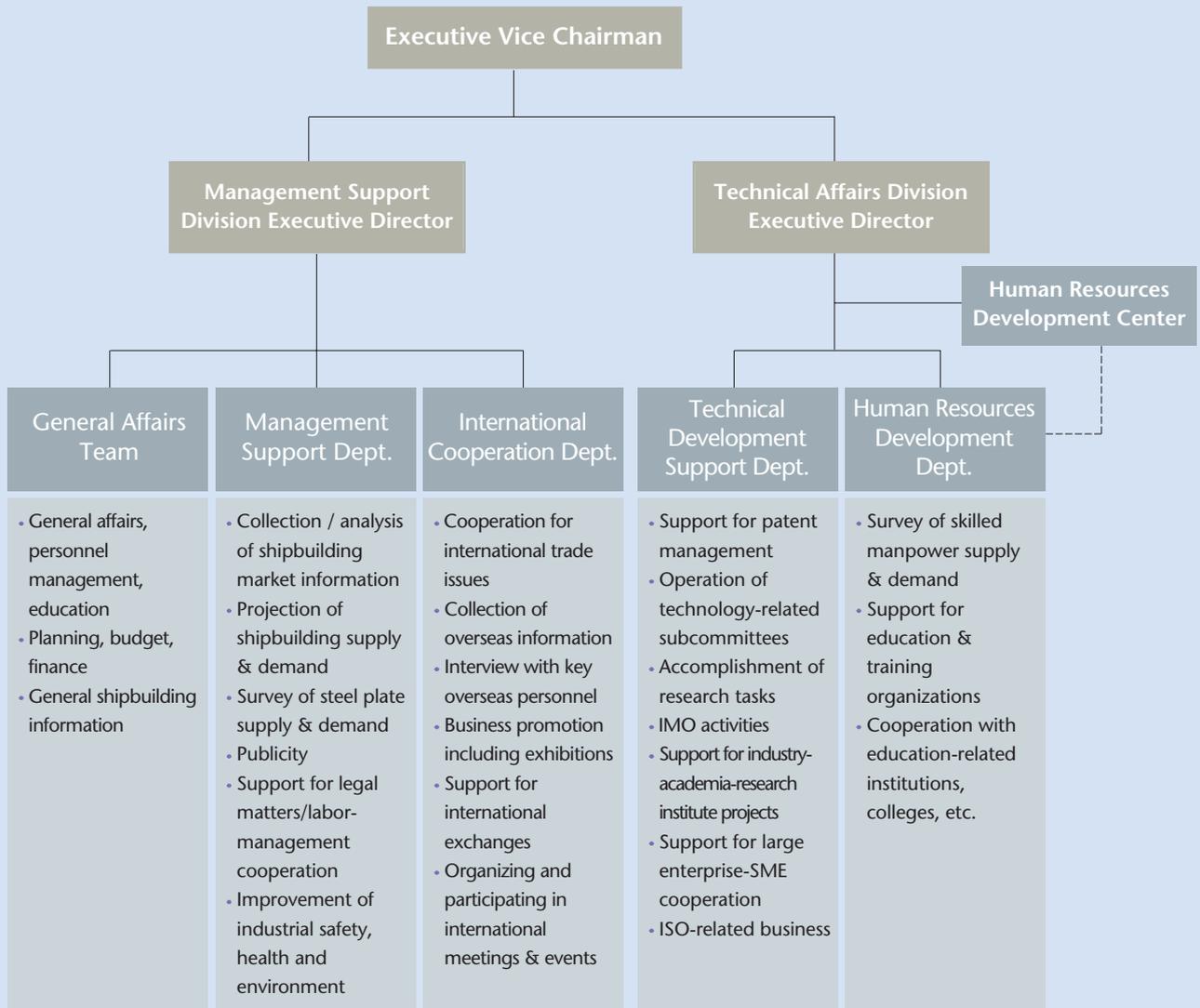
KOSHIPA works to enhance cooperation among its member companies and to promote their common interests.

The principal activities of KOSHIPA are:

- promote member companies' common interests and organize various shipbuilding-related sub-committees
- conduct research for the shipbuilding industry, carry out shipbuilding studies, and publish various reports
- organize member companies' mutual cooperation for upgrading shipbuilding technology and productivity
- conduct human resource development activities and programs such as training & education, development of job skills
- promote international cooperation for the sound development of the world shipbuilding industry.



## Organization Chart of the KOSHIPA Secretariat



## Korean Shipbuilding Performance

### New Orders

Year	Domestic		Export		Total	
	No	Thou. CGT	No	Thou. CGT	No	Thou. CGT
2000	2	23	311	10,379	313	10,402
2001	-	-	185	6,408	185	6,408
2002	-	-	230	7,591	230	7,591
2003	5	49	465	16,700	470	16,749
2004	-	-	441	16,307	441	16,307
2005	-	-	349	11,965	349	11,965
2006	-	-	498	16,270	498	16,270
2007	3	26	704	23,617	707	23,643
2008	14	282	453	13,740	467	14,022
2009	2	35	47	1,379	49	1,414
2010	14	291	306	7,866	320	8,157

### Completions

Year	Domestic		Export		Total	
	No	Thou. CGT	No	Thou. CGT	No	Thou. CGT
2000	2	18	178	6,029	180	6,047
2001	1	5	206	6,442	207	6,447
2002	1	18	209	6,806	210	6,824
2003	-	-	223	7,265	223	7,265
2004	1	11	259	8,716	260	8,727
2005	4	38	281	10,171	285	10,209
2006	1	9	314	9,538	315	9,547
2007	-	-	340	10,294	340	10,294
2008	8	305	368	12,160	376	12,466
2009	8	158	382	12,103	390	12,261
2010	15	468	361	12,231	376	12,699

### Order Books

Year	Domestic		Export		Total	
	No	Thou. CGT	No	Thou. CGT	No	Thou. CGT
2000	3	23	500	16,385	503	16,409
2001	1	18	474	16,197	475	16,215
2002	-	-	496	17,074	496	17,074
2003	5	49	733	26,360	738	26,409
2004	4	38	914	33,923	918	33,962
2005	-	-	980	35,640	980	35,640
2006	-	-	1,164	45,256	1,164	45,256
2007	3	20	1,521	51,132	1,524	51,152
2008	17	293	1,673	54,090	1,690	54,384
2009	16	289	1,336	43,232	1,352	43,521
2010	71	2,141	1,048	32,416	1,119	34,557

Source: The Korea Shipbuilders' Association

## New Orders

Year	Korea		Japan		CESA		China		Others		World	
	Thou. CGT	%										
2003	18,810	42.9	3,107	13.9	12,335	28.1	3,875	8.8	2,701	6.2	43,828	100.0
2004	15,732	33.2	6,765	14.3	14,280	30.2	7,041	14.9	3,541	7.5	74,359	100.0
2005	13,571	32.4	6,606	15.8	9,446	22.6	7,403	17.7	4,847	11.6	41,873	100.0
2006	22,010	36.0	15,805	25.9	11,865	19.4	6,366	10.4	5,045	8.3	61,091	100.0
2007	32,861	37.6	31,382	36.0	10,017	11.5	5,802	6.6	7,226	8.3	87,288	100.0
2008	15,833	38.3	13,148	31.8	6,525	15.8	2,109	5.1	3,771	9.1	41,386	100.0
2009	3,443	20.3	6,987	42.1	3,895	23.5	492	3.0	1,763	10.6	16,580	100.0
2010	11,245	35.5	2,923	9.2	2,108	6.7	13,904	43.9	1,512	4.7	31,692	100.0

## Completions

Year	Korea		Japan		CESA		China		Others		World	
	Thou. CGT	%	Thou. CGT	%	Thou. CGT	%						
2003	7,175	32.0	2,569	11.4	6,809	30.3	4,022	17.9	1,879	8.4	22,454	100.0
2004	8,319	33.6	3,090	12.5	7,971	32.2	4,235	17.1	1,159	4.7	24,774	100.0
2005	10,093	34.8	4,237	14.6	5,811	29.4	3,826	13.2	2,299	7.9	28,967	100.0
2006	11,940	35.0	5,274	15.5	9,458	27.8	4,859	14.3	2,535	7.4	34,066	100.0
2007	11,277	32.5	6,795	19.6	8,913	25.7	4,800	13.8	2,885	8.3	34,670	100.0
2008	14,509	35.4	9,065	22.1	9,759	23.8	4,835	11.8	2,851	6.9	41,019	100.0
2009	14,466	33.1	12,387	28.4	9,608	22.0	3,872	8.9	3,359	7.7	13,692	100.0
2010	14,896	29.1	9,820	19.2	3,846	7.5	18,736	36.6	3,951	7.6	51,249	100.0

## Order Books

Year	Korea		Japan		CESA		China		Others		World	
	Thou. CGT	%										
2003	26,623	37.7	9,543	13.5	19,255	27.3	8,613	12.2	6,521	9.2	70,555	100.0
2004	33,968	37.3	13,483	14.8	25,683	28.2	12,302	13.5	5,642	6.2	91,077	100.0
2005	37,595	35.6	16,643	15.8	27,952	26.5	15,924	15.1	7,522	7.1	105,635	100.0
2006	47,994	35.2	28,645	21.0	30,676	22.5	18,129	13.3	10,795	7.9	136,238	100.0
2007	64,575	35.6	53,101	29.3	31,355	17.3	16,753	9.2	15,664	8.6	181,449	100.0
2008	64,357	33.8	62,001	32.6	30,649	16.1	13,743	7.2	19,516	10.2	190,266	100.0
2009	47,576	31.3	54,357	35.8	24,460	16.0	9,214	6.1	16,345	10.8	151,952	100.0
2010	39,145	30.6	19,836	15.5	6,227	4.9	48,922	38.2	13,883	10.8	128,013	100.0

Source: World Shipbuilding Statistics, Lloyd's Register

# Korean Shipyard Location Map

- Ulsan      Hyundai Heavy Industries
- Geoje      Daewoo Shipbuilding & Marine Engineering
- Geoje      Samsung Heavy Industries
- Mokpo      Hyundai Samho Heavy Industries
- Busan      Hanjin Heavy Industries & Construction
- Jinhae      STX Offshore & Shipbuilding
- Ulsan      Hyundai Mipo Dockyard
- Tongyeong      SLS Shipbuilding
- Busan      Dae Sun Shipbuilding & Engineering



## Related Organizations

### Korea Maritime & Ocean Engineering Research Institute

- Sinseongno 104, Yuseong-gu, Daejeon, 305-343, Korea
- Tel: 82-42-866-3114
- Fax: 82-42-866-3107
- <http://www.moeri.re.kr>

### Korea Shipbuilding Industry Cooperative

- 915-14, Bangbae-dong, Seocho-gu, Seoul, Korea
- Tel: 82-2-587-3121
- Fax: 82-2-583-2922
- Members: 78
- <http://www.kosic.or.kr>

### Korean Register of Shipping

- 23-7, Jang-dong, Yuseong-gu, Daejeon, Korea (Yuseong P.O. Box 29, Daejeon, Korea)
- Tel: 82-42-869-9114
- Fax: 82-42-862-6011
- <http://www.krs.co.kr>

### Korea Marine Equipment Association

- 12-5, Yeouido-dong, Yeongdeungpo-gu, Seoul, Korea
- Tel: 82-2-783-6952/4
- Fax: 82-2-785-7647
- <http://www.komarine.or.kr>
- E-mail: komea@chol.com

### The Society of Naval Architects of Korea

- Rm 508, Science and Technology Building, 635-4, Yeoksam-dong, Gangnam-gu, Seoul, Korea
- Tel: 82-2-3452-2370-1
- Fax: 82-2-554-1006
- <http://www.snak.or.kr>
- E-mail: snak@snak.or.kr

### Korea Maritime Institute

- KBS Media Bldg., 1652, Sangam-dong, Mapo-gu, Seoul, Korea
- Tel: 82-2- 2105-2700
- Fax: 82-2- 2105-2800
- <http://www.kmi.re.kr>

### The Korea Shipowners' Association

- 10th Fl, Sejong Bldg, Dangju-dong, Jongro-gu, Seoul, Korea
- Tel: 82-2-739-1551
- Fax: 82-2-739-1558
- <http://www.shipowners.or.kr>
- E-mail: korea@shipowners.or.kr



# Shipbuilding Korea 2011

The Korea Shipbuilders' Association (KOSHIPA), with the support of nine member companies, has published this annual report. For more information, please contact Tel. (82-2)2112-8057



**THE KOREA  
SHIPBUILDERS' ASSOCIATION**

18TH FLOOR, LANDMARK TOWER 837-36, YEOKSAM-DONG,  
GANGNAM-GU, SEOUL 135-937, KOREA

Tel: (82-2) 2112-8181, Fax: (82-2) 2112-8182, [www.koshipa.or.kr](http://www.koshipa.or.kr)