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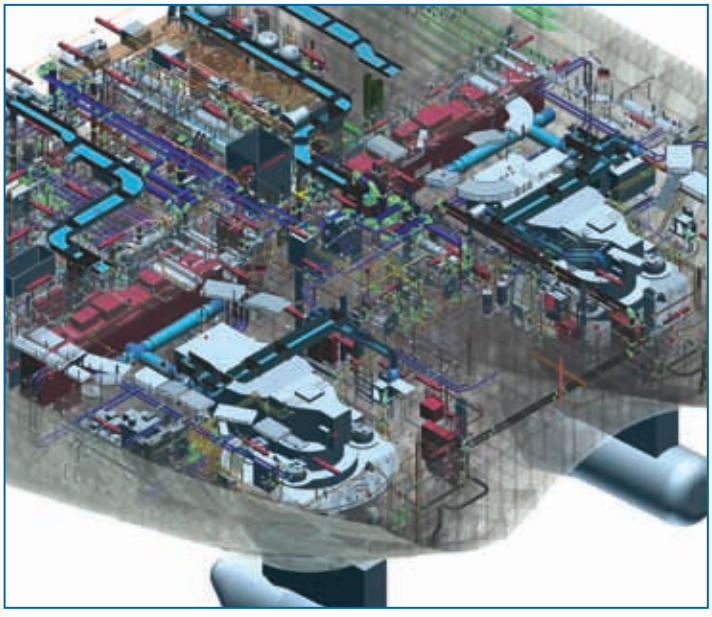

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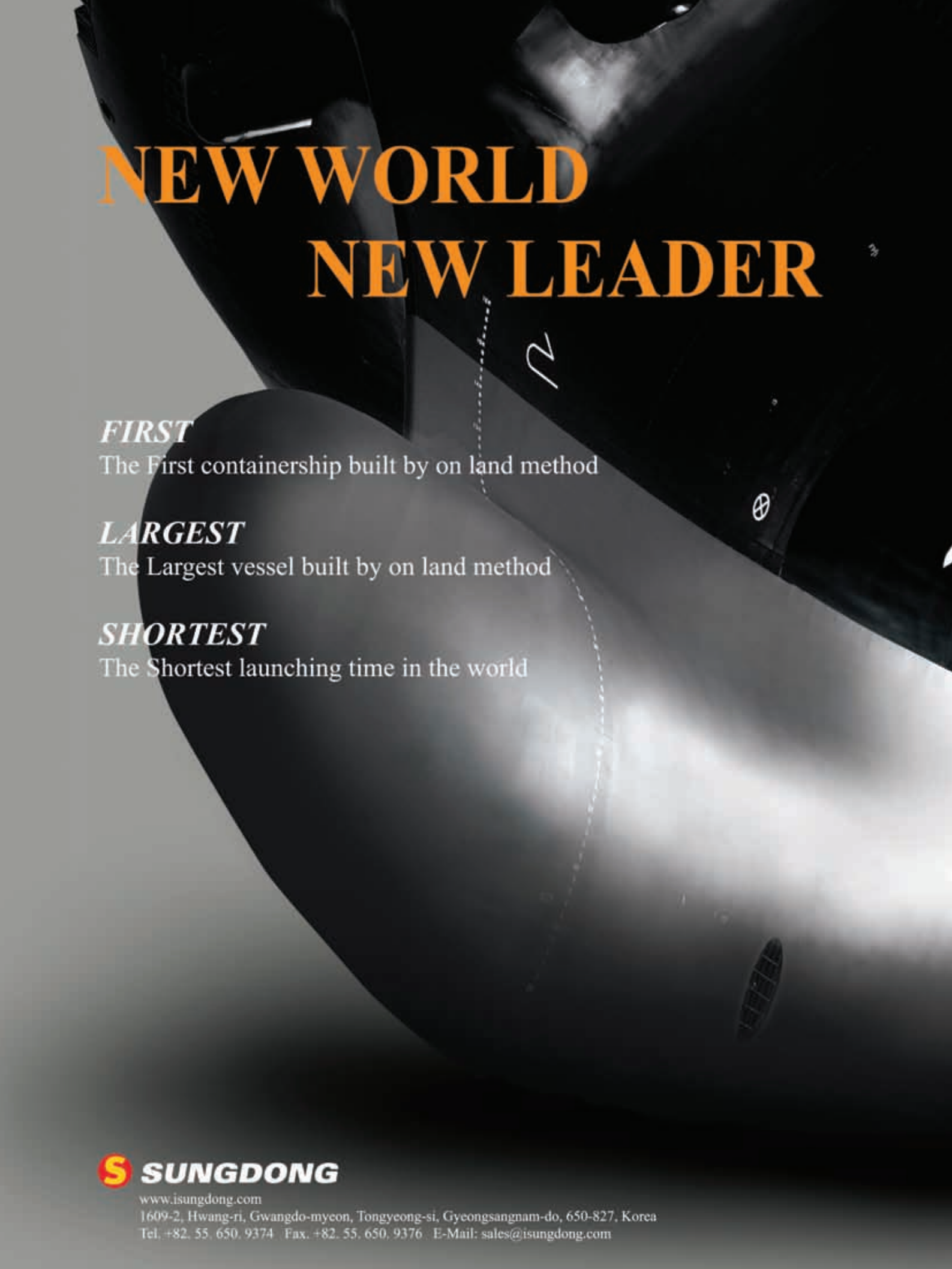

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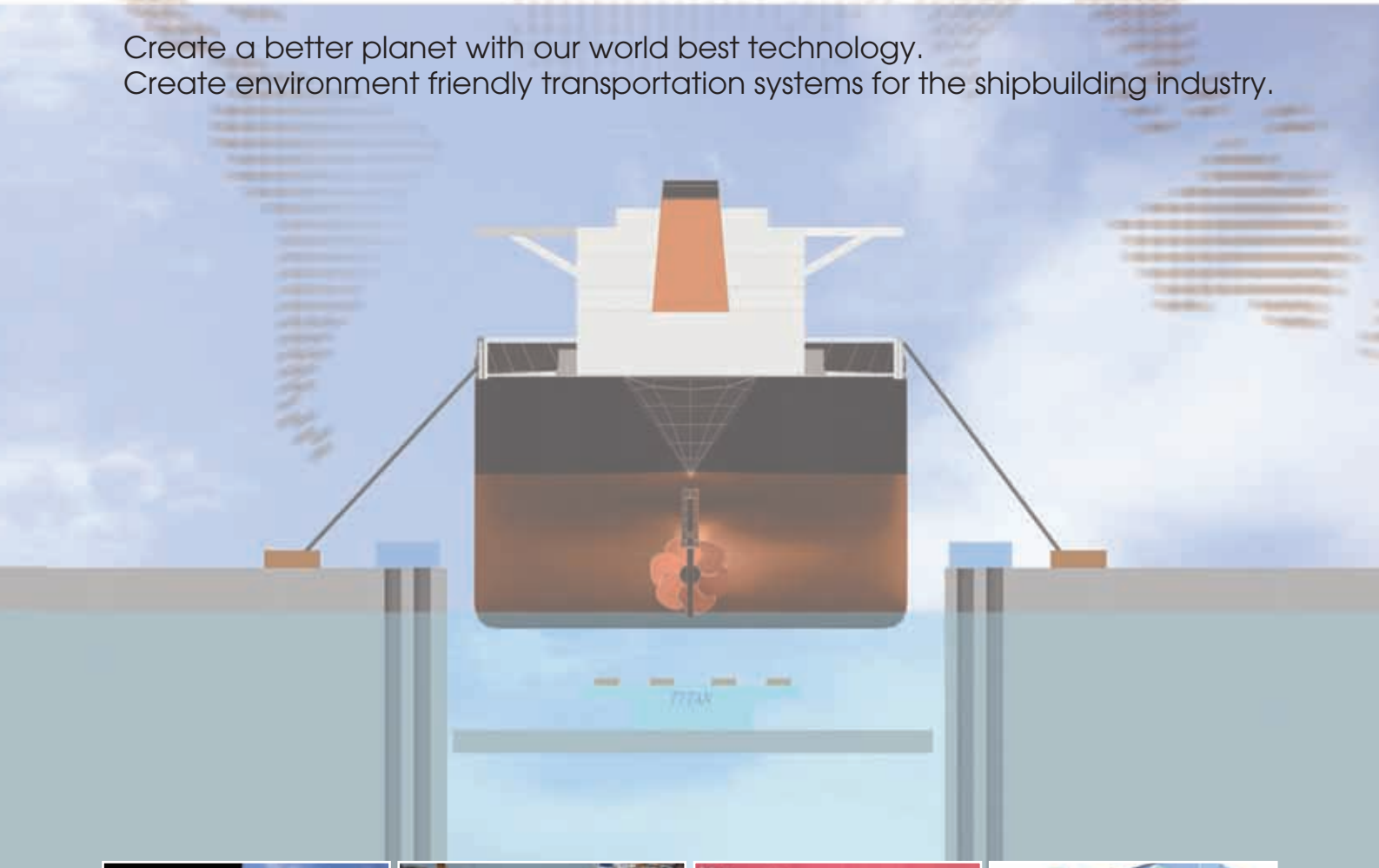

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NATIONAL INSTRUMENTS™

SHI delivered 1 drillship to the Greece-based Cardiff Marine

Samsung Heavy Industries (SHI) announced that it successfully delivered 1 unit of drillship to Cardiff Marine, the Greek Ship Owner, on January 3, SHI's first export of vessel in 2011.

The newbuilding drillship is the first to be delivered out of the 4 sister drillships ordered to SHI in September 2007 and January 2008, respectively, from Cardiff Marine. This vessel which was named 'Ocean Rig Corcovado' in the christening ceremony in December last year measures 228m in length and 42m in width, and has a displacement of 96,000 tons, and can drill up to 12km from sea water surface. The ship price is $670 million.

SHI completed the construction of this vessel without an accident. The 4 drillships ordered from Cardiff Marine and being built by SHI were berthed alongside quay altogether during the christening ceremony, which was a truly magnificent view.

SHI plans to deliver a total of 12 drillships this year alone, including the 4 drillships ordered from Cardiff Marine which will be delivered consecutively this year with an interval of 3-month. This year, 85 ships are scheduled for delivery by SHI, the largest quantity in its history.

Meanwhile, SHI received orders for a total of 75 ships worth $9.7 billion last year, exceeding its annual new order target of $8 billion by 21%. Furthermore, SHI secured the shipbuilding volume for the following 31 months, valued at approximately $39 billion.

CEO Roh In-sik of SHI said, "We will deliver 85 ships with perfect quality this year, and focus on high value-added ship market where SHI has the competitive advantage despite the difficulties posed by the fierce competition from China and the decline in new orders."

Ocean Rig Corcovado, the drillship delivered to Cardiff Marin

4 drillships of Cardiff Marin being built by SHI are berthed alongside quay altogether during the naming ceremony held on December 16 last year, including the Ocean Rig Corcovado.

SSME was named among 100 Excellent Job Creators

Sungdong Shipbuilding & Marine Engineering (SSME) was selected as the biggest job creator in Korea and awarded the Prize of President.

"100 Excellent Job Creators Award" was held by the Ministry of Employment & Labor on December 23 at the AT Center in Seoul, the first event organized in the year. Plaques inscribed with the name of the President of the Korea Republic are presented to the selected companies after the screening process based on the investigation and analysis with regard to the changes in the employment of Korean companies.

The prizes are awarded in 3 categories to companies selected among 31 small sized companies (employing less than 300 people), 34 medium sized companies (employing 300 to 1,000 people), and 35 large companies (employing more than 1,000 people).

SSME was selected with other 35 large companies such as Hyundai Steel, Samsung Electronics, etc.

SSME has accomplished growth every year based on its unique and efficient ground build method of SSME since 2005 when it constructed its first newbuild vessel, and has recorded a job creation rate of

31% on the average every year, employing about 9,100 people currently.

Specifically, SSME has operated the shipbuilding technician cultivation and training centers, etc, through the Industrial-academic co-operation with 11 universities nationwide and the Agreement with Tongyeong City, a coastal city in South Gyeongsang Province, to give preference to applicants from the local area, and thus has played a key role in resolving the youth unemployment.

Besides, SSME is operating its own R&D center, including the design research center and production research center, etc, - which hires about 500 people - to actively cope with the changes in the market.

An official from SSME remarked after winning the prize, "I am proud that we are the only shipyard selected as the excellent job creator amid the recession in the shipbuilding industry and the rising unemployment around the globe. We will not spare any effort to create more jobs and fulfill the social responsibility of corporation."

"100 Excellent Job Creators Award" was held on December 23. The photo shows Samsung Mobile Display, Samsung Engineering, Samsung Electronics, Sungdong Shipbuilding & Marine Engineering, Park Jae-wan (Minister of Employment & Labor), Shinseqye, Amore Pacific, NC Soft, LG Electronics (from the left).

DSME were chosen as the Best Vessels of the Year in 2010

Daewoo Shipbuilding & Marine Engineering (DSME) produced 9 world's best ships, solidifying its status as world's best shipyard.

U.K.'s "Naval Architect" and "Fairplay Solution" have selected DSME's 2 ships and 1 ship, respectively, as the Best Vessels of the Year on January 4. In addition, U.S.'s "Marine Log" and "Maritime Reporter" have respectively selected DSME's 3 ships as the Best Vessels of the Year.

The naming ceremony of MSC Savona, the 14,000TEU container ship of CP Offen of Germany, the Best Vessel of the Year

At the end of every year, these globally-renowned shipbuilding and marine magazines have named the best ship built around the globe.

Among the 9 vessels of DSME selected as the world's best ships, 4 units are container carriers and 3 units are very large crude carriers (VLCC).

In addition, 1 unit of Liquefied Natural Gas Regasification Vessel (LNG-RV) and 1 unit of Liquid Natural Gas (LNG) carrier of DSME were chosen as the Best Ship of the Year, which reaffirms the reputation of DSME as a shipyard specializing in the construction of LNG carriers.

The recent selection of the best ships is meaningful very much, considering that as many as 4 units of container ships of DSME were chosen, as well as LNG carriers and VLCC which are the traditionally strong product portfolio of DSME.

Specifically, 14,000TEU container ship of DSME is currently the world's largest. Besides, container ships of various sizes ranging from small size to supersize were chosen as the world's best ships, proving the world's best shipbuilding technology of DSME.

Meanwhile, DSME has produced a total of 111 best vessels for 29 consecutive year so far since "Bow Pioneer", the first vessel ever built by DSME, was selected as the best vessel in 1982.

An official from DSME said, "We have accomplished the splendid feat of producing more than 9 best vessels of the year for 4 consecutive years, which is unprecedented in the history of global shipbuilding industry, and this year, DSME will continue to produce the world's best vessels through active investment and development of new ship types."

Hanjin Heavy Industries held a naming ceremony for the newest 180,000-ton bulk carrier

Hanjin Heavy Industries held a naming ceremony for Christina Bulker, a 180,000-ton bulk carrier, on January 4 at its Yeongdo Shipyard in Busan.

The naming ceremony was attended by about 30 people, including the delegates of Lauritzen, the Danish owner, and the shipyard officials.

This vessel is a 180,000-ton Capesize bulk carrier ordered to Hanjin Heavy Industries in 2008. Specifically, it is the first vessel incorporating the Performance Standard for Protective Coating (PSPC) among the vessels built at the Yeongdo Shipyard.

PSPC is a new international coating standard adopted by the International Maritime Organization (IMO) to prevent maritime accidents and pollution caused by the corrosion of major parts of vessels.

Above all, the successful construction of this vessel reflects the heartfelt enthusiasm of all employees of the company who rolled up their sleeves and partook in the trial operation, outfitting, and painting works, as well as its vendors, to revitalize the Yeongdo Shipyard despite the recent general strike held by the labor union.

The naming ceremony of Christina Bulker, a 180,000-ton bulk carrier, was held on January 4 at Yeongdo Shipyard of Hanjin Heavy Industries in Busan.

An official from Hanjin Heavy Industries said, “All employees and vendors made a concerted effort to revive the company although we faced many problems amidst the general strike of the labor union, and finally, we can deliver the vessel safely. We will sharpen our competitiveness to survive and thrive by winning more orders and play a leading role in the shipbuilding industry again.”

Ulsan City has embarked on the development of ship radar system

A radar system is slated for development, which can measure the distance to a remote object from the ship at sea.

Ulsan City held a kick-off meeting on December 23 at Lotte Hotel with regard to the development and commercialization of near distance and long distance laser system for the safety in navigation, an event organized by Ulsan Business Support Center.

A total of KRW 1 billion 66.51 million will be injected into the project, including KRW 7.59 billion from the national coffer, KRW 600 million from local government coffers KRW 300 million from Ulsan City, and KRW 300 million from Busan City, and KRW 2 billion 876.51 million from the participating organization such as Hyundai Heavy Industries (HHI) and others.

The project will be carried out by 14 organizations involved in the industrial-academic-research-government cooperation, including local governments (Ulsan City, Busan City), HHI, universities, research institutes, companies which specialize in the shipbuilding and maritime sector. It was launched in December 2010 and will be completed in April, 2013.

Specifically, the project aims at the localization of ship radar system which has relied on import so far, and development of radar antenna, transmitter and receiver, multi-function display, and integrated navigation information system, as well as marketing support.

Ulsan City expects that the localization and commercialization of ship radar system will stimulate the import substitution, increasing the sales by $235 million annually on the average after 2015.

In addition, the project is expected to be instrumental very much in creating about an annual average of 140 jobs after 2014, play a key role in shaping the global shipbuilding market and sharpening the competitiveness of technology.

HHI delivered an eco-friendly VLCC

Hyundai Heavy Industries (HHI) announced that it successfully delivered the world's first-ever Very Large Crude Oil Carrier (VLCC) fitted with ballast water treatment system on January 10.

This vessel was ordered from Oman Shipping Company (OSC) in 2008, a 317,000-ton vessel measuring 333m in length, 60m in width, and 30.4m in height, and is equipped with ballast water treatment system for the first time ever around the globe.

Industrial sources say that HHI's success in installing the large capacity on-board ballast treatment systems, which can treat approximately 100,000 tons of ballast water (enough to fill about 30 swimming pools of international standard), in a VLCC would be a major first step towards outfitting this system to all other merchant ships in the period ahead. HHI obtained domestic patent during the design works for this vessel.

Specifically, International Maritime Organization (IMO) mandates that all vessels to be delivered from 2012 and all ships operational on the sea from 2017 should be equipped with on-board ballast water treatment system, which raises the expectation that the market for ballast water treatment system would grow to KRW 30 trillion.

Ballast water is the sea water placed in the ballast tank to stabilize hull balance and maintain optimal vessel speed and efficiency. The ballast water is taken onboard as cargo is unloaded and discharged into the sea as cargo is loaded. In that process, various marine organism and disease-causing bacteria, etc, can be transferred with ballast water in ocean-going vessels, which poses a serious ecological threat to marine plants and animals of other countries. An estimated 5 billion tons of ballast water is discharged by ships every year.

Han Yeong-seok, managing director (in charge of the outfitting design) of HHI, said, "We have received many inquiries from ship owners after they heard the news about our successful installation of ballast water treatment system in the VLCC. If the IMO's regulation comes in full force, HHI will be put on a better position to win orders for ships."

World's first-ever eco-friendly VLCC built by HHI

In June 2009, HHI successfully delivered the 7,000TEU container ship fitted with ballast water treatment system, first ever in the history of shipbuilding industry, and has been actively developing green ships, including hybrid warships, eco-friendly gas engines, and others.

DSME completed the world's largest offshore oil production facility

Daewoo Shipbuilding & Marine Engineering (DSME) successfully completed the construction of the world's largest offshore oil production facility. DSME held a naming ceremony for the world's largest Floating Production Storage & Offloading Unit (FPSO) on January 12.

The naming ceremony was attended by many international eminent figures, including Michel Hourcard (Vice President of Total S.A, the ship owner), Nam Sang-tae (President & CEO of DSME), Jose B. Vasconcelos (Angola's Oil Minister), Geraldine Escales (French consul in Seoul), and Alfredo Dombe (Angolan Charge d'affairs to Seoul).

This FPSO, ordered by French oil giant Total S.A. in December 2007, was christened 'Pazflor FPSO' after the name of the crude oil field in Angola where the facility will be finally installed.

Pazflor FPSO is not only the largest scale in terms of contract value but also the biggest size among the FPSOs ever built so far worldwide.

This 120,000 deadweight-ton facility is worth KRW 2 trillion and 600 billion, and measures 325m in length, 61m in width, 32m in height.

Beside, this facility can produce up to 220,000 barrels of crude oil and 4.4 million m^3 of natural gas a day and store 1.9 million barrels (about 260,000 tons) of crude oil which is equivalent to the daily oil consumption in South Korea. In addition, it can produce the crude oil from 2 different oil fields at the same time.

About 36 months were spent constructing

Pazflor FPSO which is moving

Pazflor FPSO after the new-build FPSO equipment contract was signed in December 2007. This FPSO will be installed to produce crude oil in the oil fields of Angola which has emerged Africa's highest oil producing nation.

Pazflor FPSO will depart the Okpo shipyard in mid January and complete the installation and trial operation in Angola for the final delivery in September this year.

This project was built on a turn key basis by DSME which handled the entire processes of construction including the design and trial operation, and again proved its excellent ability to carry out high value-added offshore plant facility construction.

DSME President & CEO Nam Sang-tae said during the naming ceremony, "DSME and Total have maintained a steady partnership while implementing a total of 3 FPSO projects together so far. We will successfully build the CLOV FPSO ordered in July last year, so that we can reciprocate the trust placed in us by the ship owner."

Meanwhile, DSME has received orders for a total of 5 FPSO projects, ranging from its first FPSO ordered in 1997 by Canada's Haliburton to CLOV FPSO ordered by Total in last July, and successfully delivered 4 units out of them.

JUNJIN CSM features new slogan to strengthen its global business

New slogan of JUNJIN CSM

Recently, JUNJIN CSM changed its corporate slogan to embody its asserted will to become a leader in the global market.

An official from JUNJIN CSM explained "Our new slogan 'Try Again JUNJIN! Challenge & Jump' represents, by implication, the strong will of JUNJIN to take on challenges by embracing changes and promoting innovation and its intention to make another takeoff, aiming to become a leading manufacturer in the construction heavy equipment industry."

The new corporate slogan of JUNJIN CSM will be used in email, promotional materials, placards, and many more, along with its official corporate slogan 'Excellent JUNJIN, Global JUNJIN'.

The Baltic exchange joined 2011 China International Marine, Port & Shipbuilding Fair as the global brand supporter

In January, 2011, the organization committee of China International Marine, Port & Shipbuilding Fair (CIMPS 2011) published a formal statement to confirm their cooperation with "The Baltic exchange" for the first time. That means The Baltic exchange officially became 2011 CIMPS' global brand supporter.

Founded in 1744, the Baltic Exchange is the world's most ancient shipping market. In 1823, the Baltic Club established. In 1900, the Baltic Club merged with the London Shipping Exchange, that is the Baltic Exchange. With 266 years' history, the Baltic Exchange is the only one cosmopolitan shipping exchange, currently

has 600 member companies, and more than 2,000 delegates working in the exchange. China Shipowners' Association has applied to be a member of the Baltic Exchange in 2010, Who currently owns approximately 186 members, operating fleet capacity about 58 million DWT, equivalent to 4% of the global total quantity.

Up to now the total signed area of CIMPS is over 16,000m^2. With all the preparation work smoothly executed, the organization committee has done a lot of professional and meticulous work to guarantee better exhibiting result.

At present, there are totally 8 conformed national pavilions including: UK, USA, Korea, Finland, Denmark, Turkey, Romania, and Singapore. Simultaneously, CIMPS 2011 will greatly enhance the quality of the forum during the fair, which will involve shipbuilding, shipping, marine engineering. match-making between shipyards and equipment suppliers, selection and award etc.

Among them, The 5th Annual Shipping Tech Summit 2011will bring more than 200 shipowners at home and abroad to CIMPS. And there will be a Cooperation & Communication Conference between Equipment Suppliers & Shipbuilders, which will invite many excellent equipment suppliers from UK, Korea, Denmark, Finland and other countries. For better promotion, the organization committee went to Germany, the Netherlands, Greece, Norway, Finland, South Korea, Japan and other countries on purpose to promote the exhibition and invite foreign visitors and exhibitors. Total media partners reach over 130 including over 100 Chinese media partners and 30 overseas media partners.

During the cooperation with 2011 CIMPS, the Baltic Exchange will make full use of its own influence in the world to promote CIMPS to all its members.

HMD has accomplished the feat of 500 ship deliveries

Hyundai Mipo Dockyard (HMD) achieved the milestone of delivering 500 vessels in just 13 years after it launched the newbuilding business.

HMD announced that it signed a contract in its Ulsan Headquarters on January 6 to deliver EGS Crest, a 36,000-ton bulk carrier of International Shipholding Corporation (ISC) of the United States, achieving a feat of 500 ship deliveries.

As a result, HMD has set a record of building 500 vessels in just 13 years since its first ship, the 'Ranfoam Banff' was christened in 1997.

HMD's shipbuilding volume has increased remarkably every year. It built 1 ship in 1997, 4 ships in 1998, 8 ships in 1999, 20 ships in 2001, 46 ships in 2005, 60 ships in 2006, 67 ships in 2007, and 70 ships in 2008.

Based on the type of ship, HMD has delivered 352 product carriers and chemical tankers, 86 container ships, 15 LPG carriers, 22 special vessels such as drillships, 17 Pure Car/Truck Carriers (PCTCs), 8 bulk carriers, etc.

Specifically, HMD plans to deliver a total of 86 vessels this year alone, the largest volume in its history, which raises the expectation that the company will stand unchallenged in the global market for medium-sized vessels.

Meanwhile, HMD presented the memorial tablet to Niels M. Johnsen, the CEO of ISC, during the delivery ceremony on the same day, and gave rice cake giveaways to all employees to celebrate its 500 deliveries.

A naming ceremony on January 6 for EGS Crest, the 500th ship built by HMD

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Contents


19


32


40


44

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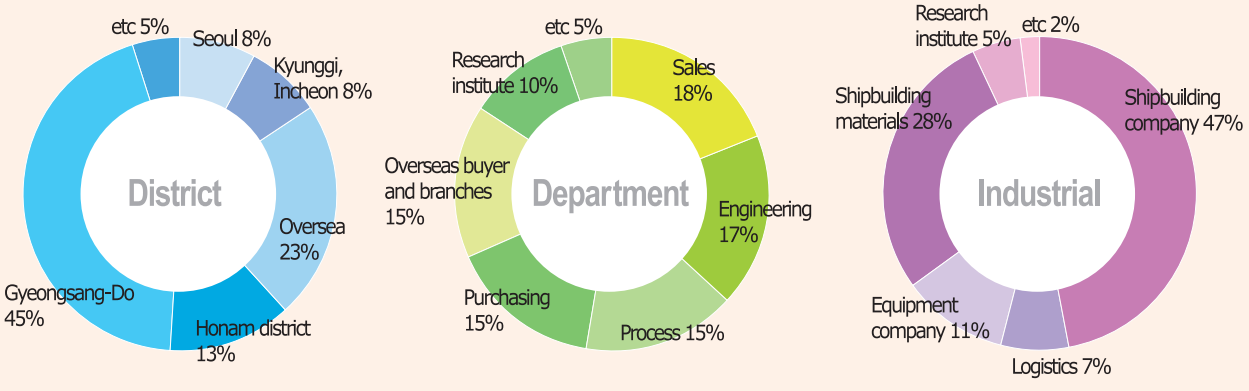

Shipbuilding industry has entered a strong phase of recovery (2)

Order intake of domestic shipbuilders in 2010

The global shipbuilding market which began to rebound slowly after hitting the bottom in the 2nd quarter of 2009 finally showed strong growth in 2010 with new orders for merchant ships and offshore plants rising to higher levels than expected as the year came to a close.

In addition, major domestic shipbuilders won orders consecutively in late December, demonstrating their status as the leaders of the global shipbuilding industry, and reached or exceeded their annual new order targets of 2010 set at the beginning of the year.

In 2 years after 2008, Hyundai Heavy Industries (HHI) and Daewoo Shipbuilding & Marine Engineering (DSME) surpassed $10 billion in total order value for 2010, closely followed by Samsung Heavy Industries (SHI) and STX Offshore & Shipbuilding. Specifically, they have achieved an increase in the order inflow from the promising sectors such as very large crude carriers, container ships, offshore plants, cementing the status of the world's leading ship-building nation.

Continuing from the last month's issue, the following is the summary on the order intake of major domestic shipbuilders in 2010, such as Sungdong Shipbuilding & Marine Engineering, SPP Plant & Shipbuilding, Hanjin Heavy Industries & Construction, Hyundai Mipo Dockyard, etc.

SSME has unrivalled competitiveness in the Capesize sector

Sungdong Shipbuilding & Marine Engineering (SSME) has maintained the top position in terms of order backlog in the category of Capesize bulk carriers. In 2010, SSME has shown strong performance in the order intake in the Kamsarmax bulk carrier sector along with the Capesize bulk carrier sector.

In the first half of the year, SSME clinched newbuilding orders from prominent ship owners of Greece, Germany, Hong Kong, etc, as well as Korean ship owners, to build a total of 25 vessels, and continued its push into the market winning additional orders for 14 units of vessels such as Kamsarmax bulk carriers, 3,600TEU container ships and others from ship owners from Monaco, Turkey, etc, for 4 months from July.

SSME was awarded an order, the first one for the year, on January 10 from a Greek ship owner to build 1 unit of 18,000-ton Capesize bulk carrier, a large merchant ship, and entered into a contract on January 12 with S shipper of Germany to construct the same type of vessel. The contract for the 2 vessels are worth approximately KRW 130 billion. The vessel ordered from the Greek ship owner measures 292m in length and 45m in width. The vessel can sail at a speed of 15.2 knots and will be delivered to the ship owner by 2012.

In February, SSME received an order from a Japanese ship owner for 2 units of Capesize bulk carrier (including the optional vessel) and 2 units of Kamsarmax bulk carriers. That was the second order to SSME from any Japanese ship owner after SSME signed a deal with a Japanese ship owner in November, 2009. These vessels are said to be due for delivery by early 2012. Specifically, the ship owner is a prominent shipper of Japan which was established more than 3 decade ago and has the fleet mainly composed of small and medium-sized merchant ships. In Japan, most of shipbuilding orders are placed with domestic shipyards, and for that reason, the aforesaid contract signed between SSME and the Japanese ship owner came under the spotlight because it marked the first time that any large vessel order was placed with a shipyard outside Japan.

An official from SSME said, “Unprecedentedly, we received an order from Japanese ship owner although Japanese ship owners have a tendency to place newbuilding orders with domestic shipyards and are very particular about quality. This attests to the excellent technology of SSME to build ships on the ground - which saves the cost and increases the efficiency in the construction - and reaffirms that SSME has an unrivalled standing in the global Capesize bulk carrier sector.”

Following that, SSME signed newbuilding contracts with 2 Ship Funds to build Capesize bulk carriers. Doric Asset Finance, the fund managing company in London, set up the Ship Fund and subsequently placed order with SSME, and Doric Zweite Navigation, a corporation established for special purpose, is the ship owner. Besides, Hyundai Merchant Marine announced that the domestic ship fund’s investment would help the construction of Capesize bulk carriers ordered to SSME from HMM in late 2008.

In June, SSME inked a contract with SK Shipping for 4 units of 180,000-ton bulk carriers. These vessels measures 292m in length, 45m in width, and 24.8m in height, and can sail at a speed of 15.2 knots. They will be due for delivery on a stag-

170,000-ton Capesize bulk carrier of SSME

Container ship of SSME

Table 5. Order intakes of Sungdong Shipbuilding & Marine Engineering in 2010

Date	Type of vessel	Size	Unit	Amount	Client
2010. 1. 10	Bulk carrier	180,000-ton class	1 unit	KRW 130 billion	Greek client
2010. 1. 12	Bulk carrier	180,000-ton class	1 unit		Germany / S Corporation
2010. 2. 21	Bulk carrier	180,000-ton class	2 units (including optional vessel)	KRW 230 billion	Japanese client
	Bulk carrier	Kamsarmax class	2 units		
2010. 2	Bulk carrier	180,000-ton class	1 unit	-	UK / Doric Zweite Navigation Korea / Hyundai Merchant Marine
2010. 2. 23	Bulk carrier	-	3 units	-	European client
2010. 3. 17	Bulk carrier	Kamsarmax class	4 units (including 1 optional vessel)	-	European client
2010. 4	Bulk carrier	Kamsarmax class	2 units	$70 million	Morocco / Gestion Maritime*
2010. 4	Bulk carrier	82,000-ton class	2 units	$75 million	Taiwanese client
2010. 5	Bulk carrier	82,000-ton class	2 units	-	Greece / New Front Shipping
2010. 5	Bulk carrier	82,000-ton class	5 units	-	2 Greek clients
2010. 6	Bulk carrier	180,000-ton class	4 units	$240 million	Korea / SK Shipping
2010. 9	Bulk carrier	82,000-ton class	2 units	$76 million	Korea / Sinokor Merchant Marine
2010. 11	Bulk carrier	82,000-ton class	2 units	$74 million	Turkey / Akmar Shipping

*Note: 1. *Additional 2 units which were included in the 5 units of 82,000-ton class vessels ordered to Sungdong Shipbuilding & Marine Engineering (SSME) from Transocean Maritime Agencies of Monaco 2. Based on the announcement of SSME and reports of major media, internal estimation of Monthly Korship*

gered basis with an interval of 2 months starting from late 2011. This is the first time that SSME received an order for bulk carrier from SK Shipping.

Meanwhile, SSME bagged a deal on February 23 to build 3 units of Kamsarmax bulk carriers (including the optional vessel) from an European ship owner.

In early 2010, SSME established a representative office in Greece, opening a sales branch to strengthen its sales network, in a bid to respond to the requirements of European ship owners swiftly. Industry sources say that such a strategy has turned out to be effective.

In March, SSME secured an order for 4 units of Kamsarmax bulk carriers (including 1 optional vessel) from a European ship owner. This ship owner, a medium-sized bulk carrier operator, has 3 units Supramax bulk carriers and placed an order for 2 units medium-sized bulk carriers currently under construction. This is the first contract ever signed between SSME and the ship owner which is said to have placed orders with large Korean shipyards and Japanese shipyards previously.

In April, SSME was awarded a contract for 2 units of 82,000-ton bulk carriers from a Taiwanese ship owner. These vessels are scheduled for delivery by 2012. The ship owner has maintained continuous business relationship with prominent domestic shipyards and has the fleet consisting of a wide range of vessels such as Pure Car/Truck Carriers (PCTCs), chemical tanker, and so forth. SSME plans to use this newbuilding order as the springboard to gain foothold gradually in Asia.

In May, SSME obtained an order for 1 unit of 180,000-ton bulk carrier and 1 unit of 82,000-ton bulk carrier from New Front Shipping of Greece, and clinched an additional order for 5 units of 82,000-ton bulk carriers from 2 Greek ship owners. The orders from New Front Shipping will be delivered in the 1st quarter and the 2nd quarter of 2011, and the orders from Greek ship owners will be delivered from the 4th quarter of 2011 to the 2nd quarter of 2012.

Besides, SSME won a contract from Sinokor Merchant Marine of Korea in September to construct 2 units of 82,000-ton bulk carriers and another contract from Turkish Akmar Shipping in November to build 2 units of 82,000-ton bulk carriers. Sinokor Merchant Marine awarded a contract to

Nantong Mingde Heavy Industry of China in November 2009 for the construction of 1 unit of 115,000DWT bulk carrier plus an optional vessel priced at less than $40 million per unit.

SPP showed strong performance in Kamsarmax bulk carrier sector

According to the recent data released by SPP, SPP received orders for a total of 40 vessels including optional vessels in 2010, valued at approximately $1.6 billion in all, and exceeded its annual new order target. As of late December 2010, SPP's order backlog stands at 139 vessels (around 2.5 million CGT) worth about $6 billion.

Based on the type of ships, SPP won orders for 26 bulk carriers (21 units of Kamsarmax bulk carriers, 6 units of 35,000-ton bulk carriers, and 1 unit of 59,000-ton bulk carrier), 4 units of 50,000-ton product carriers, and 8 units of other types of vessels, as of late December 2010.

In 2010, SPP Plant & Shipbuilding and SPP Shipbuilding showed a clearly strong performance in the Kamsarmax bulk carrier sector.

SPP signed contracts in February with Modion and Iason Hellenic (all Greek ship owners) for the construction of 1 unit and 2 units of 82,000-ton bulk carriers, respectively, and was awarded contracts in March from Target Marine, Larus, Modion (all Greek ship owners) to build 2 units, 2 units (including 1 optional vessel), and 1 unit of vessel, respectively.

SPP received orders in October for a total of 15 vessels (including 4 optional vessels), including 7 units of 82,000-ton bulk carriers, from ship owners of Korea, Turkey, and Europe. These vessels will be delivered from 2012 to late 2014.

An official from SPP remarked, "SPP has won many orders in a short period of time because our excellent quality vessels have impressed customers." He added, "We have achieved good results based on our never-ending quest for high quality and entrepreneurial spirit which puts the trust with customers above anything else."

SPP Plant & Shipbuilding increased the cargo capacity of the 82,000-ton bulk carrier, i.e., the capacity to carry major cargo such as coals, grains, etc, from the previous 95,000m^3 to 97,000m^3, which is larger compared to the vessels of the same size. Furthermore, this vessel was developed as environmentally friendly and economically efficient vessel which reduces the Daily Fuel Oil Consumption (DFOC) by more than 4 tons, and thus has attracted the attention of ship owners recently.

In addition to the order for Kamsarmax class vessels, SPP Plant & Shipbuilding received orders in February and March for 35,000-ton Handysize bulk carriers from the Greek S. Frangoulis and Sea Melody of Europe, respectively.

The 35,000-ton bulk carrier ordered from S. Frangoulis is the

Table 6. Order intakes of SPP in 2010

Date	Type of vessel	Size	Unit	Amount	Client
2010. 2	Bulk carrier	82,000-ton class	1 unit	$165 million	Greece / Modion
	Bulk carrier	82,000-ton class	2 units		Greece / Iason Hellenic
	Bulk carrier	35,000-ton class	2 units		Greece / S.Frangoulis
2010. 3	Bulk carrier	82,000-ton class	2 units	$740 billion	Greece / Target Marine
	Bulk carrier	82,000-ton class	2 units (including 1 optional vessel)	$740 billion	Greece / Larus
	Bulk carrier	82,000-ton class	1 unit	$37 million	Greece / Modion
	Bulk carrier	35,000-ton class	1 unit	$28 million	Europe / Sea Melody
2010. 5	Bulk carrier	35,000-ton class	1 unit	-	Korea / Hanjin Shipping
		59,000-ton class	1 unit	-	
2010. 9	Product carrier	50,000-ton class	4 units (including 2 optional vessels)	$150 million	Island / Ardmore*
2010. 10	Bulk carrier	82,000-ton class, etc	15 units (including 4 optional vessels)	$660 million	Korean, European, Turkish client

*Note: 1. *New tanker shipper based in Cork, Island. 2. Including both SPP Plant & Shipbuilding and SPP Shipbuilding. 3. Based on the announcement of SPP and reports of major media, internal estimation of Monthly Korship*

35,000-ton bulk carrier of SPP. Handy Wind which was named the Significant Ship of the Year by Naval Architect in 2010.

50,000-ton product carrier of SPP

same type as the Handy Wind which was named the 'Significant Ship of the Year' by the UK's Naval Architect in 2010, and is wide recognized for its high quality. This vessel, a fuel efficient type same as 82,000-ton bulk carrier, has drawn huge attention from ship owners who take carbon emissions seriously.

Meanwhile, SPP received an order in September from Ardmore, a new tanker operator based in Cork, Ireland, for the construction of 4 units of 50,000-ton product carriers (including 2 optional vessels). These vessels will be delivered on a staggered basis starting from late 2012.

HHIC won its first order to build Suezmax oil tanker

Hanjin Heavy Industries & Construction (HHIC) added oil tankers, container ships, etc, to its product portfolio with a focus on 180,000-ton bulk carriers in 2010, diversifying the types of ships that it builds.

Winning its first order for Suezmax oil tanker in April from Tanker Pacific of Singapore, year 2010 was meaningful for HHIC to gain a foothold in the market for Suezmax oil tanker.

HHIC made a good start into the new year 2010 with Hanjin Heavy Industries & Construction-Philippines (HHIC-Phil), an overseas corporate unit of HHIC, clinching an order on January 11 for 180,000-ton Capesize bulk carriers from Taiwanese Hsin Chien Marine. These vessels will be delivered on a staggered basis from September 2011.

An official from HHIC stressed, saying, "This newbuilding order attests to the fact that HHIC's competitiveness in the market has been recognized widely as the HHIC-Phil's Subic Shipyard completed even the Dock No. 6 in 2009 which has been put into perfect operation and entered the stable phase of production."

In February, HHIC secured an order for 1 unit of 180,000-ton bulk carrier from Bocimar of Belgium, a global bulk carrier operator. This vessel measures 292m in length, 45m in width, 25m in height, and has the maximum speed of 15.5 knots, which is a newest type of ship, and will be delivered to the ship owner in the second half of 2011.

In March, HHIC obtained an order for 2 units and 1 unit of 180,000DWT bulk carriers, respectively, from Ningbo Henghou (China) and Starbulk Carriers (Greece), respectively. The vessels ordered from Ningbo Henghou will be delivered from October 2011 to April 2012, and vessel ordered from Starbulk Carriers is scheduled for delivery by September 2011.

Following that, HHIC also secured an order in April for 4 units of 180,000-ton bulk carriers from the two shippers. These vessels measure 292m in length, 45m in width, 25m in height, and has the maximum speed of 15.5 knots, which are the newest types, and will be delivered from the second half of 2011.

Specifically, HHIC won the contracts in a row from January for the construction of 7 units of Capesize bulk carriers, and an official from HHIC stressed, saying "We have won these orders as our excellent technology and productivity have been highly recognized externally."

In May, HHIC was awarded a contract from Adani Group, the Indian conglomerate, to build 2 units of 180,000-ton bulk carriers. These vessels measure 292m in length, 45m in width,

180,000-ton bulk carrier of HHIC

Dubai Princess, a 114,000DWT tanker of HHIC

25m in height, and can sail at a maximum speed of 15.5 knots. They are the newest types, and will be delivered on a staggered basis in the second half of 2012.

With an upswing in the orders for Kamsarmax bulk carriers around the globe in the second half of 2010, HHIC successfully signed a contract in July to build 82,000DWT bulk carriers, which is the first time in about 1 year and 9 months. Under the contract, HHIC will construct 8 vessels (including 4 optional vessels) scheduled for delivery around in May. In October 2008, HHIC announced that it received an order for 2 units of 80,000DWT bulk carriers from Irano-Hind Shipping.

In 2010, HHIC added oil tankers, Very Large Ore Carrier (VLOC), and container ship to its major product portfolio, in addition to bulk carrier, successfully diversifying the types of vessels that it constructs.

In April, HHIC signed a contract with Tanker Pacific to build 4 units of 160,000-ton oil tankers. These vessels are 274m in length, 48m in width, 23.5m in height, and has the maximum speed of 15.7 knots. They are the newest types with dual hull and will be delivered on a staggered basis from March 2012. Significantly, this is the first contract awarded to HHIC for the construction of large oil tankers, the Suezmax class.

Table 7. Order intakes of Hanjin Heavy Industries & Construction in 2010

Date	Type of vessel	Size	Unit	Amount	Client
2010. 1. 11	Bulk carrier	180,000-ton class	2 units	-	Taiwan / Hsin Chien Marine
2010. 2. 22	Bulk carrier	180,000-ton class	1 unit	-	Belgium / Bocimar
2010. 3	Bulk carrier	180,000-ton class	2 units	$110 million	China / Ningbo Henghou Group
2010. 3	Bulk carrier	180,000DWT class	1 unit	$53 million	Greece / Star Bulk Carriers
2010. 4. 7	Oil Carrier	160,000-ton class	4 units	$450 million	Singapore / Tanker Pacific
	Bulk carrier	180,000-ton class	4 units		China / Ningbo Henghou Group Greece / Star Bulk Carriers
2010. 5. 10	Very Large Ore Carrier (VLOC)	205,000-ton class	8 units	$500 million	European client
2010. 5. 31	Bulk carrier	180,000-ton class	2 units	$120 million	India / Adani
2010. 7	Bulk carrier	82,000DWT class	8 units (including 4 optional vessels)	-	Chinese client
2010. 11. 16	Container ship	3,800TEU class	8 units	Approximately $400 million	Belgium / Delphis

Note: 1. All newbuilding orders for 2010 were built at the Subic Shipyard. 2. Based on the announcement of Hanjin Heavy Industries & Construction and reports of major media, internal estimation of Monthly Korship

An official of HHIC mentioned, "HHIC-Phil's Subic Shipyard will dominate the market for very large ships which could not be built at the existing Yeongdo Shipyard."

Following that, HHIC received an order in May worth approximately $500 million for 8 units of 205,000-ton VLOCs from a European ship owner. These vessels are 300m long, 50m wide, 25m high, and can sail at a speed of 15 knots. They will be delivered on a staggered basis from the second half of 2012 to 2013.

In November, HHIC obtained an order for 8 units of 3,800TEU container ships from Delphis, the container ship operator of Belgium. These vessels are the newest types with a maximum speed of 21 knots, and will be delivered on a staggered basis from the first half of 2013.

All newbuilding orders that were placed with HHIC in 2010 will be constructed at HHIC-Phil's Subic Shipyard. In relation to that, an official from HHIC remarked, "Subic Shipyard has built up production capacity and technology on the basis of unique cost competitiveness, and as a result, and its high quality production has been widely recognized by ship owners who put a great deal of emphasis on quality. In light of that, Subic Shipyard is considered to have successfully offset the risk usually posed to new shipyards at the outset."

In addition, he emphasized that Subic Shipyard expanded its production portfolio into bulk carriers, tankers, container ships, and so forth, rather than confining the production to specific types of vessels.

HHIC-Phil's Subic Shipyard is a state-of-art shipbuilding facility on 800,000 pyong of land in Subic Bay, Philippines, which HHIC completed with an ambition to build the world's highest efficiency production system. Subic Shipyard is equipped with 370m-long Dock No.5 and 550m-long/135m-wide Dock No.6, the world's largest, 4km-long quay wall facilities, 4 Goliath cranes and over 1,000m-long automated assembly lines.

HMD received its first order for 70,000DWT bulk carrier

Hyundai Mipo Dockyard (HMD) successfully secured additional orders mainly for bulk carriers of various sizes, such as Kamsarmax, Handymax, etc, oil tankers, Liquid Petroleum Gas (LPG) carriers, asphalt carrier, container ship, etc, in 2010.

HMD received an order for 4 units (including 2 optional vessels) of 82,000DWT bulk carriers in March from the Greek Clemko Shipmanagement. These vessels will be delivered in October 2011 and January 2012, and are priced at $36 million apiece. Clemko Shipmanagement is currently operating 2 units of Handymax bulk carrier and 1 unit of Multi Purpose Carrier (MPC). Placing an order with HMD for the Kamsarmax bulk carrier, It has made the first entry into the newbuilding market.

Following that, HMD secured an order for 8 units (including 4 optional units) of 37,000DWT tankers from Socatra, a French shipper specializing in product carrier, which are due for delivery on a staggered basis starting from March 2011. In addition, HMD won a contract from the Greek Plutofylax Shipping for the construction of 2 units of 82,000DWT bulk carriers due for delivery in 2012. They are said to be priced at $36 million per unit.

In April, HMD signed a contract with Solman Neptun of Germany to build 1 unit of 20,600CBM LPG carrier due for delivery in the 4th quarter of 2011. This type of vessel ordered from Solman Neptun is the one that the ship owner will operate for the first time and is part of the plan to expand its fleet of gas carriers in the period ahead.

Following that, HMD clinched an order for 4 units of 6,000DWT asphalt carrier from Vroon of the Netherlands which are due for the delivery in February, March, September, and November 2011.

In May, HMD inked a contract with ESL Shipping of Finland to build 2 units of 56,150DWT Supramax bulk carriers. These vessels are scheduled for delivery in the first half of 2012.

In June, HMD won a contract from its existing European client for the construction of 6 units of bulk carriers which will be delivered by May 2013. The contract is valued at KRW 208.5 billion, which accounts for approximately 6% of the total sales that HMD recorded in 2009. As a result, HMD received orders worth a total of $2.16 billion from January to June 17, achieving 94% of its new order target for 2010.

Also, HMD won a contract to construct 10 units of 48,000DWT Handymax bulk carrier (open hatch type) from Grieg Shipping of Norway. The order for 6 units has already been confirmed, and the remaining 4 units are optional vessels to be ordered additionally. The 6 units will be delivered in 2012 and 2013. Grieg Shipping Group had placed orders for 4 vessels of same type with HMD which were delivered to the ship owner in 2009 and 2010.

An official from Grieg Shipping said, "This project has been prepared for 2 years. The amount necessary for the construc-

tion of the confirmed 8 units has been completely secured, and the amount equivalent to 70% of overall ship price was financed by the ship fund."

In July, HMD received an order for 2 units of 1,060TEU container ships from CK Line, the subsidiary of Korea Marine Transport Corporation (KMTC), which will be delivered by the 1st quarter of 2012. The price of ship has not been revealed.

In August, HMD signed a contract with Samin Shipping, a Syrian ship owner, to build 2 units of 37,000DWT bulk carriers and another contract with Consolidated Marine Management of Latis Group, a Greek ship owner, to construct 2 units of 82,000DWT bulk carriers. They will be delivered in the 4th quarter of 2011 and the 4th quarter of 2012, respectively.

In late August, HMD bagged a contract with Chellaram Shipping, a private-sector shipper of Hong Kong, to build 2 units of 37,000DWT Handysize bulk carriers. These vessels will be delivered by the 1st quarter of 2012.

In October, HMD inked a contract with Daiichi Shipping of Japan to construct up to 9 units of Handysize bulk carriers. The contract is worth $240 million for the construction of 36,000DWT. A total of 6 units (including 3 optional vessels) was ordered. These vessels are scheduled for delivery from mid 2011 to 2013. This ship owner is Japan's middle standing shipper which possesses and operates the fleet consisting of 14 Capesize bulk carriers, 34 Post-Panamax bulk carriers, and 22 Handysize bulk carriers. HMD successfully won this order as Japan's middle-standing shipbuilders were put in an disadvantageous position with the Japanese yen hitting record high.

In November, HMD received an order from Russia's shipping

Table 8. Order intakes of Hyundai Mipo Dockyard in 2010

Date	Type of vessel	Size	Unit	Amount	Client
2010. 3	Bulk carrier	82,000DWT class	4 units (including 2 optional vessels)	$144 million	Greece / Clemko Ship Management
2010.3	Oil tanker	37,000DWT class	8 units (including 4 optional vessels)	-	France / Socatra
2010.4	Bulk carrier	Kamsarmax class	2 units	-	Greek client
2010. 4	LPG carrier	20,600CBM class	1 unit	-	Germany / Sloman Neptun
2010. 4	Bulk carrier	82,000DWT class	2 units	$72 million	Greece / Plutofylax Shipping
2010. 4	Asphalt carrier	6,000DWT class	4 units	$100 million	Netherlands / Vroon
2010. 5	Bulk carrier	56,150DWT class	2 units	76.38 million	Finland / ESL Shipping
2010. 6	Bulk carrier	-	6 units	KRW 208.5 billion	Europe client
2010. 6	Bulk carrier	48,000DWT class	10 units (including 4 optional vessels)	Approximately $280 million (6 units)	Norway / Grieg Shipping
2010. 6	Bulk carrier	-	6 units	KRW 337.7 billion	Europe client
2010. 7	Container ship	1,060TEU class	2 units	-	Korea / OK Line
2010. 8	Bulk carrier	37,000DWT class	2 units	-	Syria / Samin Shipping
2010. 8	Bulk carrier	82,000DWT class	2 units	$78 million	Greece / Consolidated Marine Management
2010. 8	Bulk carrier	37,000DWT class	2 units	Approximately $54 million	Hong Kong / Chellaram Shipping
2010. 10	Bulk carrier	36,000DWT class	9 units (including 3 optional vessels)	$240 million	Japan / Daiichi Chuo Kisen Kaisha
2010. 11	Bulk carrier	75,000DWT class	2 units	-	Russia / Sovcomflot
2010. 11	Bulk carrier	75,000DWT class	4 units	Approximately $160 million	Russia / Novoship *

*Note: 1. *Subsidiary of Russian Sovcomflot 2. Based on the announcement of Hyundai Mipo Dockyard and reports of major media, internal estimation of Monthly Korship*

36,000-ton bulk carrier of HMD

Container ship of HMD

company Sovcomflot for the construction of 2 units of 75,000DWT bulk carriers due for delivery in 2013. Specifically, it was the first time in 2010 that the newbuilding order for 70,000DWT bulk carrier was to be clinched by a domestic shipyard. Significantly, this order came in 8 years after Hyundai Samho Heavy Industries (HSHI) which belongs to Hyundai Heavy Industries Group won a contract for such a bulk carrier in 2002 from a Greek ship owner. Specifically, HMD secured its first order in February in 2010 for 80,000DWT bulk carriers, making its first entry into the market for Panamax bulk carriers.

In late November, HMD entered into a contract with Novoship, the subsidiary of Sovcomflot, to construct 4 units of 75,000DWT Panamax bulk carriers. These vessels will be delivered by 2013, and are said to be priced at about slightly over $40 million per unit.

Table 9. Client placed orders with domestic shipyards in 2010

Region	Country	Client
Asia	India	Adani
		SCI (Shipping Corporation of India)
		Tolani Shipping
	Hong Kong	Chellaram Shipping
		KC Maritime
		Swire Pacific Offshore
	Malaysia	AET (American Eagle Tanker)
	Singapore	NOL (Neptune Orient Lines)
		Tanker Pacific Management
		Woodside Holding International shipping
	Taiwan	Evergreen
		Hsin Chien Marine
	Indonesia	Pertamina
	China	Brightoil Petroleum
		Ningbo Henghou Group
	Korea	Dooseong Shipping
		Daebo Shipping
Asia	Korea	Daewoo International
		Defense Acquisition Program Administration
		Hanjin Shipping
		Hyundai Merchant Marine
		OK Line
		Sinokor Merchant Marine
		SK Shipping
		STX Pan Ocean
	Japan	Daiichi Chuo Kisen Kaisha
	Kazakhstan	JSC Circle Marine Inves
Middle East	Kuwait	AMPTC (Arab Maritime Petroleum Transport Company)
		KOTC (Kuwait Oil Tanker Company S.A.K.)
	Saudi Arabia	NCC
	Syria	Samin Shipping
Oceania	Australia	BHP Billiton
America	U.S.A	Chevron
		Noble Drilling Holding
		Pride International

America	U.S.A	Royal Dutch Shell
	Brazil	NorSkan Offshore
		Transpetro
Europe	Belgium	Bocimar
		Delphis
	Italy	L.G.R.
		MSC
	Norway	ENI Norge AS
		Farstad Shipping
		Grieg Shipping
		Island Offshore
		JO Tankers
		Olympic Shipping
		Rem offshore
		Seadrill
		Simon Møkster Rederi
		Solstad
		Vikan Shipping
	Greece	Almi Tankers S.A.
		Angelicoussis Shipping Group
		ASC (Athenian Sea Carriers)
		Cardiff
		Carras
		Centrofin
		Clemko Ship Management
		Clemko Ship Management
		Consolidated Marine Management
		E Nomikos
		Iason Hellenic
		John Samoas
		Larus
		Modion
		Modion
Europe	Greece	N.S LEMOS
		NAT
		New Front Shipping
		Plutofylax Shipping
		Plutofylax Shipping
		Restis Group
		S.Frangoulis
		Star Bulk Carriers
		Starbulk Carriers Corp.
		Target Marine
	Netherlands	Allseas Group SA
		Heerema Offshore Services B.V
		Vroon
	France	Total
		Socatra
	Sweden	Stena Bulker
	England	Lyras Maritime
	Germany	Hapaq-Lloyd
		Sloman Neptun
	Island	Ardmore
	Turkey	Akmar Shipping
		Densa Shipping
	Finland	Viking Line
		ESL Shipping
	Russia	Novoship
		Sovcomflot
	Europe	Archipelago Shipping
		Sea Melody
Africa	Angola	SONANGOL (Sociedade Nacional de Combustiveis de Angola)
	Morocco	Gestion Maritime
	Tunisia	COTUNAV (Compagnie Tunisienne de Navigation)

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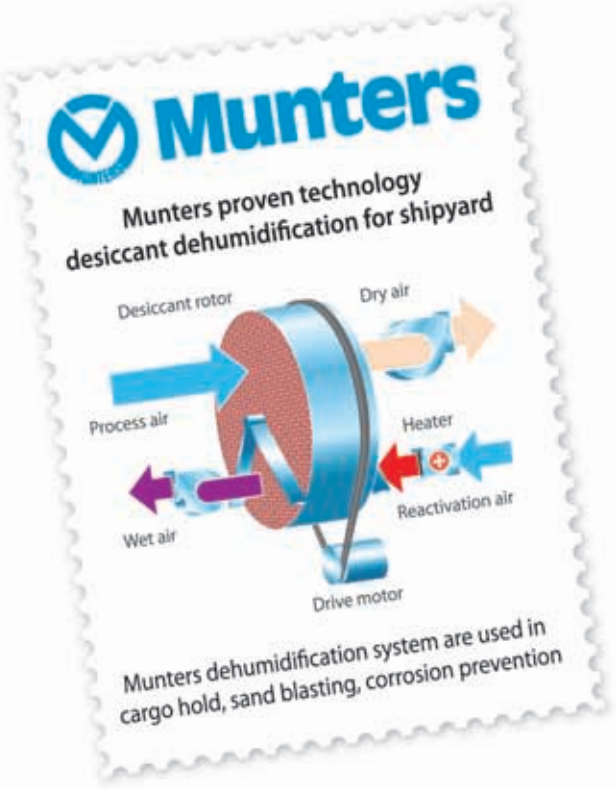

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Global leader in infrared cameras

FLIR Systems Korea Co., Ltd

FLIR Systems specializes in the design, manufacturing, and sales of a variety of infrared cameras for commercial/industrial applications and public organizations, and has maintained top position in this field, carving out astounding 60% share of global market for industrial applications.
FLIR Systems Korea, which has supplied equipments for maritime application since its establishment in 2008 in Korea, plans to boost its sales based on the excellent performance and quality of its products and diverse product range.

Lee Hae-dong, Country Managerof FLIR System Korea

FLIR Systems headquartered in Sweden has designed, manufactured, and sold a whole range of infrared cameras for commercial/industrial applications and public organizations since its establishment in 1978, and has provided the best software, services, education and training.
Currently, the company has 6 factories in Sweden, the United States, France, etc, and is operating the sales network in 60 countries worldwide, targeting customers around the globe.
FLIR Systems is a leading global manufacturer and marketer of thermal imaging, taking up astounding 60% of global share in the industrial application sector alone.
An official of FLIR Systems, explained, “Infrared camera is a device that forms an image using infrared radiation and can be used any place with objects that emit thermal energy. It has unlimited applications, depending on the development.”

Maritime products driving the growth last year

FLIR Systems made inroads into the Korean market in 1978, which was then known as AGA - the first developer of infrared camera - until being acquired by FLIR Systems in 1988. FLIR Systems has expanded the application of its infrared cameras in many industries, including the machinery, electrics/electronics, automotive, maritime, buildings, security industry since it made inroads into the Korean market.
Sales and marketing of maritime application products had been handled by some agencies since 2006, but such functions were totally transferred to the headquarters upon the official launch of the Korean representative office in November 2008.
Lee Hae-dong, Country Manager of FLIR System Korea, said, “The Korean representative office has directly managed the sales and marketing as part of effort to stimulate the supply of maritime application products targeted to the Korean

View of FLIR Systems Headquarters in Sweden

shipbuilding industry, the world's largest, and increase the market share in the Korean market."

He emphasized that the direct management has enabled the company to create more opportunities for business compared to the indirect management through agencies, respond more quickly to the requirements of customers, and actively support customers, leading to an upswing in the sales of maritime application products.

Particularly, maritime application products were the key to raising the market share of FLIR System Korea by 10% from the previous year in 2010. FLIR Systems Korea is ranked first, increasing its market share in the industrial application market from 40% in 2009 to 50% in 2010.

Maritime products for safer navigation

Currently, maritime infrared cameras of FLIR Systems help find sea routes, prevent vessels from running aground and ensure safe navigation regardless of ship types, and are used commonly by maritime police, Navy, etc, for rescue or search operations. The thermal imaging products of FLIR Systems for maritime application include the best model Voyager, M Series, Navigator, and HM Series, the hand-held type.

Voyager which provides the Qaud sensor performance and full gyro-stabilization capability is suitable for remote operation, the best product in its class.

Lee Hae-dong, Country Managerof FLIR System Korea, explained, "Specifically, the gyro-stabilization ensures a steady image without any movement even in harsh marine environment, which is the unique capability that cannot be found in products of other companies."

M Series combine a thermal imaging camera with a low light camera, a premium product with adjustable sensor, and is suitable for short and long range thermal imaging.

All products of FLIR Systems are manufactured through strict quality control.

Navigator features fixed-forward configuration, panning or full pan-tilt system, and is suitable for short range thermal imaging. It is easy to install and use, and therefore, has been used most commonly in industrial sites.

HM Series, a hand-held thermal imaging camera, can be used for anchorage and maintenance of vessels, search and rescue operations, fire-fighting on ship. Also, they can complement other infrared cameras.

The maritime application products of FLIR Systems are designed to have high durability required to ensure excellent performance even in harsh marine environment, and incorporate the Digital Detail Enhancement (DDC), the patent-pending image optimization algorithm of FLIR Systems, which allows faint details to be visible in high dynamic range scenes.

Besides, all models, except HM series, have the window de-ice heaters for clear vision even in ice and snow, and the Acuu-Point on-Screen-Symbology indicates where the camera is pointing and gives instant access to the system status.

Lee Hae-dong, Country Managerof FLIR System Korea, said, “M Series and Navigator are highly price-competitive in comparison to their excellent functions. We manufacture not only various parts but also lenses, and thereby provide high quality products more stably, as well as excellent interface, than other companies that assemble parts into complete product.”

In addition, FLIR System Korea is distinguished for its diversification of models which allows customers to use models best suitable for their operating environment, increasing the satisfaction of customers remarkably, unlike competitors that have only one single model.

All those distinctive features have helped the company gain high reputation abroad. FLIR System Korea has great potentials to further expand its market share in Korea in the upcoming years, considering that a growing number of its products have been installed in many countries, including the United States, Australia, Norway, etc, and the ship owners of those countries have high demand for the products of FLIR System Korea.

In fact, FLIR’s products have been installed on merchant ships in the United States to detect any threat of piracy and armed robbery at the sea off the coast of Somalia and ensure safety at sea in total darkness at night, helping prevent vessels from running aground or ramming other vessels, and have been proven very effective.

Currently, FLIR System Korea is supplying to weather ships and government ships currently being built by large and

Infrared cameras for maritime application. Voyager, M Series, Navigator, and HM Series (from the left)

small-to-medium shipyards. The test results of its products have been satisfactory very much and positive outcome is expected sooner or later.

Lee Hae-dong, Country Managerof FLIR System Korea, said, "These two contracts, if signed successfully, will be crucial in increasing our sales from the shipbuilding and maritime sector, and we are concentrating our efforts for that. FLIR Systems has high expectation for us as Korea tops the ranking in terms of large newbuilding orders around the globe, although the largest sales markets for maritime products are currently Australia, a country with highly advanced yacht industry, and Singapore, the major distribution center of Asia."

FLIR System Korea plans to actively move ahead with sales activities in the domestic shipbuilding and maritime sector based on its superb product performance and track records.

Support of customers worldwide based on R&D and best services

Lee Hae-dong, Country Managerof FLIR System Korea, suggested that FLIR's unrivalled position in the global infrared camera sector was attributed to its investment in R&D at a level incomparable to that of any other companies, and effective marketing strategies. He pointed out that the amount equivalent to 15 to 20% of total annual sales was invested in the development, in addition to the upkeep and maintenance of professional research personnels and high quality up-to-date research facilities.

Resultantly, the company has pushed forward with the improvement in the functions of its products and continuously launched new models.

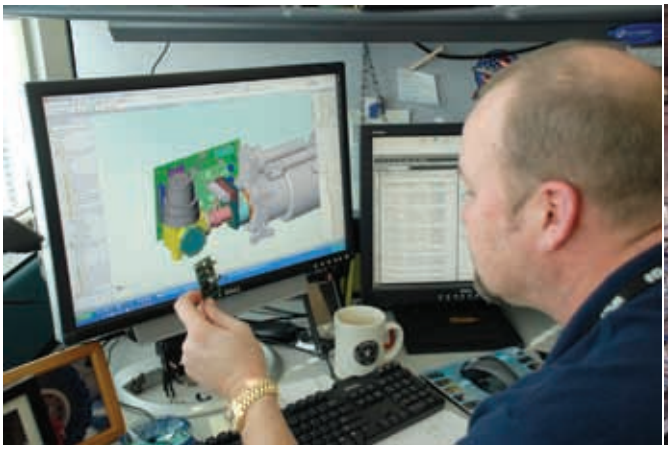
This year, FLIR System Korea plans to unveil new models in the market, which is Voyager III. Infrared camera also complements other maritime equipments such as radar or GPS, etc, and the new model offers upgraded capability to make sure high compatibility with such maritime equipments.

The research center of FLIR System Korea is currently focusing on the miniaturization of infrared camera, a new trend, and the enhancement of resolution.

FLIR System is actively supporting customers around the world. Currently, the company is operating an Infrared Training Center, the world's top-rated and largest education institute with 27-year history, which provides education on the infrared thermal imaging in compliance with the ISO regulations. In Korea, the research institute has been operated jointly with the Korean Standards Association.

This research institute aims to increase the understanding about infrared camera and related applications, and provides technical consultations in a broad range of fields, besides technical education. Also, the institute has been gaining acclaim from customers because in-house education courses can be offered at their requests.

In Korea, FLIR System Korea has launched the technical support & service center for its customers, in addition to the Infrared Training Center. The new technical support & service



FLIR Systems has invested 15 to 20% of total sales into R&D.

FLIR Systems has 6 factories in Sweden, the United States, France, etc

center is the nation's first service center for infrared camera and has the annual handling capacity of 300 units, and acquired the ISO 9001 certification in December 2010.

Targeting an increase of 20% year-on-year growth rate in 2011

FLIR System Korea has captured 50% share in the Korean market. Specifically, the company accomplished a whopping 10% year-on-year growth in 2010 and come under spotlight from the related industries.

Lee Hae-dong, Country Managerof FLIR System Korea, remarked, "FLIR Systems has the representative offices in 5 APEC member countries, such as Korea, Japan, China, India, and Australia. Among them, Korea and China exceeded their annual target set at the beginning of the year. Particularly, Korea achieved the highest growth."

Such a remarkable growth rate is attributed to the surge in the demand for thermal management in the government-invested organizations (Korea Electric Power Corporation, and its subsidiaries) and R&D sector, as well as the advancement into the shipbuilding and maritime sector targeted as new markets.

As the growth continues to build momentum, FLIR System Korea set a target of 20% growth rate for 2011, 20% up from the previous year. Recently, there has been a surge in demand for infrared cameras for security and industrial application, as well as maritime application. Furthermore, the North Korea's lethal shelling of Yeonpyeong Island last year raised the awareness toward security and heightened the interest in the security equipments, which raises the prospect of strong demand for infrared camera.

So far, infrared cameras for security and surveillance will take a growing share of the market, although industrial applications have been given importance and comprised 95% of total sales in the Korea. In light of that, FLIR System Korea also plans to increase the portion of security and surveillance applications from the current 5% to 15% this year.

Meanwhile, FLIR System Korea will further expand its sales capability by recruiting professional sales manager and opening about 3 to 4 new agencies additionally in order to meet this year's target. Along with that, the company is ready to pour energy into strengthening its brand identity by actively participating in related trade shows and launching promotions through the use of various publications and media.

In particular, the company plans to use KORMARINE slated for October this year, which is the largest trade show in the shipbuilding industry, as a practical platform for meeting with customers, and open technical seminar to actively promote the superiority of its products, as well as launch a variety of promotional activities.

Lee Hae-dong, Country Managerof FLIR System Korea, spoke of his aspirations, saying, "Our goal of this year is to achieve the goal that we set. To meet the 20% growth rate target every year is not easy, unless new demand is created. However, we will redouble effort to maintain our current customer base and create new demand, injecting a new momentum to our growth."

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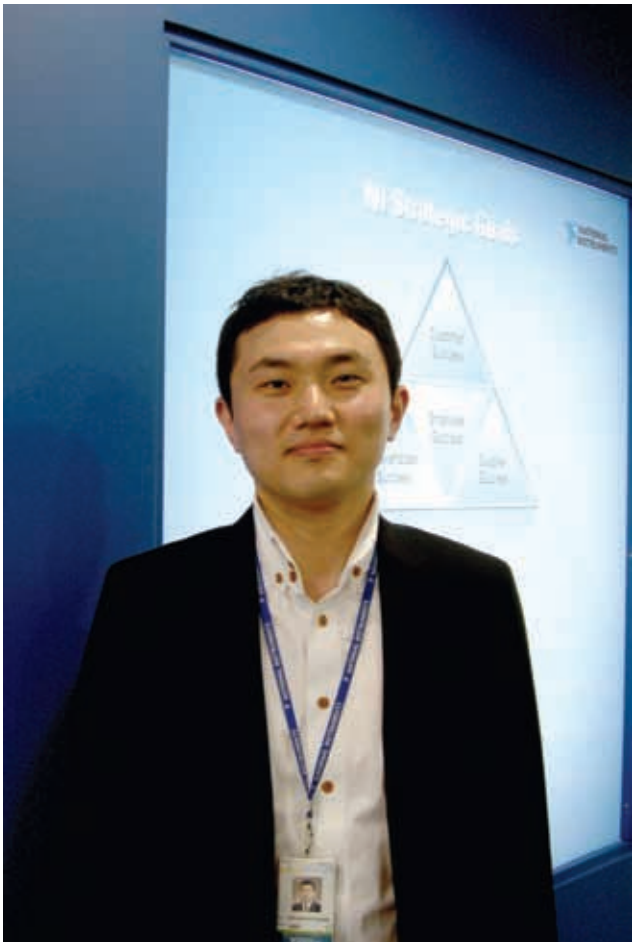
Shipbuilding spurs our growth

Kim Kwang-hyeon, a manager of heavy industry segment at National Instruments Korea

National Instruments Korea has developed and deployed a variety of applications related to advanced control, process control, machine status monitoring, test and measurement, and automated robot since it broke into the shipbuilding market in 2008. The company is targeting double-digit growth in 2011 based on its achievements so far.



Kim Kwang-hyeon, the manager, has been in overall charge of day-to-day operations related to shipbuilding/maritime and wind power sector, identifying and promoting new business. He has played an important role in developing applications and creating opportunities to ensure easy access of sales team to related markets.

Q : What has led National Instruments Korea (NI Korea hereinafter) to become interested in the shipbuilding sector? Please introduce the history of NI Korea briefly.

A : NI Korea made entry into the Korean market in 1994, but it was not until recently that it became interested in the shipbuilding and maritime sector. In 2008, we established a branch office in Busan, which consisted of about 15 employees including site engineers, and conducted the marketing and technical support tailored to the requirements of marine equipment manufacturers as well as large domestic shipyards.

Gyeongnam Province (Changwon, Busan, Ulsan, etc) is home to many companies specializing in machinery and heavy industries. Vendors of large heavy industries are concentrated in that region, besides the companies specializing only in marine equipments. Under those circumstances, we reached a conclusion that our business would not be successful unless we met the expectations and needs of shipbuilding companies and related businesses in Gyeongnam Province. That has led NI Korea to make full-fledged inroads into the shipbuilding and maritime sector, although the shipbuilding is not a new locomotive for growth.

In summary, NI Korea's business in the shipbuilding sector focuses on the development/deployment of shipbuilding & maritime applications and education program operations.

Q : What are the solutions and products offered by NI Korea in the shipbuilding sector?

A : NI Korea has gained foothold in the shipbuilding and maritime sector, armed with the FPGA-founded embedded

system and the distributed I/O-based system, on the basis of the data collection system. It has developed and deployed multifarious applications related to sub-sea ROV control, ship dynamic positioning, process control, advanced research, automation robot, machine condition monitoring and others. These applications consist of programming software 'LabVIEW' and module, toolkit, and a variety of module format applications which provide capabilities such as interactive assistance, code creation, device connection, etc based on the graphic development environment to ensure easy and fast implementation of applications.

The hardwares include the FPGA-founded smart embedded system, 'CompactRIO' and the distributed control I/O 'Compact FieldPoint', computer PXI high performance I/O for industrial purpose, portable DAQ equipments, smart camera, vision system, wireless sensor network, optical sensor interrogator OSI and the like. CompactRIO and Compact FieldPoint earned the certification of classification society.

Q : What is the track record of NI Korea in the development and deployment of applications targeted to the shipbuilding and maritime sector?

A : NI Korea has accomplished various successes with measurement based applications which use many different sensors, as well as complex applications based on machinery, plant, and control, since its advancement into the shipbuilding market in 2008.

We are currently developing and deploying various applications of control, test, and monitoring in cooperation with large domestic shipbuilders such as Hyundai Heavy Industries (HHI), Daewoo Shipbuilding & Marine Engineering (DSME), STX, Korea Ocean Research & Development Institute, Pukyong National University, Korean Register of Shipping (KR), and others.

Among the most prominent applications of NI Korea are included the LNG tanker sloshing simulator, monitoring/turbo charger performance diagnosis equipment, ship engine turbo charger burner RIG test equipment, remote control of unmanned probes, automatic ship berthing system, noise and vibration control, machine condition monitoring system and others.

We have the proven track records both at home and abroad. One of the examples showing the superb performance of the company is the spider Dredging System Level Seabed for Oil and Gas Exploration using LabVIEW and CompactRIO, PXI/CompactPCI, including the Dynamic Positioning System (DPS), ect, for split hopper vessels. Besides, NI Korea built a guide system enabling stable navigation without the risk of collision in narrow canals.

Q : What were the achievements of NI Korea in the shipbuilding and maritime sector in 2010?

A : 2010 was a very meaningful year for NI Korea. We accomplished a single-digit growth in 2009 despite many difficulties arising from sluggish shipbuilding industry after our entry into the shipbuilding market in 2008, and also achieved noteworthy results in 2010. In particular, we obtained many meaningful results in 2010, not only in arithmetic terms. The most significant outcome last year was our partnership with Kahn, a vendor for the Offshore Division of DSME.

At the moment, we are developing and applying a system capable of measuring real-time pressures transferred to the Drill String Compensator installed on the upper side of Derrick of drillship or semi-submergible drilling rig and analyzing and monitoring the collected data.

The results were very successful in that NI Korea simplified the installation of equipments and cables, and by using the remote control, significantly reduced the risk of human fatality which might arise from the collection of data, as required by Khan during the test of DSC. Meaningfully, this success will serve as a springboard for NI Korea to make foray into the offshore engineering market.

Another important outcome for NI Korea in 2010 is the Memorandum of Understanding (MOU) signed with Korea Maritime University to establish an educational organization specializing in the shipbuilding and offshore engineering and provide related education, including our success in supplying our systems to 4 domestic large shipyards.

One noticeable recent achievement of NI Korea is that the company successfully developed LNG Sloshing Simulator in collaboration with Busan National University. Vessels designed for transporting fuels, such as liquefied natural gas (LNG) and liquefied petroleum gas (LPG), are always in risk of damage when the liquefied gas collides with the inner wall of tank during the navigation. To resolve such problems, the inner pressure of tank and strain inside the tank are measured for more than 96 channels. As many as 256 sensors are outfitted. It is a system which only NI Korea, a company with unsurpassable ability to conduct multi-channel real-time data collection, is capable of.

Although other companies specializing in the noise and vibration can also do the same job, they use a few channels and would face huge costs as a result if they are going to realize a system with the same scale as ours. So, we have incomparable cost-competitiveness and synchronized function compared to those companies.

Q : What is the plan for the upcoming period?

A : NI Korea plans to identify vendors such as Kahn from a broad range of fields including the noise/vibration, yard inspection, communication, integrated surveillance and so forth.

Moreover, we will provide vendors with free education on the system as we are operating an education center, and provide various benefits to customers buying our equipments such as discounts.

In addition, we will strengthen the cooperative relationship by carrying out alliance programs separately. I hope that more marine equipment manufacturers would be involved.

We have participated in the shipbuilding/offshore engineering exhibitions held in Busan and Changwon in 2008, 2009, and 2010, and launched promotional campaigns targeting related companies by showcasing and demonstrating our products and solutions and holding technical seminars, and we will continue to participate in the upcoming events.

Q : What is the growth target of NI Korea in the shipbuilding sector in 2011 and what are the measures to achieve the target?

A : NI Korea aims to cement its status as the world's best provider of solutions in the field of shipbuilding and marine engineering. For that, we will strive also this year to build up successes in installations, as well as various applications related to the high quality process control, machine status monitoring, measurement and test.

We also aim to achieve double-digit growth in 2011. Above all, we will promote the superiority and competitiveness of our solutions to marine equipment manufacturers, in parallel with marketing activities. As part of these efforts, we will participate in KORMARINE slated for October this year.

Furthermore, we will deploy the manpower with extensive experiences and expertise in the shipbuilding industry and overhaul the organization to provide professional services tailored to the needs of customers.

For this year's outlook on the shipbuilding market, we expect a huge increase in the construction of and investment into high value-added vessels and offshore plants, and in fact, many organizations have suggested the similar outlook. We may anticipate good year-end results, considering that our solution are more suitable for high value-added vessels or offshore plants, rather than merchant ships.

Q : What is the growth target of NI Korea in the shipbuilding sector in 2011 and what are the measures to achieve the target?

A : I think that there is high expectation for Korea's shipbuilding and offshore engineering sector, which has great potentials for growth in the upcoming period, despite the fast growth and increasing importance of biotech (medical industry) recently.

In addition, National Instruments (NI) has high expectation for Korea's shipbuilding industry, an industry which has held the world's top spot, considering that Korea is the only country with a separate shipbuilding market segment around the globe among the countries in which NI has made inroads.

NI headquarters' business is divided into oil and gas, transportation, and renewable energy segments, and the shipbuilding and submarine business fall under the transportation segment. However, those segments are not as vibrant as in Korea.

Q : The heavy industry includes even the wind power generation sector, besides the shipbuilding. Explain about the wind power-related solutions and their applications.

A : Wind power generation comprises one of the axises of heavy industries. Wind power represents 40% of all renewable energy generation capacity worldwide and is expected to grow 25 to 30% annually. Recently, offshore and large-scale wind power generation has been a new trend. We are providing solutions related to the structure and generator/gear box test and monitoring, grid integration, power quality monitoring, control system test and design test in the wind power generation sector.

In relation to that, we have built up many successes in installations both at home and abroad. These successes include development of turbine controller, HIL simulator, wind turbine gear box and blade test, noise test, bearing, tower structure, electric power, CMS monitoring and others.

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Further steps taken to globalize Korea's marine equipment industry

Jeong Chang-soo, President of Korea Marine Equipment Global Service Center

Korea Marine Equipment Global Service Center was launched on November 4, 2010 in Noksan National Industrial Complex. This Center is devoted to facilitating domestic marine equipment manufacturers to make inroads into foreign markets, and will focus primarily on building a global after-sales service network, cultivating after-sales service engineers, constructing global e-Marketplace, and others.

Q : Let me extend you my belated congratulations on the launch of Korea Marine Equipment Global Service Center. What is your impression after being nominated as the President of the Center?

A : As you know, Korea's marine equipment industry has not only supported domestic shipbuilding industry, the largest industry nationwide, but also continued the growth as the next-generation engine of growth. In light of that, I feel a heavy burden and responsibility after being nominated as the President of the Center.

I hope that the Center will successfully carry out many different projects to help domestic marine equipment industry take a major step towards globalization and generate positive ripple effect on related industries. Specifically, I hope that we evolve into the world's top business leader in the field of the global after-sales services which we are intensively concentrating on.

Q : What is the background and process which have led to the establishment of Korea Marine Equipment Global Service Center?

A : Currently, there are around 800 domestic companies specializing in the marine equipment manufacturing across the nation, and most of them are small and concentrated in Busan and Gyeongnam Province.

Recently, we have seen an upturn in direct exports of Korean marine equipments, which have better functions and quality, to European countries, Japan, China, and others, but we need to ensure that the export gathers more momentum and the export items are diversified further.

Particularly, most exporters of marine equipments are small and medium-sized enterprises, and as a result, there has been a lack of systematic strategies and overall infrastructures necessary for building after-sales service network and stimulating direct exports, which are the stumbling blocks that inhibit the expansion of export volume. To tackle those problems, Korean marine equipment industry urgently needs to push ahead with the convergence and fusion with new tech-

nologies (IT, NT, etc) for the furtherance of technology development to heighten the value-added of marine equipments while expanding marketing capabilities to secure foothold and carve out a significant share in foreign markets at the same time.

We carried forward the effort to establish the Center as we stood firm in our belief that competitive marine equipment industry is a prerequisite for ensuring that Korea's shipyards hold onto top ranking in the global shipbuilding industry and the marine equipment industry of the nation develops into an export industry.

Korea Marine Equipment Research Institute embarked upon a research path in May after a plan was presented in March 2008 by Korea Marine Equipment Association (KOMEA) to map out strategies for healthy advancement and globalization of marine equipment industry. Since then, there has been a recognition of the need for the Ministry of Knowledge Economy to take the lead in shoring up the competitiveness of marine equipment industry, and the plan on the establishment of Korea Marine Equipment Global Service Center took concrete shape from July. Finally, the Center opened in November 2010.

Q : What is the objective of Korea Marine Equipment Global Service Center?

A : The objectives of Korea Marine Equipment Global Service Center can be summarized like this: We, at the Korea Marine Equipment Global Service Center, aim to expand direct export of marine equipments by building global infrastructure which can fulfill the demands of overseas customers.

Second, we will lay the cornerstone for expanding the export of small and medium-sized marine equipment manufacturers over the long-terms and pave the way for swift supply to the global market.

Third, we will stimulate domestic economic growth by helping beef up the competitiveness of shipbuilding industry.

To be more specific, the Center will systematically support the direct export of Korea's marine equipment manufacturers, lay the groundwork for the global network, and form the bedrock of online global after-sales service system to ensure swift provision of technical services required by overseas customers.

Q : Please explain about the current and future projects of Korea Marine Equipment Global Service Center and their details.

A : First, we, at the Korea Marine Equipment Global Service Center, are moving ahead with a project to build a global after-sales service network. The Center has pushed forward with the project to establish a global after-sales service network, which is a long-standing challenge for domestic marine equipment industry and an important consideration for customers with regard to selection of products. As of December 2010, the after-sales network of 46 companies have been completed in 29 regions of 19 countries, including Singapore, Hong Kong, China, Netherlands, the United States, Brazil, Arab Emirate, and we plan to expand the network further. In addition, the after-sales network will enable one-stop services for ships equipped with Korean marine equipments in the event that the network is used to secure foreign markets for Korean marine equipments and after-sales service parts and components.

Second, the Center is offering the training in order to cultivate after-sales service engineers. Skilled engineers of professional after-sales companies (ship repair companies), which are members of the global after-sales network, are invited to Korea, so that they can learn the after-sales service technology of Korean marine equipment manufacturers. In that process, higher quality services will be provided more swiftly for ships fitted with Korean marine equipments.

Third, we carry out a project to build the global e-Marketplace. Currently, we are building the internet portal site (www.komec.kr) and e-Marketplace which provides the platform for ship owners, shipyards, marine equipment manufacturers, ship maintenance companies, ship repair companies to communicate and trade in the cyber space.

In doing so, we will constantly promote Korean marine equipments in the global shipbuilding markets and provide swift and high quality services to shipyards which use Korean marine equipments when they construct vessels, and make the marine equipments and ship maintenance parts easily available.

Fourth, we concentrate on supporting export of marine equipment manufactures. Specifically, we plan to provide the latest information to Korean marine equipment manufacturers by figuring out the trend of shipbuilding market in emerging economies such as Brazil, Vietnam, India, and others, and furthermore, host export plaza for direct discussion between Korean companies and foreign buyers who will be invited with the help of related organizations. In other words, we will

facilitate the expansion of the market for Korean marine equipments both online and offline.
We will continue to develop and carry out projects necessary for sharpening the competitiveness of Korean marine equipment industry and the stimulating the growth of the industry, and play a supportive role in helping Korea become a leader in the global market.

Q : Is there any measure to encourage domestic marine equipment manufacturers to use the Korea Marine Equipment Global Service Center and increase their participation?

A : Domestic marine equipment manufacturers must be encouraged to increase their involvement. Only then, the global after-sales service network system pursued by the Center can be assessed on the basis its value. However, we hope that the number of participating manufacturers will increase steadily, not temporarily.
For that, we have been conducting promotional campaigns to domestic and overseas shipyards, ship maintenance companies, ship owners, etc, as well as domestic marine equipment manufacturers, in a bid to help them have better understanding of our projects. Besides, we are fully ready to respond quickly to any demand.
The most important thing may be the value of the global after-sales service network system. I think that we will clearly see many companies partaking in the network, the first network that we try to build, if we establish and complement a system which enables swift and accurate after-sales services 24 hours around clock anytime and anywhere around the globe.

Q : Please explain about the organization of Korea Marine Equipment Global Service Center, duties of respective departments, and operation plans for the upcoming period.

A : Our organization is comprised of the president of Center, Business Planning Team under the supervision of director, After-Sales Service Support Team, IT Support Team.
The Business Planning Team handles overall works related to the Center, such as the establishment of business plans, management of project cost (budget), personnel management, general affairs, purchase, etc.
After-Sales Service Support Team is the essential department of our Center, and performs the works related to the after-sales services such as the construction of worldwide after-sales network, execution of contract, management of local partners, implementation of after-sales works on contractual basis, and others. Besides, it supports the operation of portal sites, after-sales service management system, e-Marketplace and others.
IT Support Team provides the support to ensure efficiency in work performance of the Center through the implementation and maintenance related to the IT which the Center is pushing forward.
We will expand the boundaries of each team to make sure that the marine equipment companies are supported in more stable and swift fashion.

Q : What do you think is the outlook of marine equipment industry? Besides, what is your personal view on the current situation of Korea's marine equipment industry and what measures do you think is necessary to ensure its advancement?

A : After suffering a decline in new orders and cancellation of orders in the aftermath of the worldwide recession, Korean shipbuilding industry is rising again.
Recent indicators of the Ministry of Knowledge Economy (MKE) suggest that the 7 major domestic shipyards set a combined order target of $50.9 billion for 2011, 35.4% up from 2010. Meanwhile, the marine equipment industry, which falls slightly behind the shipbuilding industry, may show signs of recovery in the mid or second half of this year.
I think that measures have been taken and implemented as policies or alternatives, for example, to promote the development of parts materials, co-growth of small and medium-sized companies and large companies, localization of offshore plant equipments and materials, and others.
Of course, such measures also include the 'global after-sales service, etc, for domestic ships' which our Center is proceeding with. How to translate the policies, which have been presented before, into action may be more important.

Q : What is your plan?

A : As our Center is moving ahead with the projects which are the most important for the marine equipment industry, my plan is to ensure their success.
For that, I will do my utmost to make sure that the resulting projects will be identified and implemented through the negotiation with all related organizations, including the government.

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Domestic shipyards mapped out new plans for 2011

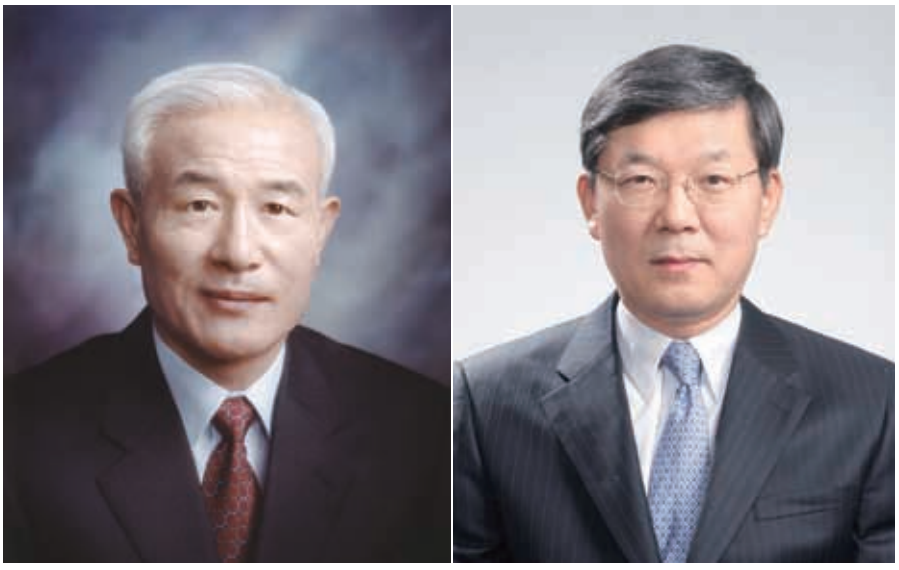
Large and middle-standing shipyards of Korea announced new business goals and policies as they embraced New Year 2011. Presidents of each shipyard put forth new plans in detail during their New Year address at the beginning of January.

HHI is on target to achieve KRW 27 trillion sales by securing the engine of growth

All divisions of Hyundai Heavy Industries (HHI) recorded a surplus in 2010 and showed the strongest performance since the establishment of HHI. That is attributed to the fact that HHI solidified the foundation for sustainable growth by making full-fledged inroads into new sectors such as solar energy and wind power generation sector, while sharpening competitiveness of its major business including the shipbuilding. In addition, HHI set a new record of operation without any occurrence of labor conflict or strike, and has made a remarkable progress in ensuring no accident at workplace.

In 2010, Hyundai Heavy Industry Group acquired Hyundai Corporation, Hyundai Oilbank Corporation, etc, laying the foundation to become a comprehensive heavy industrial group which consists of affiliate companies in various sectors such as heavy industry unit, finance, refinery/petrochemical, trading, resource exploitation. The Group's total sales reached KRW 50 trillion and assets totaled KRW 60 trillion.

HHI President & CEO Lee Jai-seong remarked in his New Year address, "Year 2011 is expected to be somewhat a rough year, considering the slow recovery of shipbuilding industry, intensified competition from China, a country which has enjoyed a strong upturn, slowdown of global economy, in addition to the bigger fluctuations in foreign exchange rates, interest rates, price of raw materials such as plate, etc." He stressed, "To sustain the momentum for growth even amidst the uncertainty over the overall economy, we will have to take on wide range of challenges and overcome difficulties with positive thinking, unwavering drive, and creative foresight."



HHI Chairman & CEO Min Keh-sik, and HHI President and CEO Lee Jai-seong

HHI which marks the 39th anniversary this year has set the sales target of KRW 27 trillion for 2011, 20% up from the previous year, and plans to achieve $27 billion this year in new orders, 30% up from the previous year. To accomplish these goals, HHI has put forth 4 major business policies which aim to secure the engine of growth, expand core capabilities, lay the cornerstone for global business management system, and create safe and satisfactory workplace.

First, HHI plans to focus on maintaining and securing the engine of growth for effective and sustainable growth. Particularly, HHI will make effort to steadily secure works for core business while putting new business on track and broadening its presence in the market.

Second, HHI plans to bolster its core capabilities in a bid to accomplish differentiated competitive advantage. It will shore up competitiveness of products by speeding up the development of technologies and innovation of value, and furthermore, will create the so-called convergence/fusion business by combining core capabilities of existing business, while proceeding ahead with new product development and making a foray into new markets. HHI is moving to reinforce the collaboration among divisions and affiliates so as to ensure efficient allocation of resources and maximize synergic effect across the corporation.

Third, HHI will make constant effort to put a global business management system in place. It will move ahead vigorously with the localization of production, sales, and technology in an endeavor to meet the requirements of markets and customers more swiftly while crafting a localization program tailored to the specific needs of individual regions. Along with that, HHI will identify and nurture core talents who are precious resources for supporting the global business management.

Finally, HHI plans to create safe, accident-free, and satisfactory workplace which promotes the health and welfare of all employees.

HHI President & CEO Lee Jai-seong called for all employees to join the effort, saying "Let us turn 2011 into a year of enterprising and challenging spirit for new innovation and growth."

DSME set KRW 10 trillion sales target

Daewoo Shipbuilding & Marine Engineering (DSME) expects that in 2011 Korea will be closely followed by China which has stolen the limelight from the world's largest shipbuilding nation in terms of new order volume and order backlogs with the full support of Chinese government and European economy will remain in bad shape despite the gradual increase in the newbuilding orders after the global economic crisis bottomed out last year.

DSME President & CEO Nam Sang-tae said in his New Year address, "Last year, DSME achieved a new record high of $10 billion in sales in only 2 years. However, we will not be complacent with the current achievement, but will have to keep taking on challenges and pioneer new paths."

He added, "DSME has mapped out specific action plans for the strategies targeted to F1 and 2. I am convinced that the affiliates will provide support. DSME revised the sales target of year 2020 upward to KRW 40 trillion from KRW 35 trillion set previously. Out of the KRW 40 trillion sales target, KRW 8 trillion will be accomplished by affiliates, which doubles this year's target for them."

DSME is targeting more than KRW 10 trillion in sales and upwards of KRW 1 trillion in operation profit in 2011, and its affiliates set the target of KRW 3 trillion in sales and KRW 100 billion in operating profit.

DSME President & CEO Nam Sang-tae emphasized, "DSME has begun to evolve into a comprehensive engineering company, going beyond manufacturing. To ensure a successful transformation, we have to innovate corporate structure and actively take initiative."

DSME plans to establish and carry out 3 business policies for reaching the goal of 2011.

First, DSME will strive to secure unrivalled competitiveness in the shipbuilding and maritime industry. For that, DSME will solidify its leading position in the market by expanding its technological capabilities for next-generation products and reinforcing its cost competitiveness through efficient operation. Moreover, DSME will continue to win orders through collaboration with a variety of countries where the company

DSME President & CEO Nam Sang-tae

made inroads last year, and redouble effort to create revenue.

Second, DSME plans to secure the engine of future growth. It will lay the groundwork for new business such as the modular onshore power plant, and power generation facility business which applies CO_2 capture technology, and so forth, and aims to build up cost competitiveness of its current wind power generation business and carve out more market share.

Second, DSME puts an emphasis on carrying out its business policies by taking initiative. It has reiterated that members who take initiative can help the company cope with the business environment that is changing every day and they have to not only devote themselves to job duties but also tackle problems through active participation, cooperation, and creativity. Furthermore, DSME plans to move ahead with its ethical management and safety-first management, for which the company has laid the groundwork last year.

DSME President & CEO Nam Sang-tae said, "I hope that all employees respect the rules and principles to help the ethical management take root this year. Also, we have to pay every attention to safety every day."

He added, "In 2011, a whole range of products will be built at a time in the shipyard. Some of them will be those which we have never experienced before. So, we need to take all the necessary precautions to ensure safety."

SHI focuses on qualitative growth with an eye to become top ranking company

Samsung Heavy Industries (SHI) received new orders worth $9.7 billion in 2010, which is equivalent to 31 month's work, and built a total of 11 drillships, the largest ever in its history in terms of annual production, raising its technology to a higher level. In the R&D field, SHI secured eco-friendly technology enabling over 10% higher fuel efficiency compared to its competitors, which helped the company win contracts for the construction of large container ships and oil tankers.

SHI President & CEO Roh In-sik said in his New Year address, "In 2011, Korea's shipbuilding industry will face an intensified competition from China and the decline in new orders."

He pointed out that Chinese shipyards has posed a growing threat to Korean shipyards and moved into top spot in the global shipbuilding industry in terms of quantitative indexes such as new order volume, shipbuilding volume, order backlogs, etc, which is 5 years earlier than planned, and has clinched deals even for drillships, the major products of Korea, while strengthening technical cooperation with the shipyards of Japan and Europe.

He predicted that the global newbuilding orders will slide to approximately 65 million GT and enter a stable phase after it peaked 180 million GT in 2007 and plunged to 28 million GT in 2009 after the global financial crisis hit the world in 2008.

Under those circumstances, SHI expects a cut-throat competition among shipyards striving to win newbuilding orders because the shipbuilding facilities have sprung up in countries over the last 5 to 6 years.

SHI President & CEO Roh In-sik remarked, "The bygone decade was an era of quantitative growth in the wake of market expansion, and on that basis, we need to be in quest of qualitative growth for the next decade. This year, SHI will lay the cornerstone for qualitative growth."

For that, SHI is poised to make another take off with creativity and innovation, and plans to actively implement 3 major tasks.

First, SHI will make effort to increase work efficiency across the corporation, while focusing on securing the engine of future growth. Specifically, SHI will include competitiveness-boosting measures in all sectors such as procurement, design, research, support, etc, as well as cost-saving, because the improvement in work efficiency is essential for entering the phase of qualitative growth. Also, it will take the

SHI President & CEO Roh In-sik

work efficiency improvement as no. 1 priority for manpower management and organization.

Second, SHI will put customers above anything else. It plans to bring customers what they want before being asked, while figuring out accurately from the perspective of customers with respect to what they like and dislike. Besides, SHI will focus on the development of new technologies, new engineering methods, improvement of quality, and redouble effort for eco-friendly and energy-saving features so as to reassure the satisfaction of customers.

Third, SHI will make effort to think and act in a way that suits the status of the world's best company. To become the world's best-performing company, SHI will think and act in a way to fit the world's top-rated company and create an corporate culture with flexility to break out the mold.

SHI stands firm in its belief that the employees and company can become the world's best if the aforesaid preconditions are met. Along with that, SHI plans to promote concerted efforts of labor and management and create a culture of the world's best employer-employee relationship based on harmony across the company.

STX Group targets KRW 30 trillion sales target for 2011

STX Group is targeting KRW 39 trillion worth of new orders and KRW 30 trillion in sales for 2011, which is 30% and 15% up, respectively, from the previous year. STX Group achieved KRW 30 trillion worth of new orders and KRW 26 trillion in sales last year.

STX Group chairman Gang Duk-soo

STX Group chairman Gang Duk-soo said, "2011 is a year which marks the 10th anniversary of STX Group and an important year for another takeoff. This year, we strengthen our core capabilities to carry out the plan for growth as we paved the way for growth last year in preparation of the next 10 years."

STX Group has put forth 5 major strategic tasks to strengthen its core capabilities for another takeoff in 2011, such as the expansion of capabilities for manufacturing foundation, stimulation of growth in new markets, cultivation of professional manpower, promotion of sustainable growth by securing new engine of growth, and establishment of corporate culture promoting creativity and challenge.

Above all, STX Group considers that manufacturing is critical in expanding its core capabilities and has emphasized that it would build up competitiveness in technology, quality, cost, and delivery and maximize the satisfaction of customers in an attempt to evolve into the world's best company.

Besides, STX Group - which has successfully made inroads into new markets in Africa, Mid East, North America, Australia, etc, over the past years - plans to complete projects successfully in new markets and subsequently create another opportunities for business.

STX Group will dedicate itself to the cultivation of professional manpower based on its firm belief that human resources are critical to the growth of company. It plans to make unsparing effort to make investments in systematic education, training, and organization operation system, so that employees can be best equipped with expertise in respective fields.

Along with that, STX Group has a clear view that there is neither a product nor a business which is eternal in the rapidly-changing industrial paradigm and will pursue strategies to proceed with business which can serve as a fresh engine of growth.

To ensure sustainable growth, STX Group will put its primary focus on identifying new optimal business, taking the needs of customers and corporate capabilities into consideration. Moreover, STX Group which is rooted in the creativity and challenging sprit plans to develop unique corporate culture of STX which ensures unrestricted ideas and challenge.

STX Group chairman Gang Duk-soo said, "We will achieve its target of KRW 39 trillion in new orders and KRW 30 trillion in

sales by actively carrying out the 5 major strategic tasks of STX Group. Let us make 2011 a year for laying the foundation to meet the $100 billion sales target in 10 years from now and jump into a leading position among the world's companies."

SSME aims to secure competitive advantage by sharpening its competitiveness

Experts speculate that the global economic growth will slow down compared to 2010 and major countries will maintain economic stimulus policies or ease restrictions while emerging economies such as China and India will log strong growth and pull the global economy out of recession.

Along with that, the shipbuilding market will be put back on track towards recovery in 2011, spurred by the vibrant demand for container ships as a result of increased volume of liquid products shipped, and large oil tankers will come under spotlight in addition to the offshore plants and drilling facilities amid high oil prices. As a matter of fact, global new-building orders in December 2010 rose in terms of quantity and freight space volume.

SSME Chairman Jeong Hong-joon commented, "We will have to put in a great deal of effort for cost-saving and adopt an innovative attitude to improve productivity until MOU which we entered into with securities and financial institutes is implemented and the business is stabilized in 2012, considering high raw material prices and uncertainty in the ship financing market."

SSME Chairman Jeong Hong-joon

For 2011, SSME has set the target of $3.53 billion in new orders, KRW 2 trillion and 600 billion in sales, and aims to attain 15% improvement in productivity by developing technologies and enhancing shipbuilding technologies in order to boost its order book for container ships and make a stable entry into the markets for specialized vessels and offshore plant markets. For that, SSME will proceed with 4 major strategic tasks to secure competitive advantage by standing head and shoulder above competitors.

First, SSME will focus on increasing cost competitiveness by securing stable supply of major raw materials and elevating the productivity.

Second, SSME will build up competitiveness to win more orders by aggressively targeting its major ship types. Along with that, it will vigorously move forward with sales operations to solidify partnership not only with existing ship owners but also with all ship owners around the globe.

Third, SSME will make effort to ensure healthy and sound financial condition in 2011 by strengthening the liquidity and establishing financial Enterprise Resource Planning (ERP).

Fourth, SSME plans to strengthen functions related to personnel management and education, overhaul the management system, stimulate PI organization, and introduce scenario-based planning for management as part of efforts to ensure systematic overhaul.

The keyword of SSME's business policy for 2011 is the establishment of responsibility management system of organization and individuals.

SSME Chairman Jeong Hong-joon said, "So far, SSME has accomplished fast growth in a short period of time, but it is time that we should follow through upon internal growth and use it as a springboard for external growth of higher level. For greater success, the priority must be given to the removal of adverse effects such as complacency and buck-passing among members. Let us make the responsibility management system take root, which provides members with appropriate reward or holds them accountable on the basis of strict evaluation."

In addition, he urged all employees to brace themselves for difficulties and make desperate efforts, as an ancient Chinese proverb says, "Burning of boats at the Ji River: There was a general leading a large army to invade another state. The general burned all the boats after the troops had crossed the river. He was letting his men know that they had no choice

but to fight and win the battle because there was no way to go back."

SPP Group put forth Vision 2015 to transform into a heavy industrial group

For SPP Group, year 2010 was special. In November 2010, SPP delivered its 100th vessel since it made a debut in the world shipbuilding market with the delivery of 4 units of 50,000-ton oil tankers based on its Vision 2010, and has developed into the middle-standing company with the sales of KRW 2 trillion.

This transformation is attributed to the fact that SPP Group has launched full-fledged production and sales activities in relation to the casting/forging, thick wall still pipe, petrochemical plant/power generation facilities business which serves as new engine of growth, along with the operation of factory.

SPP Group Chairman Lee Nak-yeong stressed, "With all these achievements, SPP Group have laid the foundation for sustainable business in 3 sectors such as shipbuilding, heavy industry, and support function."

SPP Group established Vision 2015 to evolve into a comprehensive industrial Group with total assets worth KRW 5 trillion, poised to accomplish $5 billion sales target, and has mapped out a plan to focus on achieving highly-advanced business structure of the Group and acquiring competitive advantage.

SPP Group Chairman Lee Nak-yeong

SPP Group Chairman Lee Nak-yeong said, "2011 will be a year truly full of various external changes, such as the change in the global economic environment, including the change in the Chinese economy, fluctuations in the oil and raw material prices, North Korea factors, and so forth. This year is an important period for us to take a first step toward achieving the goal of Vision 2015, in addition to the merger in the shipbuilding sector."

For that, SPP Group laid out 3 major policies, such as the maximization of efficiency in business management, increase in synergic effect among the Group affiliates, fosterage of talented manpower and creation of sanguine corporate culture.

First, the sales department will actively move ahead with more differentiated sales strategies in order to increase the order book for high-priced ship types, while the production department will maximize productivity and push ahead with measures to save costs dramatically. The design/support department aims to increase revenue by maximizing work efficiency of respective department and individuals through close cooperation with sales and production department.

Second, each subsidiary of SPP Group will continue independent sales operation and production and maximize revenue by working closely with affiliates in related sector, considering that the 3 sectors - the shipbuilding, heavy industry, and support function - have to go hand in hand under the Vision 2015. Also, they plan to reinforce the activities essential for increasing synergy across the Group through collaboration among sectors.

Third, human resources are indispensable, who can play a key role in facilitating the growth and advancement of company based on optimistic and positive thinking even when the business conditions are unfavorable. Such human resources can fully demonstrate their abilities only when they are supported and a sanguine corporate culture is put in place. In light of that, SPP Group will create a healthy and sound corporate culture which promotes fosterage of human resources, communication, and coexistence/co-growth with vendors.

SPP Group Chairman Lee Nak-yeong urged employees to stand firm in the belief that sincerity, promise, and progress will turn every crisis into opportunities no matter how difficult the business environment might be, saying that the pine grove will become even greener when the snowstorm rages and a kite flies high against the wind."

SPP shipbuilding unites to form one single company

SPP Shipbuilding and SPP Plant & Shipbuilding merged on January 1. This merger occurred prior to the announcement of the SPP's successful accomplishment of 'Vision 2010' and the proclamation of its new vision, and will serve as the springboard for even bigger growth in the rapidly changing business environment.

Sacheon Shipyard of SPP

SPP Group merged its shipbuilding subsidiaries into SPP Shipbuilding as of 1 January 2011. SPP Shipbuilding absorbed and merged SPP Plant & Shipbuilding and SPP Precision & Engineering (specializing in the manufacturing of ship block). Following the merger, the integrated company is to be still named SPP Shipbuilding with its headquarters being relocated to Sacheon City, South Gyeongsang Province, in which its Sacheon Shipyard is based.

This merger came before the announcement of SPP's successful accomplishment of 'Vision 2010' and the proclamation of its new vision, and is considered a preemptive measure in preparation for a move into a new phase of growth in the rapidly changing business environment.

After the merger, SPP Shipbuilding will join one of the world's top 10 shipbuilders (based on the order backlog) with annual sales of KRW 2 trillion ($1.8 billion) and is expected to increase its internal competitiveness through flexible management of organization, as well as strengthen its external activities such as sales operation or preparations for going public in the stock market.

SPP received new orders for a total of 40 ships including the optional vessels worth approximately $1.6 billion in 2010, exceeding its initial annual target set at the beginning of the year. The company has a order backlog for 139 ships (approximately 2.5 million CGT) worth about $6 billion as of December 2010.

Noticeably, the technological competitiveness of SPP has been recognized constantly by external organizations. Aramon, a 74,000-ton product carrier built by SPP and delivered to Roxana Shipping in 2010, was chosen as the Significant Ship of the Year by UK's Naval Architect. This marks the 3rd time that the ship built by SPP was selected as the Significant Ship of the Year since Dubai Star, a 50,000-ton product carrier delivered to ETA in 2007, and Handy Wind, a 35,000-ton bulk carrier delivered to Metrostar in 2009, were honoured with the Significant Ship of the Year.

In addition, this nomination is meaningful very much, considering that the vessel built by SPP, a middle standing shipbuilder, was designated solely nationwide as the Significant Ship of the Year, staving off the competition from large shipyards, among the vessels included on the list of the Significant Ships of the Year.

SPP has accomplished major results in the development of green ship. Specifically, SPP successfully developed new specifications for 35,000-ton and 82,000-ton vessel types with about 10% improvement in fuel efficiency, an advantage which the company used as selling point in winning contracts.

With customers putting an added emphasis on green ships in 2011, SPP plans to speed up its development of green technologies in a bid to be more competitive.

DSME developed the world's first contour pressing for large merchant ships

Daewoo Shipbuilding & Marine Engineering (DSME) developed the world's first contour pressing (contour deformation by cold working press) for large merchant ships, which upgraded the existing line heating method (that causes excessive heat and noise) and enables the automation of processes. This new method is currently under trial and expected to be applied practically at the site in the first half of 2011.

Recently, Daewoo Shipbuilding & Marine Engineering (DSME) successfully developed the world's first contour pressing (contour deformation by cold working press) for large merchant vessels, a new method for the construction of curved bow and stern blocks, after about 3 years of research in collaboration with Korea Advanced Institute of Science and Technology (KAIST).

The bow and stern area of ships are formed in a curved shape to minimize the resistance during the navigation, and made by attaching 3-dimensional curved steel plates which have a variety of shapes such as concave, convex, saddle-shape, twisted shape, and so forth.

This new method developed by DSME enables the formation into desired shapes using large press machines without need for applying heat to plates.

So far, line heating method has been used to form the bow/stern into curved shape, but a prolonged exposure of worker to excessive noise was entailed when high temperature heat is being applied to 20mm to 40mm-thick steel plate to be formed into desired shape. Even worse, the line heating is a manual process which relies on the experience of skilled technicians, and therefore, the ageing and retirement of technicians made the transfer of skill and experience difficult.

This contour pressing method enables precise formation of curve and automatic repetition of process, incorporating 100% of design information. For that reason, this new method will be useful for small and medium-sized shipyards which encounter difficulties in nurturing skilled manpower. In addition, it does not require workers to remain in the same position for a long time with little or no movement while applying heat to plates. Above all, this contour pressing is a safe and eco-friendly method that prevents the noise and musculoskeletal disorder and reduces the emission of CO_2.

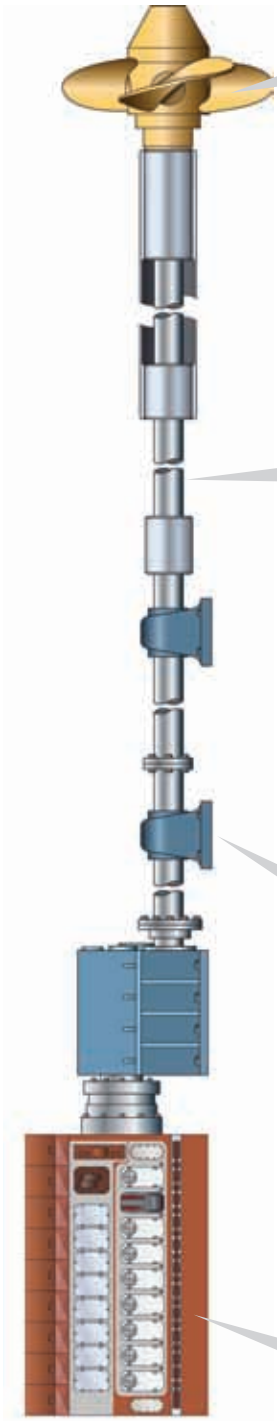
Researchers of the Industrial Technology Research Center of DSME is conducting the test of contour pressing in the Research Center.

DSME expects that contour pressing method will help raise productivity and save 100 billion won every year, if applied to the shipbuilding industry. Furthermore, this method realizes low energy consumption and low carbon emission and is consistent with the green business policy which the government has pushed ahead.

Besides, the contour pressing method will have a ripple effect on the related industries where free-form surfaces often have to be constructed, including the curved shape for ultra luxurious ferry boats and yachts for leisure which require lean and nice streamlined shape, bullet trains, and 3-dimensional curve of heavy industrial structures.

Goh Myeong-seok (head of Industrial Technology Research Center), Managing Director of DSME, said, "This contour pressing method is currently under trial and will be employed practically at the site in the first half of this year before full-fledged application."

Marine industry moves forward thanks to laser precision alignment

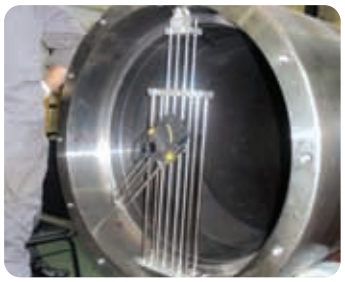


PROPELLER

LEVALIGN Ultra

STERN TUBE

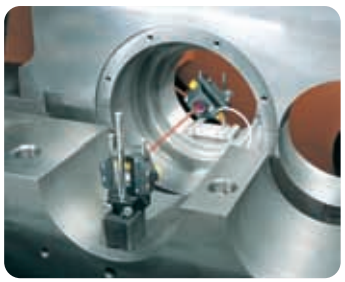
CENTALIGN Ultra
(unmounted shaft)



LONG SHAFT

ROTALIGN Ultra
(mounted shaft)

CENTRALIGN Ultra
(unmounted shaft)



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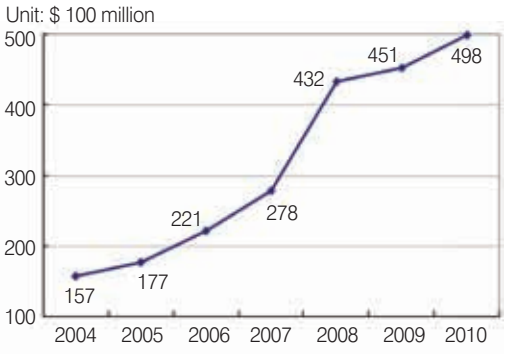
Korea's shipbuilding industry to regain top spot in 2011 (1)

Performance of shipyards in 2010 and the outlook for 2011

According to the recent data of the Ministry of Knowledge Economy (MKE) and Korea Shipbuilders' Association (KOSHIPA), Korea's export of ships and marine equipments is expected to decrease 5.6% year-on-year (YoY) in 2011 to reach $47 billion. Meanwhile, new order target of large shipyards (7 companies) for 2011 totals $50.9 billion, 35% up from the previous year.

Korea's export of ships and marine equipments is expected to reach $47 billion, a decrease by 5.6% from the previous year, due to the stagnation in order intake in 2009 and 2010, according to the data released by the Ministry of Knowledge Economy and Korea Shipbuilders' Association (KOSHIPA) on the basis of the latest Clarkson Research Services data. Meanwhile, the new order target of Korea's large shipyards (7 shipyards) for 2011 has surged more than 35% from the previous year to $50.9 billion.

Korean shipyards is expected to regain top status in new orders in 2011 amid optimistic outlook on the demand for container ships/offshore plants, regulation on fuel efficiency of ships, etc, while Chinese shipyards have encountered difficulties arising from the sluggish market for bulk carrier, the major ship type of China, pressure for the restructuring of shipbuilding industry, rising labor costs, possible erosion of price competitiveness.



*Source: Korea International Trade Association (KITA), MTI 746 (based on ships/offshore structures, and parts)

Fig.1 Trend on the exports of ships and marine equipments

1. Shipbuilding performance in 2011

Korea's export of ships and marine equipments in 2010 increased approximately 10% from the previous year to reach $49.8 billion (tentative estimation) and hit record high (ships/marine equipments are expected to become the nation's second largest export items).

Such a strong performance is considered attributable to the faster-than-expected recovery of shipping and shipbuilding market in 2010 and seamless delivery of high value-added vessel (very large container ships, LNG carriers, drillships, offshore plants, etc) orders which were awarded when the market was flourishing, despite the factors of instability which have been persistent since the global economic crisis broke out in 2008, such as the glut of ships on the market, possible recurrence of financial crisis in Europe, etc.

(1) Trend of global shipbuilding market

The new shipbuilding orders worldwide in 2010 jumped by 134.2% from the previous year to reach a combined 33.8 million CGT, bolstered by the global economic recovery and the improved shipping market conditions.

Korea - where the vessels built for export comprise over 90% of total newbuilds - was ranked the second worldwide behind China in 2010 in terms of 3 major indexes (new order volume, shipbuilding volume, order backlog) due to the sluggish shipbuilding market.

Korea maintained the top position in terms of new order volumes from 2003 to 2008, gained top

Table 1. Trend of changes in the global shipbuilding market

(Unit: 10,000 CGT)

Type	2007	2008	2009	2010
New orders (Increase/decrease compared to the previous year)	9,361 (38.5%)	5,367 (△42.6%)	1,443 (△73.1%)	3,380 (134.2%)

place in terms of shipbuilding volume from 2003 to 2009, and held onto the top spot in terms of order backlogs from 2000 to 2008.

China overtook Korea to become the world's No. 1 in terms of quantitative indexes by placing orders with domestic shipyards for the construction of national flag carriers, improving the cost competitiveness, and actively providing the ship financing. According to the China Exim Bank (CEB), national flag carriers of China accounted for 45% in 2009 and over 50% in 2010, respectively.

Meanwhile, the price of most newbuilds in 2010 slid slightly by 25.2% from the previous year (reaching the peak in August, 2008), except for LNG carriers.

(2) Trend of Korea's shipbuilding market by major indexes

With most vessels on Korea's order book being the bulk carriers and tankers, the nation won a combined 11.78 million CGT in new orders in 2010, 144.9% up from the previous year, as the nation's shipbuilders began to win contracts again for container ships from the 3rd quarter.

Korea's total order amount swelled 138% year-on-year to $30.6 billion, the world's largest, exceeding China's total order amount ($28.2 billion) by as much as $2.4 billion. Although the total new order placed with China (914 vessels) is more than twice as many as that of Korea (458 vessels), China's order book mainly consists of low value-added vessels such as bulk carriers, small tankers, etc.

In 2010, the shipbuilding volume rose 0.2% year-on-year to 15.51 million CGT, bolstered by the

Table 2. Share of new order volume, shipbuilding volume, order backlog

(Unit: %)

Year	New order volume			Shipbuilding volume			Order backlogs		
	Korea	Japan	China	Korea	Japan	China	Korea	Japan	China
2007	35.0	15.0	34.8	34.2	25.3	18.5	34.3	19.1	28.7
2008	34.8	18.2	34.5	36.3	23.1	21.5	33.4	19.0	31.8
2009	33.3	10.5	44.5	34.4	21.2	27.8	32.6	18.1	34.6
2010	34.8	6.0	46.9	30.9	18.8	36.7	32.3	16.0	37.1

Table 3. Trend of ship price by type

(Unit: $1 million, point)

Type	2005	2006	2007	2008		2009		2010	
				Aug.	Dec.	Mar.	Dec.	Mar.	Nov.
VLCC (320,000DWT)	120	120	146	160	150	141	101	97	105
Container ship (6,350TEU)	89	101	107	108	100	95	67	66	79.5
Bulk carrier (180k Capesize)	59	68	97	99	88	81	56	56	57
LNG carrier (160k)	205	220	220	250	245	245	212	212	202
Clarkson ship price index	162	168	184	190	177	157	138	136	142

excellent performance in the construction and delivery of ships. Specifically, the export increased 10% year-on-year to $49.8 billion (tentative estimation), the largest in history. The data released by Korea International Trade Association (KITA) showed that the export from January to November 2010 increased 9.3% from the same period of previous year to reach $44.9 billion.

The the value of order backlogs in 2010 shrank 17.4% year-on-year to 45.54 million CGT equivalent to about 2 year's work because the stagnation in order intake did not improve fast compared to the shipbuilding volume.

2. Outlook of shipbuilding market in 2011

(1) Outlook of shipping market

The shipping volume in 2010 increased about 9 to 12% year-on-year and surged beyond 2008 level, and is expected to continue the expansion in 2011. The global economy is expected to bounce about 4.2% in 2011 with the export rising by 7.0% (IMF, October 2010).

In 2011, the container ship construction is expected to jump by 10% from the previous year amid the expansion of industrial production and recovery of economy in major countries, while the bulk carrier construction is expected to rise by 7% from the previous year on the back of the increase in major cargo shipped, such as iron ore and others.

Table 4. Trend of Korea's shipbuilding industry

Year	New order volume			Shipbuilding volume			Order backlogs		
	Unit	10,000CGT	Increase/ decrease	Unit	10,000CGT	Increase/ decrease	Unit	10,000CGT	Increase/ decrease
2007	1,208	3,279	53.1	419	1,204	9.7	2,172	6,500	46.1
2008	674	1,866	△43.1	508	1,547	28.5	2,389	6,936	6.7
2009	176	481	△74.2	518	1,548	0.1	1,905	5,511	△20.5
2010	458	1,178	144.9	497	1,55	20.2	1,604	4,554	△17.4

Table 5. New orders placed with Korea and China between 2007 and 2010

Year	Korea			China		
	Unit	10,000CGT	Order amount (Unit: $100 million)	Unit	10,000CGT	Order amount (Unit: $100 million)
2007	1,208	3,279	974	2,067	3,259	797
2008	674	1,866	709	1,102	1,851	483
2009	176	481	29	437	643	111
2010	458	1,178	306	914	1,586	282

Table 6. New orders to Korea and China in 2010 by type of ship

Type	Worldwide		China		Korea	
	Unit	10,000CGT	Unit	10,000CGT	Unit	10,000CGT
Bulk carrier	973	1,811	569	1,022	206	398
Tanker	209	612	89	211	119	360
Container ship	124	401	45	114	63	253
LNG carrier	5	40	1	8	4	32
Total	1,754	3,380	914	1,586	458	1,178

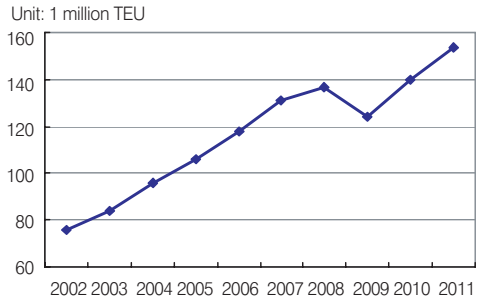


Fig.2 Trend and outlook of container shipping volume

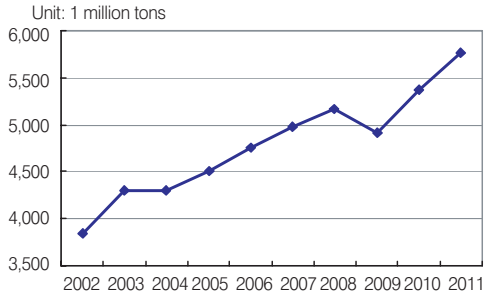


Fig.3 Trend and outlook of bulk carrier shipping volume

The ocean freight charge is expected to rise to the 2010 level although it will hold steady in the 4th quarter except for the container ship sector, and continue the slow increase (except for the bulk carrier sector).

** Baltic Dry Index (BDI, 1985=1000)*
10,844p (2008. 5) → 743p (2008. 12) → 3,941p (2009. 11) → 1,773p (2010. 12)

** Howe Robinson Containership Index (HRCI, 1997=1000)*
1,383p (2008. 5) → 502p (2008. 12) → 667p (2010. 11)

(2) Outlook of shipbuilding market

•New order volume

In 2011, the new shipbuilding orders worldwide is expected to increase approximately 4% from 2010 (33.8 million CGT) to 35 million CGT amid the recovery of the shipping and shipbuilding market as the global economy rebounds and the shipping volume increases. That is a faster-than-expected recovery and considered a level of pre-boom period (from 2006 to 2008). However, it still remains unclear whether full-fledged recovery will ensue, considering the factors of instability such as the glut of ships on the market, concerns about the risk of a double-dip recession of the U.S. economy, possible spread of financial crisis in Europe, etc.

According to Clarkson (October 2010), a research agency in shipbuilding and shipping industries, the aggregate global demand for newbuilds will reach approximately 52.4 million CGT on the annual average from 2012 to 2019. Meanwhile, Fairplay (January 2011), an organization specializing in the market forecast of shipbuilding and shipping industries, forecasts that the total demand for newbuilds worldwide will range somewhere between 35 million CGT and 40 million CGT on the average in the period from 2010 to 2015.

Clarkson forecasts that newbuilding orders totaling about 33.1 million CGT on the annual average will be booked between 2016 and 2019, which is higher than the annual average of 25.56 million CGT recorded in periods other than the ultra boom years (from 2006 to 2008) although it falls short of the annual average of 35.2 million CGT recorded between 1996 and 2009.

Table 7. Trend and outlook of global shipbuilding market (Clarkson, October 2010)

(Unit: 1 million CGT, %)

Type	Performance		Outlook					
	2008	2009	2010	2011	2012	2013	2014	2015
New order volume	41.4	16.6	29.3	28.3	26.6	31.5	38.4	34.1
shipbuilding volume (volume of vessels delivered)	41.0	43.7	53.8	5.4	40.4	34.0	31.3	26.8
Shipbuilding capacity	46.0	0.0	56.0	50.5	45.3	42.0	0.0	38.0

Table 8. Outlook of annual average demand for newbuilds worldwide over the mid-to-long term (Clarkson, October 2010)

Type		Unit	CGT (unit: 1 million)
1996~2009		1,917	35.2
2010~2011		1,325	27.4
2012~2019	Low case	1,047	22.2
	Base case	1,526	31.6
	High case	2,163	43.5

**Note: 1. New order volume (unit: 1 million CGT): 27.9 (2010) →26.9 (2011) →30.2 (2012-2015) in annual average →33.1 (2016-2019) in annual average. Annual average new building orders between 1996 and 2006 →30.4*
2. Newbuilding orders in 2010: The newbuilding orders were forecast to be 27.9 million CGT in October 2010, but finally reached 33.8 million CGT.

< to be continued >

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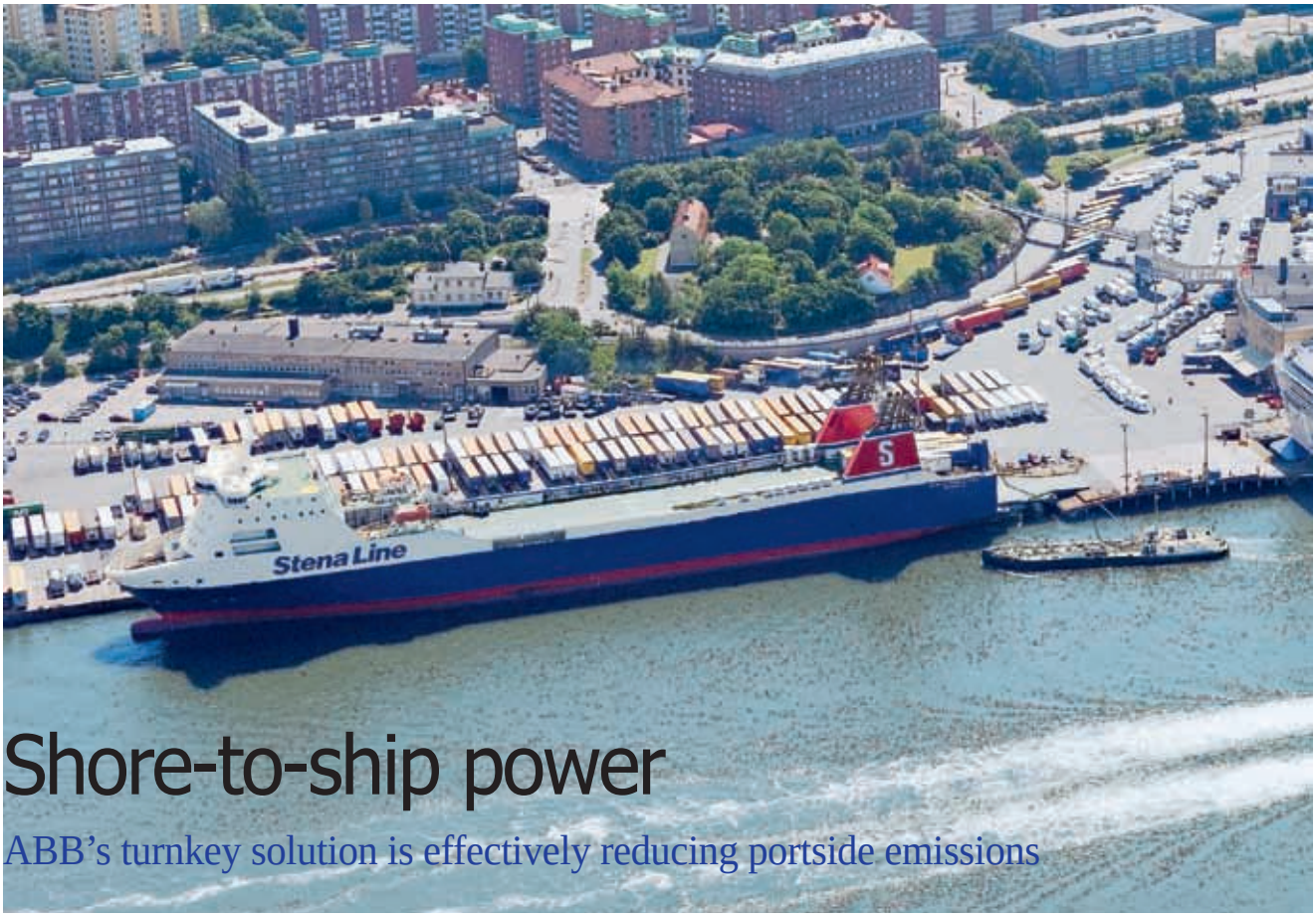

Shore-to-ship power

ABB's turnkey solution is effectively reducing portside emissions

In the shipping industry, harbor areas have been identified as a prime candidate for enabling significant emissions reductions. With this in mind, port authorities, ship-owners, industry suppliers and regulators are now focusing on the decadeold technology known as shore-to-ship power, for which universal electrical standards are on the verge of being ratified by IEEE, ISO and the IEC. Onshore power supply allows commercial ships calling at ports to turn off their diesel engines and tap into cleaner energy sources. Having successfully delivered the world's first shore-to-ship power connection to the port of Gothenburg, Sweden in 2000, ABB has not only the technologies but also the experience required to make the complete connection, onboard and onshore.

ABB Korea Ltd.

Over 90 percent of the world's goods are transported by sea, and although shipping is a highly efficient means of transporting cargo with lower CO_2 emissions than trucking and far lower emissions than air transport, the industry is still responsible for around 4 percent of all global CO_2 emissions (aviation accounts for 2 percent). With ABB's shore-to-ship power connection[1], a large cruise ship can cut fuel consumption by up to 20 metric tons and reduce CO_2 emissions by 60 metric tons during a 10-hour stay in port - equivalent to the total annual emissions of 25 European cars. It is no surprise then that interest in shore-to-ship power is growing, not only for environmental but also for economical reasons. With a shore-

based power connection, a ship is able to turn off its engines without interrupting its port services, such as loading and unloading, hotelling or any other activities that consume power supply and consumption is handled by the port operator.

Establishing a shore-to-ship power connection necessitates investment by both shipowners and port authorities or terminal operators in the form of either a retrofit of existing assets or construction of new ones (Fig. 1). The ship needs an additional electrical switchboard, cables connecting it to the ship's main switchboard, and, in many cases, a step-down transformer. The port requires a substation with breakers and disconnectors, an automated earthing switch, a transformer, protection equipment such as transformer and feeder protection relays, communications equipment to link ship and shore, and in most cases a frequency converter to adapt the frequency of electricity from the local grid to match that of each vessel. Further, a cable-management system is needed for either the port or the ship.

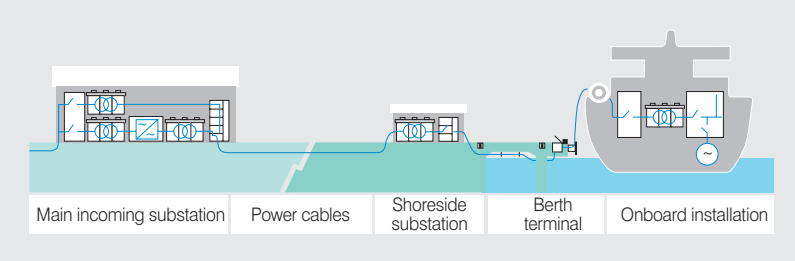

Fig. 1 Overview of a shore-to-ship power connection

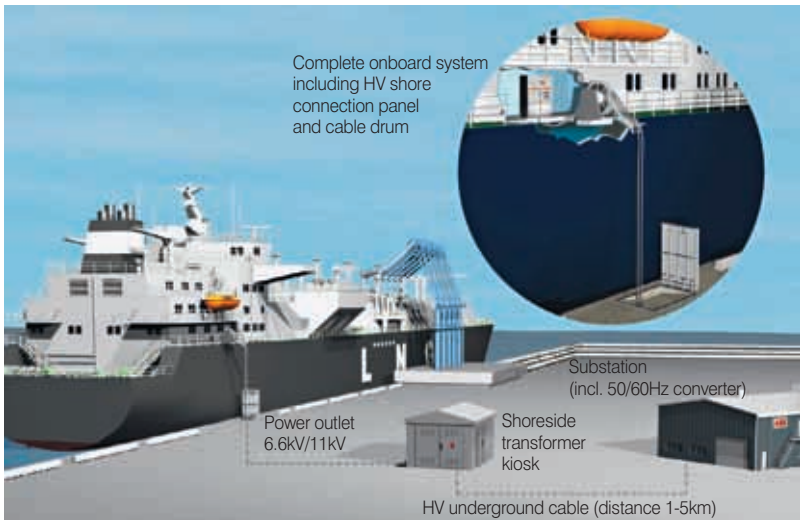

Fig. 2 General overview of onshore power supply

Such technology is readily available, and given the emission reductions implicit in onshore power as well as the technology's imminent standardization, the solution is gaining attention. It is increasingly appearing in regulations and discussions in the European Union, the United States and within the United Nations' organization for maritime policy, the IMO. EU directive 2005/33/EG, which went into effect January 1, 2010, exempted ships using shore-based electricity from a rule requiring use of reduced sulfur-containing marine fuels while in port. In the United States, legislation proceeds state by state; California, a regulatory forerunner, has begun to require shoreside electricity connection for some ship types. At the IMO level, new restrictions on the allowable sulfur content in fuels improves the economical case for onshore power, without explicitly mandating or supporting it.

Onshore power supply is a well-established technology (Fig. 2), which is already available at several ports, including those in the United States, Belgium, China, Canada, Germany, Sweden, Finland and the Netherlands. With a new set of global shoreside electricity standards on the verge of ratification, the practice is expected to rapidly expand for all major types of ships and ports worldwide.

Regulations point to onshore power

As regulators realize that pollution stemming from the shipping industry is having a major impact on public health as well as costs, they have increased their attention on this industry. Since at least the late 1980s, the IMO has focused on how to reduce the environmental impact of shipping (oil spill prevention has a much longer history). National, city and port authorities are also initiating regulation of emissions generated by ships.

Currently, there is no law or rule requiring ships at port to connect to an onshore power supply, but standardization may well lead to increased adoption of onshore power technologies.

Regulations in Europe

In Northern Europe, mapping of global emissions began on a

large scale in the 1970s. As a result of these studies, initial efforts to reduce emissions-based public health threats such as acid rain focused on land-based emissions sources. In the 1980s, the focus thus became power plants and automobile and truck traffic.

However, as the studies showed higher levels of deposition of pollutants in coastal areas and along major sea lanes like the English Channel than could be accounted for by known polluters, it became clear that ships in international transit were responsible for a considerable amount of pollution. Sweden and Norway brought these studies to the attention of the IMO in 1988. Almost 10 years later, the IMO's convention (MARPOL Annex VI), which limits the amount of pollutants in marine fuels, won acceptance. This convention went into effect in 2005.

The EU has taken steps toward reducing emissions from ships in tandem with the IMO. When the EU was developing a strategy to deal with shipping-related pollution in 2001 and 2002, the potential for onshore power supply was already being discussed. This resulted in a directive requiring all ships berthed in EU ports to use marine fuels with a maximum sulfur content of 0.1 percent, with few exceptions - one was an exemption for ships using power from shore.

The EU has opted to pursue a policy that does not favor any particular kind of abatement technology, but rather reaches for overarching goals. In the case of shipping emissions, EU legislation has prioritized cutting emissions that immediately impact health in areas close to ports or major shipping lanes, but has taken a regional perspective. The lasting and widespread effects of acidification and particulate pollution also drove legislation. (Emission of CO_2 has not been in focus with respect to shipping, as CO_2 emissions have only a slight impact on local health compared with particulate emissions.)

The issue has been addressed by the EU and the IMO, particularly with respect to a carbon emissions trading system, but there are no definitive outcomes as of yet.

Regulations in the united States

Compared with the EU, the Environmental Protection Agency (EPA) of the state of California has gone much farther toward stipulating shore-based power supply to docked ships, although it provides for alternative technologies. The EPA requires container ships, passenger ships and refrigerated cargo ships to either turn off their auxiliary engines for most of their stay in a Californian port and connect to another power source (eg, grid-based), or use other control techniques that achieve the same emissions reduction.

Initially, this regulation only applied to a few vessel types, and within fleets that call at Californian ports 25 or more times per year. Effective January 1, 2010, any ship that could connect to shore-based power and was part of an affected fleet would have to use shore power if it was available at the port and was compatible with the ship's equipment. The requirement for 2014 does away with the loop-holes for ships not ready for shore power and sets a 50 percent fleet-wide maximum limit to power generated by auxiliary engines while docked. In 2017, 70 percent of a fleet's port visits must be shore-power visits and engine power generated by the ships must be reduced by 70 percent; in 2020, these numbers increase to 80 percent.

The regulatory developments in the IMO, the EU and the state of California are being followed closely by other jurisdictions, such as other American states and countries in Asia. Generally, it is expected that regulatory authorities will set increasingly strict rules for emissions from ships in port, increase taxes on sources of pollution and make exemptions for onshore power connections, opening the door to companies such as ABB that can supply the complete shore-to-ship power solution.

Evaluating the benefits

For port authorities and shipowners, the merits of shore-to-ship power supply versus the competing emissions-abatement technologies are debatable. The operational profile of the ship also has a big impact - eg, a ferry calling in a port every day is quite different from a container vessel calling in a port once a month. Thus, it is difficult for investors to calculate long-term return on investment as the regulatory picture changes. Fluctuations in the price of marine bunker fuels[2] compared with shore-based electricity also influence calculations.

The environmental profile of electricity generated by power plants on land versus ships' diesel engines running on bunker fuels is one of the main advantages of shore-based power. Generally, when power production can be reduced to as few producers as possible, these producers can be more easily and efficiently optimized to reduce environmental impact.

Another argument for shore-to-ship power is the advantage of jurisdiction. With onshore power arrangements, regulators

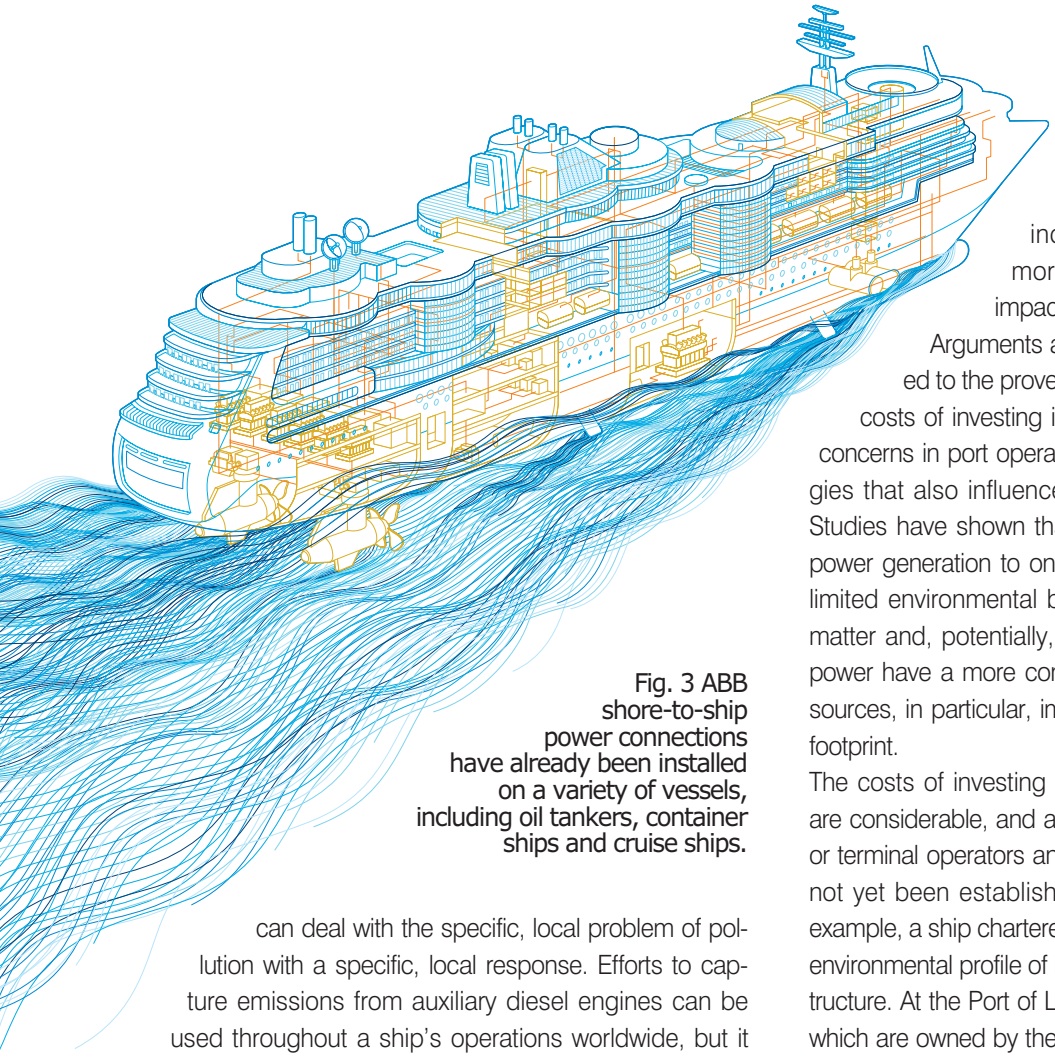

Fig. 3 ABB shore-to-ship power connections have already been installed on a variety of vessels, including oil tankers, container ships and cruise ships.

can deal with the specific, local problem of pollution with a specific, local response. Efforts to capture emissions from auxiliary diesel engines can be used throughout a ship's operations worldwide, but it takes away any scope of action by local or regional authorities.

For ports, the ability to supply power to ships at berth enables them to establish a more efficient and powerful overall electrical supply as a utility. The use of state-of-the-art frequency converters can provide both a stabilizing effect on the local grid and an improved power factor. Effectively, this means the local power system experiences lower losses.

Onshore power supply has an additional advantage over other emissions abatement technologies in that it reduces both noise and vibration in port areas. This is a benefit to merchant mariners, passengers and crews, port workers and the surrounding community of ports, particularly large ones. Some ports have encountered growth constraints related to their environmental permits, as their operations' emissions, noise or vibration levels have become too high.

Finally, shore-to-ship power is easily scalable; infrastructure investments are sustainable over decades with long-term revenues and relatively little maintenance. For each new port that invests in shore connections, the cumulative value of the technology increases by a factor, as more and more ships and sailing schedules are impacted.

Arguments against shore-to-ship power are related to the provenance of the shore-based power, the costs of investing in infrastructure, safety and efficiency concerns in port operations, and the need to use technologies that also influence emissions when a ship is at sail. Studies have shown that switching from ship-based diesel power generation to onshore coal-powered electricity has a limited environmental benefit (with increases in particulate matter and, potentially, sulfur oxides), while other forms of power have a more considerable benefit; renewable energy sources, in particular, improve port operators' environmental footprint.

The costs of investing in shore-based power infrastructure are considerable, and a template for how governments, port or terminal operators and shipowners share these costs has not yet been established. At the port of Gothenburg, for example, a ship charterer that was determined to improve the environmental profile of its supply chain invested in the infrastructure. At the Port of Long Beach and Port of Los Angeles, which are owned by the local government, port infrastructure is financed by taxpayer dollars. However, as the cost of emissions and the regulations that prevent them increase, more and more funds will be made available from both private and public sources.

Safety and efficiency concerns in port operations are also very important. Container terminals, with large rolling gantry cranes, present challenges in terms of cable placement and shoreside infrastructure. In ports, space is at a premium. Additionally, both port authorities and shipowners are concerned with the possibility of injuries or deaths related to power connection. The intro-duction of strict shore connection standards and technical solutions that allow smooth dockside operations and safe cable handling should allay these concerns.

A shore solution

Shore-to-ship power connections have been implemented in approximately two dozen port terminals worldwide starting in

2000, and on over 100 ships ranging from cruise vessels to oil tankers and container ships (Fig. 3). Countless other port operators and shipowners are assessing an investment in the technology, on the condition that global standards for shore connection are realized.

Acceptance of and investment in shorebased power supply infrastructure has been limited due to the lack of a global standard. A public specification is already available, and this is being used by shipowners and port authorities to assess future installations. Existing technology solutions are largely built up around these specifications.

Regulatory moves by local, national and international bodies that spur adoption of shore-to-ship power supply include taxes on fossil fuels, requirements to marine fuels and stipulation of onshore power supply (or alternatives with equivalent emissions reductions). Shore-to-ship power supply is in most instances a practical and effective means to reduce emissions in heavily used port areas. The technology is available, but its adoption is contingent upon its being available at a large number of ports, and in a large number of ships. ABB has developed scalable and flexible installation solutions that meet the needs of shipowners and ports. As part of ABB's shore-to-ship power solution, the company has engineered both shoreside and shipside connections, and is one of the few companies worldwide that has developed a reference list in this technology. Single or multiple shoreside connection points can be engineered and installed in the span of six months to one year; onboard installations can be engineered over a period of a few months and installed in the span of one week.

It is believed that a global standard will bring about a much higher level of investment in the infrastructure, thus stimulating an ever greater number of shipowners and port authorities to prepare their operations for shore-to-ship power. Already there are a growing number of portside expansion projects worldwide, and with its highly sustainable and efficient shore-to-ship power solution, ABB is fully equipped to provide the required technologies. To ensure its portside offerings are meeting the market needs, ABB continues to collaborate with customers worldwide.

Footnote

1. Shore-to-ship power is also known as cold ironing, onshore power supply, alternative maritime power (AMP), or shore connection, among others.
2. Marine bunker fuel is any fuel used onboard a ship.

Instrument applications in the port, on board ships or offshore facilities (3)

The supplier of process automation solutions, Endress+Hauser has been serving the shipbuilding industry for more than 30 years. Its extensive range of solutions complement this experience and allow its to help customer to drive costs down and increase the efficiency of customer's ship operating facilities.

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Application on board: Quality measurement

Quality measurement in fresh and wastewater - a godsend for passengers, crew and the environment

Wastewater accumulates on ships used for freight transport and cruise ships. The wastewater from various sources such as the galley, showers and laundry (graywater) and toilets (black water) must be disposed. The pollution of the oceans by accumulating wastewater is not yet regulated by law. However, there are provisions protecting bodies of water that are ecologically sensitive (e.g. Antarctic) and a number of coastal areas.

Many countries and their ship owners provide tanks on board their ships to store wastewater. This water is collected on board until the ship reaches the next port and is then disposed using the collection systems available in the port. If this wastewater is cleaned so that it can be released into the sea or into the water at the port, a biological wastewater treatment system with the lowest possible space requirement is needed for example.

The process to store wastewater and to treat it it directly on board a ship cannot be carried out in an efficient and cost-effective manner without the use of instrumentation.

Water treatment and fresh water production on ships

•Water treatment on board ships

The challenge for biological purification of water is to remove all of the significant, biodegradable ingredients (carbon, nitrogen and phosphorous) while adhering to the required limit values and, at the same, minimizing the cost.

Various process parameters must be measured if a wastewater treatment system is to be operated efficiently and cost-effectively.

As a full-range supplier, Endress+Hauser can provide the instrumentation required to do this and integrate with a monitoring or control system.

Typical measuring parameters are:

-Turbidimetry
-Oxygen, redox, pH value
-Electromagnetic flow measurement
-Level measurement

•Fresh water

The quantity of fresh water required for daily hygiene purposes and cleaning varies depending on the type and size of ship. The fresh water quantity stored is generally insufficient and must be continuously supplemented with water from an on-board desalinization plant.

The water quality is monitored using Liquisys conductivity measurement. The fresh water quantity is recorded with Waterpilot probes especially approved for the area of drinking water.

Redox and pH value measurement in a pipe

Turbidity

Waterpilot FMX167/ Level measurement in fresh water tank

Application at sea - offshore platforms

The challenges of extracting black gold

•Drilling fluid and cementation

Drilling fluids and cement are not only expensive but also critical for operation of offshore platforms. Therefore, parameters such as density, viscosity, pH value, temperature, level, pump rates and pressure are constantly recorded and logged. The partly heavy liquids are abrasive and are in contact with corrosive acids, e.g. H2S.

Requirements of instrumentation are as follows:

-Resistance to high pressures and aggressive media

-Reliable operation even with significant build-up of drilling fluid residue

The very compact Promass Coriolis measuring system measures density, temperature, viscosity and massflow. The Promass product family comes in different versions with diameters starting at 1mm - for measuring the smallest quantities, e.g. for the injection of chemicals - to a nominal diameter of 250 - for custody transfer measurement of the largest quantities of drilling fluid or crude oil.

Promass has the following features:

-Compact version with low space requirement

-Self-draining

-Easy operation and commissioning

-Made completely from stainless steel

-SIL 2 approval

Promass DN 250

•Cement silos

Sufficient stocks of barites/bentonites as well as cement are always required for safe and cost-effective operation of a drilling rig. For this purpose, the level of storage silos has to be continuously recorded. Even extreme dust development due to pneumatic conveying must not impair measurement.

Requirements of instrumentation are as follows:

-Safe measurement of finely grained, dusty media

-Dust/gas Ex-approvals for level measuring devices

-Abrasion-resistance pressure sensors

Levelflex M FMP40

Optimum level measurement, unaffected by dust formation, is provided by microimpulses along a guiding rope or rod of the Levelflex family.

Levelflex has the following features:

-Reliable measurement even when dust formation is significant

-High degree of availability from automatic probe monitoring

-Robust stainless steel housing

-SIL 2 approval

•Separators

The produced mixture of oil, water and sand must be separated as efficiently as possible. The individual components settle one after the other in the separator. The more precisely the different layers are detected the more efficiently the floating oil is salvaged.

Requirements of instrumentation are as follows:

-Heat and abrasion resistance

-Reliable measurement even in the case of surge flooding of the measured space

Knowing the exact layer thickness in the separator is a prerequisite for a highly efficient separator. The Gammapilot radiometric measurement method offers the safest and most reliable measurement method for these applications.

Gammapilot has the following features:

-Measurement unaffected by pressure and temperature

-No mechanical influence as measurement is non-contact from the outside

-Unaffected by build-up

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Monthly KORSHIP, Korea's only shipbuilding magazine in English, serves as the window to the world's shipbuilding industry building a bright future on the horizon at sea.

Monthly Korship provides succinct overview on special features and strength of both current and new products put on the market, and keeps you updated on the shipbuilding orders and construction of ships at major domestic shipyards.

New Order - It is a clean roundup of news on orders placed with shipyards. New shipbuilding orders are reported in detail, along with photos capturing the moment of shipbuilders and clients signing contracts and summary illustrations of order backlog.

Major Performance Gallery - It provides detailed overview on the specification of products with photos.

New Product - It provides updates on new products.

DSME participates in the gas field project at Papua New Guinea

Daewoo Shipbuilding & Marine Engineering (DSME) will build LNG-FPSO (Floating Production, Storage and Offloading) unit at Papua New Guinea after receiving the government approval.

Recently, the Papua New Guinea government approved the LNG project that consists mainly of installing a special LNG vessel (LNG-FPSO), proposed by DSME E&R, the shipbuilder's oil and gas arm.

Winning the project, DSME will build a large-scale LNG-FPSO with an annual output capacity of 3 million tons of natural gas, which is scheduled to be completed by the end of 2014. The project cost is worth a total of $2.5 billion.

So far, Papua New Guinea has used the process by which the natural gas produced from onshore blocks is transported via pipelines to the liquefaction facility located at over 300km away, where Liquefied Natural Gas (LNG) is liquefied and regasified for export.

By contrast, this project enables the gas reserve development to be carried out using the LNG-FPSO unit to be built by DSME in the sea off the coast near from the block. Producing LNG offshore in this way will shorten the time taken from the liquefaction to sales, and therefore, is more economically efficient than when the existing onshore facility is used. Besides, civil complaints and environmental impact arising from the construction and operation of onshore facility will be minimized.

DSME E&R had joined forces with Hoegh LNG of Norway and Petromin PNG Holdings based in Papua New Guinea to form a consortium in order to win this project.

Having received the government approval, DSME and its subsidiary DSME E&R were awarded the contract for the construction of LNG-FPSO capable of producing 3 million tons of natural gas annually and will be able to participate in the joint operation of gas liquefaction business.

DSME E&R is expected to generate revenue from the sales of liquefied gas in the next 20 years, and furthermore, create huge value-added through the innovative improvement of gas liquefaction processes suited for use on LNG FPSOs.

In addition, gas reserve development projects using LNG-FPSO is expected to gain momentum across the globe, which will raise the prospect of new orders for LNG-FPSO and LNG carriers (LNGCs).

Hoegh LNG of Norway, a leader in transportation market, has conducted the research on the design and construction of LNG-FPSO as strategic partner of DSME in this project, and plans to support the operation of LNG-FPSO onwards.

Petromin PNG Holdings, a state-owned company of Papua New Guinea, has shown positive reaction to the introduction of LNG-FPSO. It has high expectation that the LNG-FPSO will facilitate eco-friendly development of blocks in the period ahead, help create jobs in Papua New Guinea and cultivate domestic technicians for the construction and operation of LNG-FPSO.

The Papua New Guinea government and DSME E&R had signed MOU in late April 2010 with respect to the negotiation on the liquefaction project using LNG-FPSO, and entered into a Cooperate Development Agreement (CDA) in mid July to form a consortium of 3 companies, proposing a LNG-FPSO project to develop gas reserves in the sea off the coast of Papua New Guinea.

Nexans signed a turnkey contract for the EstLink 2 submarine power cable link

Nexans was awarded the EstLink 2 turnkey contract on December 23 from Fingrid Oyj of Finland and Elering Oü of Estonia, the power transmission system operators in Finland and Estonia, to build a second submarine direct current (DC) power link between the two countries. The contract is worth approximately £ 180 million.

The EstLink 2 DC connection link is a project aiming to deliver an additional two-way transmission capacity of 650MW between Finland and Estonia as part of efforts to reinforce the electricity transmission system as requested by the transmission system operators in the Baltic Sea region.

Along with the 350MW Estlink 1 connection currently operational, the total power transmission capacity between Finland and

Estonia will increase to 1,000MW.
European Union (EU) considers EstLink 2 very crucial for the electric power market development and stable power supply in the Baltic Sea region, and has injected an investment subsidy of £ 100 million into this project.
Nexans will undertake the design, manufacturing and installation of the new 145km DC submarine power cable linking Finland and Estonia, and furthermore, a 12km section of underground cable in Estonia. This turnkey contract will include not only the protection of submarine cables through the burial into seabed but also civil works.
This submarine power cable will be manufactured at the Nexan's Halden factory in Norway and installed by the C/S Nexans Skagerrak, the submarine power cable laying ship of Nexans.
This cable is an IRC type (Integrated Return Conductor), which is characterized by the single cable necessary to create the 450kV DC link. This project is scheduled for the system trial operation in September 2013.

HHI secured an order worth KRW 590 billion to build 1 drillship

Hyundai Heavy Industries (HHI) clinched the new year's first order for a high value-added drillship, taking one step toward accomplishing its new order target of 2011.
HHI announced that it signed a contract worth KRW 590 billion on January 4 in Huston to build 1 drillship from Diamond Offshore Drilling of the United States, a deepwater drilling company providing services to the oil and gas industry. Additional orders are expected because this contract includes 1 unit of optional vessel.


Deepwater Champion, the first drillship HHI delivered on November 16, 2010

This drillship ordered to HHI will measure 229m in length and 36m in width, can drill at a maximum depth of 12km under water. HHI will embark on the basic design and detailed design process of this vessel scheduled for delivery by mid 2013.
HHI is said to have earned high scores in the drilling ability and drillship design, etc and has succeeded in winning this bid.
The drillship will be constructed with a 20% increase in drilling capacity to drill up to 3.6km, the deepest worldwide, unlike previous drillships capable of drilling less than 3km.
The drillship of HHI, albeit somewhat smaller in size than other drillships, is thoroughly designed for drilling purpose with optimized size, differentiated from the drillships of other shipbuilders who remodel oil tankers, etc, into drillship.
For those reasons, the drillship of HHI has the advantage that its 6 thrusters - which fasten the vessel not to move side to side while propelling and drilling - can operate with less power, helping save fuel expenses dramatically, and its relatively less wave resistance reduces the maintenance/repair cost, com-

pared to large drillships, even if the maritime condition is equal.
Besides, the drillship of HHI is outfitted with the state-of-art systems such as the position control system and computer propulsion system, etc, which enables the vessel to control its position by itself even in the rough waters. Furthermore, the vessel has a 7 ram blow-out preventer (BOP) upgraded from the 6 ram BOP, increasing the safety.
An official from HHI said, "We have made a good start into the new year by securing the order for drillship. With the drillship of HHI attracting highly favorable reaction from the United States, Europe, and other countries, HHI will win an increasing number of orders steadily."

HHI has received orders for a total of 4 drillships so far, and successfully delivered Deepwater Champion in November last year. In addition, HHI raised its order intake target for 2011 to $19.6 billion for its Shipbuilding and Offshore Plant (including Hyundai Samho Heavy Industries), which is about 85% higher compared to the last year's order intake, and plans to move ahead vigorously with strategies to add more newbuildings to its order book.

DSME clinched orders for 5 units of 55,000DWT Open Hatch General Cargo Carriers

Daewoo Shipbuilding & Marine Engineering (DSME) was awarded a contract on December 20 (local time) to build 5 units of 55,000DWT Open Hatch General Cargo Carriers from the Norwegian shipowner Saga Shipholding Norway AS. Both companies decided not to reveal the value of contract.
This cargo carrier is an open hatch type, and carries mainly forestry products such as pulp, etc. These vessels are known to be high value-added vessels that sell at high price albeit small in size. They will be built at the Okpo Shipyard and scheduled for delivery by mid 2013.
Saga Shipholding Norway AS which placed order with DSME this time is a shipping company to transport forestry products, such as pulp, trees and paper, etc, and its main routes are between Latin America and Europe and between Latin America and Asia.

Specifically, Saga Shipholding Norway AS is making inroads into the fast growing Latin American market, raising the expectation that it would place additional orders under its long-term fleet expansion plan.
"This contract is meaningful very much that we have secured a new blue-chip customer. DSME will maintain its leadership in the shipbuilding industry by proceeding with the differentiated strategies tailored to the needs of customers."

HHI wins $900 million deal for Qatar's Barzan Gas Project

Hyundai Heavy Industries (HHI) received a letter of award (LOA) on January 11 for a $900 million deal to execute the offshore part of Barzan Gas Project in Qatar. Following the LOA, the official contract will be signed later in January.
The project will be located 80km northeast of Ras Laffan Industrial City, Qatar. As an EPC contractor, Hyundai Heavy will carry out engineering, procurement, fabrication, transportation, installation, hook-up, and commissioning of offshore facilities including three offshore wellhead platforms, 300km of subsea pipelines and 100 km of subsea cables by the end of 2013.

The Barzan Project consists of onshore and offshore gas-processing facilities to be operated by Ras Gas Company, a joint venture between the state-run Qatar Petroleum and Exxon Mobil. The project, which will produce 1.9 billion cubic feet a day of gas, will come on stream in 2014.
HHI which had submitted its bid in April 2010 successfully won this construction contract

Rong Doi Offshore Gas Platform in Vietnam, HHI completed this project in 2006.

after some fierce competition from world's leading installation companies including the bidder that undertook basic design (FEED) works for this construction.

Gang Chang-joon, head of Offshore Engineering Division of HHI, said, "HHI is the only domestic company capable of directly installing various offshore facilities, such as submarine pipelines. HHI was awarded this contract in recognition of its excellent technology and reliability, staving off the competition from a better-positioned bidder which had carried out basic design works for this construction."

Securing this contract, HHI, which set $4.8 billion new order target in offshore engineering sector for this year, has accomplished 20% of its annual new order target.

Nexans signed a contract for Skagerrak 4 submarine HVDC power cable linking between Denmark and Norway

Recently, Nexans won an £87 million contract from Energinet and Statnett, the state-owned Transmission Systems Operators (TSOs) of Denmark and Norway. This contract is aimed to deliver submarine power cable for Skagerrak 4 (SK 4), which is the 4th HVDC power interconnector between both countries. SK 4 will be completed by the end of 2014.

The new 700MW SK 4 cable will not only help improve security of power supply in Denmark and Norway and but also contribute to the supply of eco-friendly power to other countries via the common Nordic electric power market.

With SK 1-3 which was already delivered by Nexans, the SK 4 will expand the total capacity of the Skagerrak interconnector to 1,700MW, facilitating the export of renewable energy (specifically, hydro-electric generation) produced in Norway, and help increase the wind power production in Denmark.

In the SK 4 project, Nexans will design, manufacture and install the new 140km submarine cable across the Skagerrak strait between Norway and Jutland Peninsula of Denmark.

The 500kV HVDC cable, which will be produced by the Nexans facility in Halden, Norway, is a MIND (Mass-Impregnated Non-Draining) type. It will be laid at a depth of up to 530m in the sea by Nexans' cable-laying vessel, the C/S Nexans Skagerrak. At the same time, Nexans also plans to install a separate fiber optic submarine cable which is produced by the Nexans factory in Rognan, Norway.

For the SK 4 project, a sophisticated Capjet water-jetting trenching system will be used to bury the power and fiber optic cables on the seabed at a depth of about 1m in order to protect them.

Like the existing SK 1-3 cables, SK 4 will be connected to the local onshore transmission grids of HVDC converter stations located at Tjele, Denmark, and Kristiansand, Norway. In Norway, Nexans plans to provide the 12km underground land cable linking the submarine cable to the Kristiansand station.

Yvon Raak, Nexans Senior Corporate Executive Vice President, stressed, "We were awarded this contract in recognition of our excellent quality and technology which we proved in our previous installation of 3 links."

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Monthly Korship keeps readers up to date with the latest news on shipbuilding industry and various companies swiftly. Korea, a small country on the planet, is leading the world's shipbuilding industry, powered by its economic growth.

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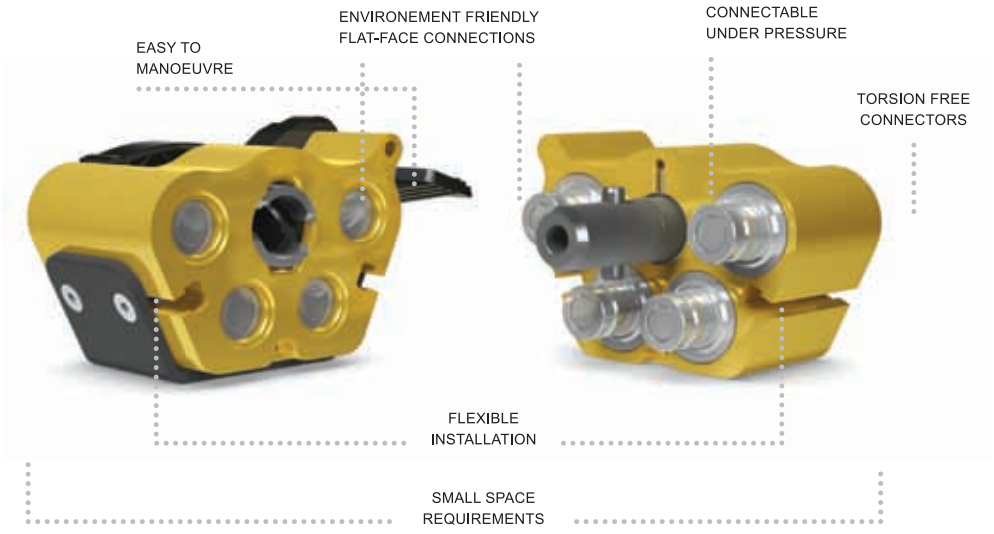

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Vessels christened and delivered in 2010

In 2010, Korean shipyards constructed a total of 497 vessels, and the volumes of vessels built increased 0.2% year-on-year to 15.51 million compensated gross tonnage (CGT), bolstered by good delivery performance. In addition, Korean shipyards captured 30.9% share of global shipbuilding market last year.

The following relates to the major domestic shipbuilders' construction, christening, and deliveries of vessels in 2010, including Hyundai Heavy Industries (HHI), Daewoo Shipbuilding & Marine Engineering (DSME), and others.

Taepyeongyang No. 10 ship, a 3,000-ton patrol ship which HHI delivered to the National Maritime Police Agency. The vessel is outfitted with 2 units of 10,000 h.p. diesel engines and 750kW electric-powered motor, a hybrid ship which can be powered by electric motor alone for low speed navigation.

The christening of Taepyeongyang No. 10 and a ceremony to celebrate its delivery were held on July 23, 2010

Deepwater Champion, a drillship of HHI which was christened on September 10, 2010. It is a very large drillship capable of drilling as deep as 12km in deepwater regions.

FPSO Usan, a supersize 2 million-barrel capacity FPSO (Floating Production, Storage, and Offloading facility), which was ordered by Total, the French multinational oil company. A naming ceremony was held for FPSO Usan on November 11, 2010, at the Ulsan Headquarters of HHI.

Mega Passion, delivered by DSME to TPI Mega Line on June 8, 2010, It is a submergible heavy lift carrier which measures 203m in length, 63m in width, and has the load out capacity of 53,000 tons. This vessel is the largest in Asia and the 2nd largest worldwide.

Yulgok Yi-Yi, South Korean Navy's second 7,600-ton Aegis destroyer delivered by DSME to the Korean Navy on August 31, 2010. It is the most powerful combat ship capable of the world's best anti-ship, anti-aircraft, and anti-submarine operations.

MSC Magnifica, the Musica-class cruise ship of STX Europe, for which the delivery ceremony was held on February 25 (local time), 2010. This 89,600GT vessel measures 294m in length, 32m in width, has 1,275 cabins and can accommodate a total of 4,000 passengers and crews.

Norwegian Epic, delivered by STX Europe on June 17 (local time), 2010. This vessel was ordered by NCL (Norwegian Cruise Line) in 2006 and can accommodate around 6,900 passengers and crews.

Allure of the Seas, the world's largest cruise. STX Europe held a ceremony to celebrate the delivery of this vessel on October 28 (local time), 2010. This vessel, ordered from Royal Caribbean in 2007, measures 361m in length, 47m in width, weighs 225,000GT, and is equal to 3 and 1/2 soccer fields in length and 16 stories in height.

Norbe VIII and Norbe IX, christened at the same time by DSME on November 11, 2010, due for delivery to Odebrecht Drilling.

STX Offshore & Shipbuilding successfully delivered MSC Bery, a 13,000TEU supersize container ship, to Niki Shipping of Greece on September 30, 2010.

A naming ceremony was held on November 2, 2010, for Thelisis, a 59,000-ton bulk carrier vessel ordered from Adelfia of Greece, which is the 100th vessel delivered by SPP.

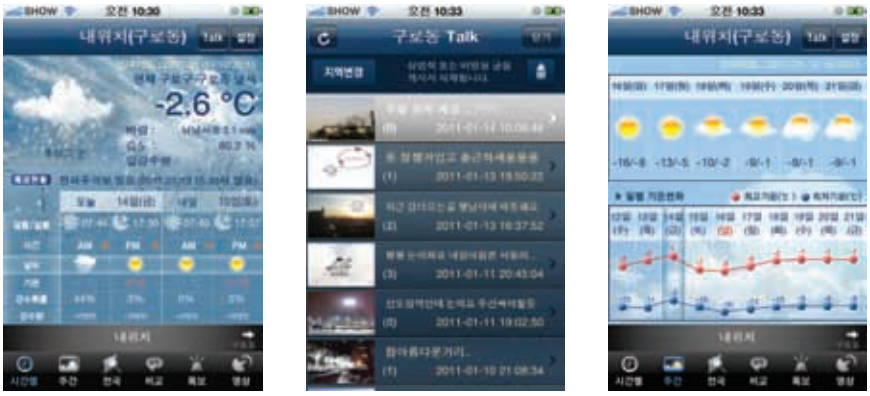
Sungdong Shipbuilding & Marine Engineering (SSME) held a naming ceremony on October 20, 2010 for 3 units of 180,000-ton bulk carriers (Navios Luz, Navios Etoile, and Navios Bonheur) at the same time, which were ordered from Navios Maritime Holdings of Greece. The vessel in the photo is Navios Etoile.

On October 30, 2010, SSME delivered Piera, its 80th vessel, a 92,000-ton bulk carrier ordered from Augustea of Italy.

New Product

The world's first weather application based on SNS - Weather Talk

GBM Inc.



Weather Talk

Meteorological equipment and weather solution provider, 153 Weather has introduced 'Weather Talk' which combines SNS (Social networking service) feature with weather forecasting. It is the world's first weather application having SNS function and currently very popular with smart phone users.

Weather Talk is planned and developed to provide users with more accurate weather forecasting which uses real-time data from the closest meteorological observation equipment.

The most distinctive functions of Weather Talk are weather forecasting for user's current location which can be detected automatically by GPS coordinates of mobile phone and talking function for user's location.

Once application detects user's location, it shows both current weather condition and weather forecasting based on the closest automatic weather station.

At the same time, users can post and share weather information with pictures in "Talk" service menu (SNS feature) with other users who are located in same region.

Weather Talk has the following features:

-Weather forecasting for my location using GPS and Talk service (SNS feature) in my location
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-Weather forecasting for today, tomorrow and a week
-Marine weather and tide information
-Special weather report

To download the application, click the Appstore first, Weather, and then, Weather Talk. For the mobile web, go to http://m.153weather.com.

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Portable oscilloscopes - ScopeMeter 190 Series II

Fluke Korea Co. Ltd.

Fluke Corporation, the global leader in portable electronic test and measurement technology, recently introduced the Fluke ScopeMeter 190 Series II handheld portable oscilloscopes, the first four-channel scopes designed for harsh industrial environments.

These new portable scopes are the first safety rated for CAT III 1,000V/CAT IV 600V environments. The four input channels are fully isolated from each other to perform differential floating measurements, a critical consideration for troubleshooting fixed-installation three-phase power electronic devices like variable speed motor drives.

The Fluke ScopeMeter chassis is sealed from the environment with no cooling slots or fans to expose the instrument. It carries the International Protection (IP) - 51 dust and drip proof rating so it's tough enough to use - safely - on the factory floor and in the field. While most high-performance oscilloscopes are not designed to withstand dirty, harsh environments, the ScopeMeter is built Fluke tough to deliver accurate results where ordinary portable oscilloscopes dare not go. For an example, see this video from Brazil's SugarLoaf Mountain.

The Fluke 190 Series II oscilloscope meets the growing need for four-channel portable oscilloscopes in industrial environments. Power electronics are used increasingly in solar and wind energy generation and to maximize efficiency or reduce power consumption especially in heavy-duty electro-mechanical applications. With the new Fluke 190 Series II ScopeMeter, users can see more and fix more using all four channels.

Their fast sampling rate, up to 2.5 GS/sec and 400 pico second resolution, helps users capture electrical noise and other disturbances to diagnose exactly what is going on. With 100MHz and 200MHz models, they deliver the bandwidth needed to cover both today's needs, and tomorrow's. With four channels, users can inspect input signals, output signals, feedback loops, or safety interlocks simultaneously to solve problems like:

-Signal amplitude or shape variations, induced noise or disturbances across critical circuit nodes

-Signal timing measurements and synchronization issues

-Attenuation, fluctuation, drift as a result of impedance issues or environmental impacts

Four channels are indispensable in testing variable speed motor drives and inverter power electronic technology used in green energy generation and transportation applications. Users can:

-View and measure harmonics, transients, and loads in three-phase power systems

-Troubleshoot dc to ac converters for faulty insulated-gate bipolar transistors (IGBTs) and control circuits

-View and measure pulse width modulated waveforms (PWM) for reflections and transients

These new test tools are convenient and user-friendly. New, high-performance Li-ion battery technology keeps the Series II ScopeMeter on the job for up to seven hours. An external charger and easy-access battery door makes it simple to swap batteries and extend usage. Two USB ports, electrically isolated from measurement input circuits, make it easy to capture and share waveforms. Users can conveniently store data to a USB memory device or easily connect to a PC via the USB port and transfer waveforms or screen images for data analysis or archive.

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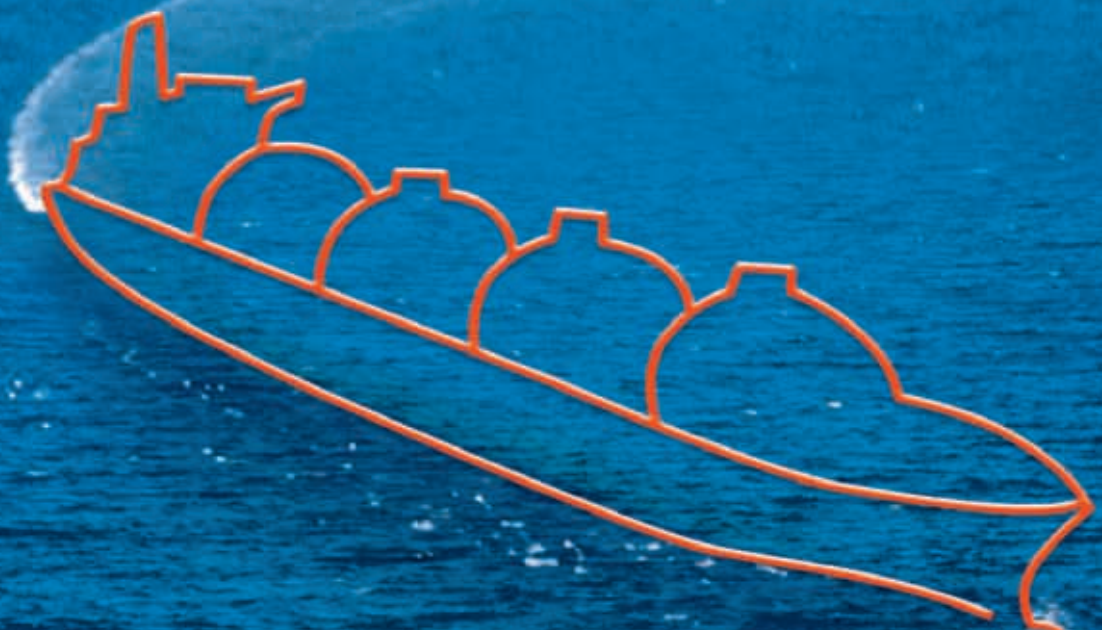

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head office : Kangnam-Gu, Seoul
homepage add : www.dkmtech.com
main products : water jet,(hj212, hj292, hj322, hm461, hm817), night navigator(nn-9000, nn-3000)
TEL : +82 2-553-0181

DONG WOO MACHINERY & ENGINEERING CO., LTD.
head office : Changwon Gyeongnam
homepage add : www.hanyang-p.co.kr
main products : provision crane, hose handling crane, cargo m/r room, center frame
TEL : +82 55-295-3261

DONG-I INDUSTRIAL CO., LTD.
head office : Chin-ju Gyeongnam
homepage add : www.e-dongi.com
main products : marine gear box, hyd. steering system, power take off
TEL : +82 55-755-9928

DONGHWA ENTEC
head office : Gangseo Busan
homepage add : www.dh.co.kr
main products : e/r heater & cooler, plate cooler, frash water generator, charged air cooler, lng cargo handling system,
TEL : +82 51-970-1000

DOOSAN ENGINE CO., LTD.
head office : Changwon Gyeongnam
homepage add : www.doosanengine.com
main products : marine diesel engine, diesel power plant
TEL : +82 55-260-6000

DONGNAM MARINE CRANE CO., LTD.
head office : Gimhae Gyeongnam
homepage add : www.dmcrane.co.kr
main products : hose handling crane, hose handling crane, provision crane, engine room crane, offshore crane
TEL : +82 55-720-3001

DAEMMSTOFF INDUSTRIE KOREA LTD.
head office : Saha-Gu, Busan
homepage add : www.daemmstoff.com
main products : KVM Sealing Compound, Mangana Retaining Compound, Durasin Chocking Compound, Panda-90
TEL : +82 51-261-7073

DAEYANG ELECTRIC CO., LTD.
head office :
homepage add : www.daeyang.co.kr
main products : lighting fixture, main switch board, fan, precision instrument,
TEL : +82 51-200-5303

DAE HEUNG COOLER CO., LTD.
head office : Pocheon Giyeonggi
homepage add : www.cooler.co.kr
main products : heat exchanger, gas cooler, oil cooler, air cooler, water chiller
TEL : +82 31-532-9667/9

DONG-A VALVE IND. CO.
head office :
homepage add :
main products : gate valves, globe valves, check valves(swing, dual, single), strainer(basket, y-type)
TEL : +82 51-831-1500

DK TECH CORPORATION
head office :
homepage add : www.dklok.com
main products : Instrumentation Fitting & Valve-Compression Tubing Fitting, Pipe & Weld Fitting, Needle, Check, Ball, Plug
TEL : +82 55-338-0032

DAE HEUNG MARINE CORP. LTD.
head office :
homepage add :
main products : rudder, block, bolster
TEL : +82 55-346-3663

DONGJIN M.P. TECH CO., LTD.
head office :
homepage add : www.epmp.net
main products : parts for marine engine, shaft systems for ship, power generation facility, industrial machines
TEL : +82 55-346-0303

DAECHANG METAL CO., LTD.
head office : Saha-Gu, Busan
homepage add : www.dcm.co.kr
main products : chain wheel, main bearing support, uec center piece, piston crown
TEL : +82 51-264-0831/5

FINETEC CENTURY CORPORATION
head office : Kangnam-Gu, Seoul
homepage add : www.century.co.kr
main products : Air Conditioner, Chilling Unit, Air Conditioning Equipment
TEL : +82 2-2185-7000

GENERAL MARINE BUSINESS INC.
head office :
homepage add : www.gmbmarine.com
main products : ship shore communication sys. emergency shutdown sys. trim/list indicator
TEL : +82 52-254-5215

G.S HIGH TECHER CO., LTD.
head office : Gangseo Busan
homepage add : gshightecher.koreasme.com
main products : Air vent heads, Auto air vent heads, Pipe coupling, Expansion joint
TEL : +82 51-832-0456

GS-HYDRO KOREA LTD.
head office : Saha-Gu, Busan
homepage add : www.gshydro.co.kr
main products : Hydraulic Pipe, High Pressure Pipe, Steering Gear Hydr. Pipe
TEL : +82 51-266-8221/5

HY-LOK CORPORATION
head office :
homepage add : www.hy-lok.com
main products : HY-Lok Tube Fittings, Bite Type (DIN 2353, JIS b2351) Fittings, 37¡Flared Type(SAE J514) Fittings
TEL : +82 51-9700-800

HANKUK MIBOO CO., LTD.
head office :
homepage add : www.hankookmiboo.co.kr
main products : Spiral Duct, Cold Chamber, Deck Covering
TEL : +82 51-263-3621

HI AIR KOREA Co., Ltd.
head office :
homepage add : www.hiairkorea.co.kr

main products : Air Conditioning System, Refrigeration Plant, Package A/C, Ventilation Fan
TEL : +82 55-340-5000

HAN KOOK FLEXIBLE CO.
head office :
homepage add : www.hkflex.com
main products : Flexible, Expansion Joint, Rubber Compensator
TEL : +82 51-508-6291/3

HANLA LEVEL CO., LTD.
head office :
homepage add : www.hanlalevel.co.kr
main products : Cargo Tank Monitoring Sys. Tank Romote Sounding Sys. High Level Alarm Sys.
TEL : +82 51-605-3000

HALLA INDUSTRIAL CO., LTD.
head office :
homepage add : www.hallaiq.co.kr
main products : Refrigeration Pumps (NH_3 , R22, NHO_3 , CO_2), Volute Pumps, Turbine Pumps
TEL : +82 51-264-2201/5

HANSHIN ELECTRONICS CO., LTD.
head office :
homepage add : www.ehanshin.com
main products : Public Address System (hpa-9600, hpa-9200, hpa-7300), Marine Telephone
TEL : +82 51-412-5551

HAN JO CO., LTD.
head office : Yeongdo Busan
homepage add : www.hanjoms.co.kr
main products : expansion joint. Fuel Injection Pipe. Air Filter
TEL : +82 51-414-7201

HAEAN MACHINERY IND. CO., LTD.
head office :
homepage add : www.haean21.com
main products : Marine Crane, Deck Machinery(Outfitting). Special Equipment
TEL : +82 55-345-2024

HYUNDAI LIFEBOATS CO., LTD.
head office :
homepage add : www.hdboat.com
main products : Life Boat & Rescue Boat
TEL : +82 52-237-4850/4

HYUNDAI MARINE MACHINERY CO., LTD.
head office :
homepage add : www.hmmco.kr
main products : Hyundai-Atias Incinerator. Hyundai-Jowa 15ppm Bilge Separator, Auxiliary Blower, Ventilation Fan
TEL : +82 32-583-0671

HYUNDAI ELEVATOR CO., LTD.
head office :
homepage add : www.hyundaielevator.co.kr
main products : Elevator, Escalator, Auto. Parking System
TEL : +82 31-644-5114

HYUNDAI WELDING CO., LTD.
head office :
homepage add : www.hdweld.co.kr
main products : Covered Electrode ARC Welding Consumables, Sub-Merged ARC Welding Flux & Wire
TEL : +82 2-6230-6010/2

HYUN DAE FITTING CO., LTD.
head office :
homepage add : www.hdfco.co.kr
main products : Flange, Stainless Steel, Duplex Stainless Steel, Forged Carbon Steel
TEL : +82 51-831-0891

HYUN JIN CO., LTD.
head office :
homepage add : www.hyunjinn.co.kr
main products : Control Colsole, Light Signal, Column, Control Panel
TEL : +82 51-263-9841

HYUNJIN MATERIALS CO., LTD.
head office : Gangseo Busan
homepage add : www.hjmco.co.kr
main products : Marine Engine Uses-Camshaft & C/Flange, Connecting Rod, Cross Head
TEL : +82 51-602-7700

HOSEUNG ENTERPRISE CO., LTD.
head office : Gangseo Busan
homepage add : hoseung.koreasme.com
main products : Package Unit for Engine Room, Portable Tank, Ventilator, Cable Box
TEL : +82 51-831-2233/4

HOCHANG MACHINERY INDUSTRIES CO., LTD.
head office :
homepage add : www.hoc21.com
main products : Deck Machinery, Hose Handling Crane, Provision Crane, Cell Guide
TEL : +82 52-255-2000

HAE WON INDUSTRY CO.
head office :
homepage add : haiwon1.koreasme.com
main products : marine diesel engine parts(water seal, inflatable ring, mating ring, compact seal, cr-liner)
TEL : +82 51-831-4600

HODU INDUSTRIAL CO.
head office :
homepage add :
main products : ups & rectifier sys. hull stress monitoring sys. waste compactor
TEL : +82 51-291-9512

I.M.E. CORPORATION
head office :
homepage add : www.promarine21.com
main products : engine valve & seat, all type engine
TEL : +82 55-346-1127

IL SEUNG CO., LTD.
head office : Gimhae Gyeongnam
homepage add : www.ilseung.co.kr
main products : Sewage treatment plant. Biological type, Frash water generator. Plate. tubular type,
TEL : +82 55-345-4114

IL-SUNG IND. CO.
head office :
homepage add :
main products : Hot water calorifier, Silencer(for m/e, g/e, fan), Mist eliminator, Washable air filter
TEL : +82 51-312-4056

JUNG GONG IND. CO., LTD.
head office :
homepage add : www.jung-gong.com
main products : Ordinery window & side scuttle, Heated window, Fire resistant window & side scuttle, Window for passenger ship, Window box, Roller blind
TEL : +82 51-261-2911

JUNG-A MARINE CO., LTD.
head office :
homepage add : www.jung-a.co.kr
main products : Accommodation ladder, Wharf ladder, Window wiper
TEL : +82 51-831-4147

DONGHWA PNEUMATIC TECHNOLOGY CO., LTD.
head office :
homepage add : www.jptec.co.kr
main products : marine reciprocating air compressor, industrial air compressor, screw type air compressor
TEL : +82 51-831-3227

JUNGSAN ENTERPRISE CO., LTD.
head office :
homepage add : www.jungsan.com
main products : Bolt & Nut (Exhaust valve, Cylinder cover, Connecting-rod, Main bearing & etc.)
TEL : +82 52-254-3290

JHK INC.
head office : Gimhae Gyeongnam
homepage add :
main products : Container Fixed Fitting, Car Lashing Equipment
TEL : +82 55-346-2225

JONGHAP MACHINERY CO., LTD.
head office : Yangsan Gyeongnam
homepage add : www.jonghap.biz
main products : sewage treatment plant, welding positioning equipment sys. parts former
TEL : +82 55-383-2300

JS CABLE LTD.
head office : Cheonan Chungnam
homepage add : www.jscable.co.kr
main products : offshore & marine cable, power cable, speciality cable, nuclear cable
TEL : +82 41-559-4800

KANGRIM HEAVY INDUSTRIES CO., LTD.
head office : Changwon Gyeongnam
homepage add : www.kangrim.com
main products : boilers, marine & industrial, inert gas system(i.g.s.), i.g.g. & $n_2$generator
TEL : +82 55-269-7701

KANGRIM INSULATION CO., LTD.
head office : Saha-Gu, Busan
homepage add : www.kangrim.com
main products : lng & lpg carriers tank & pipe cryogenic insulation, lng receiving terminal tank & pipe cryogenic insulation
TEL : +82 51-220-6001

KUNSUL CHEMICAL IND. CO., LTD.
head office : Jin-Gu Busan
homepage add : www.jebi.co.kr
main products : marine & heavy duty, protective coatings
TEL : +82 51-892-4221/7

KYUNG EUN CERAMICS CO., LTD.
head office : Gimhae Gyeongnam
homepage add : www.ke-ceramics.com
main products : ceramic back-up tape
TEL : +82 55-345-7761

KUKDONG ELECTRIC WIRE CO., LTD.
head office : Jincheon Chungbuk
homepage add : www.cablekukdong.co.kr
main products : shipboard cable, lan utp cable, power cable, rubber cable, pvc cable
TEL : +82 43-530-2000/1, +82 2-2140-3061

KUMKANG PRECISION CO., LTD.
head office : Saha-Gu, Busan
homepage add : www.kkmarine.co.kr
main products : marine valve, valve for engine, air reservoir tank
TEL : +82 51-262-4890

KUMOH MACH. & ELEC. CO., LTD.
head office : Gijang Busan
homepage add : www.komeco.net
main products : eng. & t/c tacho system, vibration measuring system, d/g engine control panel
TEL : +82 51-724-5070

KEYSUNG METAL CO., LTD.
head office :
homepage add : www.keysungmetal.com
main products : valves for marine & offshore plant, cryogenic vlaves, strainer
TEL : +82 51-831-3391

K. C. LTD.
head office :
homepage add : www.iccp-mgps.com
main products : I.C.C.P. System, Anti-fouling System(M.G.P.S.), Shaft Earthing Device
TEL : +82 51-831-7720

KSP CO., LTD.
head office :
homepage add : www.kspvalve.com
main products : Engine Valve, Flange
TEL : +82 51-831-6270/7

KTE CO., LTD.
head office :
homepage add : www.kte.co.kr
main products : Marine Switchboard(high, low), Marine Control Console, Alarm Monitoring System, Thruster
TEL : +82 51-265-0255

KOKACO CO., LTD.
head office :
homepage add :
main products : Exhaust Valve & Valve Seat Grinding Machine, Nozzle Lapping Machine
TEL : +82 51-403-4114/6

KONGSBERG MARITIME KOREA LTD.
head office :
homepage add : www.km.kongsberg.com
main products : IAS, DP, K-Chief 500, Auto Chief c20, K-Gauge, K-Bridge, MIP, MBB
TEL : +82 51-749-8600

KEYSTONE VALVE(KOREA) LTD.
head office : Anseong Gyeonggi
homepage add : www.tycovalves.com
main products : Butterfly Valve, Ball Valve, Safe Valve
TEL : +82 31-670-2500

KEON CHANG IND. CO., LTD.
head office :
homepage add : www.keonchang.co.kr
main products : marine equipment, ladle turret, roll stand assy, side trimmer & chopper, bloom c c, screw conveyor, etc.
TEL : +82 51-203-0161

KWANG SAN CO., LTD.
head office :
homepage add : www.kwangsan.com
main products : heating coil, sus spool, air vent head, expansion joint
TEL : +82 51-974-6301

KEUMYONG MACHINERY CO., LTD.
head office : Buk-gu, Daegu
homepage add : www.keumyong.com
main products : exhaust valve complete with valve spindle, axial vibration damper
TEL : +82 53-608-8110/6

KWANG SUNG CO., LTD.
head office :
homepage add : ikwangsung.com
main products : t-girder, panel, stair, handrail, inclined ladder,
TEL : +82 55-338-9973

KUK DONG ELECOM CO., LTD.
head office : Saha-Gu, Busan
homepage add : www.kukdongelecom.com
main products : marine & offshore light fixtures, explosion-proof lights, flood & search lights, mgf packing system
TEL : +82 51-266-0050

KYUNGSUNG INDUSTRY CO., LTD.
head office : Gangseo Busan
homepage add : www.e-clamp.com
main products : clamp, sus corner, anchor strip
TEL : +82 51-831-4960

LS CABLE LTD.
head office :
homepage add : www.lscable.co.kr
main products : marine shipboard & offshore cable, bare conductor wire, (pvc/pe/xlpe/rubber) power & control cable
TEL : +82 2-2189-9114

LEE YOUNG INDUSTRIAL MACHINERY CO., LTD.
head office : Ulju Ulsan
homepage add : www.leeyoung.co.kr
main products : engine casing, corr. bhd, upper deck, built-up longitudinal, chain locker, lashing bridge
TEL : +82 52-231-5800

MIN SUNG CO., LTD.
head office : Sasang Busan
homepage add : www.minth.co.kr
main products : cable tray, hatch, electric cable box
TEL : +82 51-305-8862

Mt.H CONTROL VALVES CO., LTD.
head office :
homepage add : www.mth.co.kr
main products : crankcase relief valve, main starting valve, pneumatic control valve, safety relief valve
TEL : +82 51-974-8800

MSL COMPRESSOR CO., LTD.
head office : Pocheon Giyeonggi
homepage add : www.mslcomp.com
main products : breathing air compressor, h.p air compressor, n2 gas booster
TEL : +82 31-853-7000

MYCOM KOREA CO., LTD.
head office :
homepage add : www.mycomkorea.com
main products : screw compressor unt, reciprocating compressor unit condensing unit, brine chiling unit
TEL : +82 55-294-8678

MYCOM KOREA CO., LTD.
head office :
homepage add : www.mycomkorea.com
main products : screw compressor unt, reciprocating compressor unit, condensing unit, brine chiling unit
TEL : +82 55-294-8678

Myung Sung Engineering Co., Ltd.
head office : Mokpo Jeonnam
homepage add :
main products :rudder & rudder stock, rudder horn, stern roller
TEL : +82 61-276-7650

Marine Radio Co., Ltd.
head office :
homepage add : www.mrckorea.com
main products : public address system, auto tel. exchanger sys. communal aerial sys. marine clock system
TEL : +82 51-414-7891

NK CO., LTD.
head office :
homepage add : www.nkcf.com
main products : ballast water system, co2system, deck foam system, dry power system
TEL : +82 51-204-2211/3

ORIENTAL PRECISION & ENGINEERING CO., LTD.
head office :
homepage add : www.opco.co.kr
main products : deck house, funnel & engine room casing, life boat davit, engine room crane
TEL : +82 51-202-0101

OSCG CO., LTD.
head office : Sasang Busan
homepage add : www.oscg.net
main products : cable gland(eexd & e), adapter / reducer, flexible connectors
TEL : +82 51-305-3910

PANASIA CO., LTD.
head office : Gangseo Busan
homepage add : www.pan-asia.co.kr
main products : cargo monitoring sys. tank level gauge sys. high & overfill alarm sys.
TEL : +82 51-831-1010

SARACOM CO., LTD.
head office : Yeongdo Busan
homepage add : www.saracom.net
main products : gmdss, ship sound signal appliances, navigation equipment, fire detection system
TEL : +82 51-600-9000

SAMGONG Co., Ltd
head office :
homepage add : www.sam-gong.co.kr
main products : oil purifiers, ships accommodation ladders, ships windows
TEL : +82 51-200-3040/1

SAMYOUNG MACHINERY CO., LTD.
head office : Daedeok Daegeon
homepage add : www.sym.co.kr
main products : cylinder head, cylinder liner, piston
TEL : +82 42-625-4064

SAMYUNG ENC CO., LTD.
head office :
homepage add : www.samyungenc.com
main products : ais(si-30)-auto. identification sys. dsc vhf radio telephone(str 6000a)-gmdss equipment
TEL : +82 51-601-6601

SUH HAN INDUSTRY CO., LTD.
head office :
homepage add : www.suhhani.co.kr
main products : cable tray others-steel, galvanized steel, stainless steel, aluminium
TEL : +82 51-204-1920

SEOHAE MARINE SYSTEM CO., LTD.
head office :
homepage add : www.seohae-ms.com
main products : hatch-pontoon type, folding type, side rolling type, etc. lashing equipment-2/3tier
TEL : +82 51-204-8408

SUNBO INDUSTRIES CO., LTD.
head office :
homepage add : www.sunboind.co.kr
main products : tank top unit, engine room unit, package unit
TEL : +82 51-261-3454

SUNG KWANG BEND CO., LTD.
head office :
homepage add : www.skbend.com
main products : pipe fittings-butt. welding / socket welding / thread type/ flange
TEL : +82 51-3300-200

SUNG MI CO., LTD.
head office :
homepage add : www.sung-mi.co.kr
main products : fire retarding doors, fire retarding wall, ceiling panel
TEL : +82 55-329-1117

SUNGSIN INDUSTRIES CO., LTD.
head office :
homepage add : sungsin.koreasme.com
main products : hatch coaming, t-bhk block, fore mast & port, water separator
TEL : +82 54-776-6441

SUNG IL CO., LTD. (SIM)
head office :
homepage add : www.sungilsim.com
main products : pipe spool fabrication, induction pipe bending, marine engine pipe
TEL : +82 51-831-8800

ESAB SeAH CORP
head office :
homepage add : www.esab.co.kr
main products : welding consumable, welding equipments
TEL : +82 55-289-8111

SEUN ELECTRIC CO., LTD.
head office :
homepage add : www.seunelectric.co.kr
main products : battery charger and dist. board. full auto. charging sys. .lcd display monitor
TEL : +82 51-208-4641

SE-WON INDUSTRIES CO., LTD.
head office :
homepage add : www.sewon-ind.com
main products : high velocity p/v valve, gas free vent cover, flame screen
TEL : +82 51-728-4191

SAEJIN INTECH CO., LTD.
head office :

homepage add : www.sjhind.com
main products : emergency towing system, telescopic radar post, deck fittings(mooring fitting), industrial m/c & etc.
TEL : +82 55-328-1770

SE JIN IND. CO., LTD.
head office : 61-68 Ungnam-dong, Changwon-si, Gyeongsangnam-do.
homepage add : www.sejin89.co.kr
main products : piping, h.f.o supply unit, purifier module each kind
TEL : +82 55-239-4700

SPECS CORPORATION
head office :
homepage add : www.specs.co.kr
main products : system division-oil mist detector, portable level temp/oil
TEL : +82 31-706-5211

SHIN DONG DIGITECH CO., LTD.
head office :
homepage add : www.shindong.com
main products : satellite tv sets-satellite communication equipments, draft buoy(1m, 1.6m, 2.4m discus buoy)-ocean information technology division
TEL : +82 51-467-5001

SIL LA METAL CO., LTD.
head office :
homepage add :
main products : propeller(f.p.p.), c.p. propeller blade & hub, propeller shaft, inter shaft
TEL : +82 51-831-5991/8

SHINMYUNG TECH CO., LTD.
head office :
homepage add :
main products : air & electric winch-0.2ton ~ 10ton, air motor-1p ~ 25p, davit (all)-0.2ton ~ 5ton
TEL : +82 55-363-7091

SHINSUNG DIESEL KIKI CO.
head office :
homepage add : nozzle.koreasme.org
main products : for marine engine-nozzle, plunger assy, delivery valve assy
TEL : +82 51-264-8829, 262-8869

SHIN SHIN MACHINERY CO., LTD.
head office :
homepage add : www.sspump.com
main products : centrifugal pumps, gear pumps, screw pumps, submersible pumps
TEL : +82 51-727-5300

SHINA METALTECH CO., LTD.
head office :
homepage add : www.shinametal.com
main products : white metal bearings-marine metal bearing, automotive metals
TEL : +82 52-298-2100/4

SHIN YOUNG HEAVY INDUSTRIES CO.,LTD
head office :
homepage add : www.syhico.com
main products : oil & gas system, hydraulic system
TEL : +82 61-800-3700

S & W CORPORATION
head office :
homepage add :
main products : cam & camshaft, valve spindle & seat ring, piston pin
TEL : +82 51-205-7411

S.A. MART CO., LTD.
head office :
homepage add : www.samartkr.com
main products : control lever, control cable, hydraulic steering system, auto pilot system, stern drive system
TEL : +82 32-815-6314

STX ENGINE CO., LTD.
head office :
homepage add : www.stxengine.co.kr
main products : marine diesel engine, military diesel engine, gas engine, gas turbine
TEL : +82 55-280-0114

SIMULATION TECH INC.
head office : Geumcheon Seoul
homepage add : www.simulationtech.co.kr
main products : Emergency Shutdown System, Grease Extractor/de-Oiler, Operator Training Simulator
TEL : +82 2-3281-0960

SHINHAN MACHINERY CO., LTD.
head office :
homepage add : www.shinerpia.com
main products : deck house, engine casing & funnel, fore/after-end block & others
rudder, living quarters
TEL : +82 52-231-3525

SAMGONG INDUSTRIAL CO., LTD.
head office : Pyonghaek Gyeonggi
homepage add : www.samgong.com
main products : inflatable rubber products
TEL : +82 31-654-4805/6

SIN YOUNG ENTERPRISE CO., LTD.
head office : Gimhae Gyeongnam
homepage add : www.sy-ind.com
main products : main hole, access hatch, bollad
TEL : +82 55-346-0034

SUNG JIN GEOTEC CO., LTD.
head office : Namgu Ulsan
homepage add : sgtkor.co.kr
main products : bulbous bow, stern block, hull block, module, lng/lpg tank
TEL : +82 52-228-5801

STACO CO., LTD.
head office : Gangseo Busan
homepage add : www.staco.co.kr
main products : Wall Panel, Ceiling Panel, Unit Toilet, Cabin Door, Furniture,
TEL : +82 51-831-7000

STX ENPACO CO., LTD.
head office :
homepage add : www.stxenpaco.co.kr
main products : turbocharger, diesel engine parts, marine equip.
TEL : +82 55-282-1131

SEOUL ELECTRIC CABLE CO., LTD.
head office : Eum-seong Chungbuk
homepage add : www.seoulcable.com
main products : offshore & shipboard cables, travelling cables, high voltage power cables
TEL : +82 43-879-7200

SMECO
head office :
homepage add :
main products : piston, piston liner, piston skirt
TEL : +82 41-864-3030

SURO PROPELLER & MACHINERY CO
head office : Yeongdo Busan
homepage add : www.suropump.co.kr
main products : Propeller(d : 2500mm), Shaft (l : 6m), Pump
TEL : +82 51-415-0444

SHIN-A ENTERPRISE CO., LTD.
head office : Saha Busan
homepage add : www.shina-ent.com
main products : navigation equipment, communication equipment, monitoring system equipment
TEL : +82 51-204-6221/5

TK CORPORATION
head office :
homepage add : www.tkbend.co.kr
main products : Elbow, Reducer, Tee, Cap
TEL : +82 51-831-6550

TAE YOUNG TRADING LTD.
head office : Junggu Seoul
homepage add : www.marine-material.com
main products : Receptacles & Wire Accessaries, Floodlight, Deck Light, Reflected Lamps
TEL : +82 2-2272-1960

TANKTECH Co., Ltd.
head office :
homepage add : www.tanktech.co.kr
main products : High Velocity P/V Valve, Local Fire Fighting Sys. Tank Cleaning Machine
TEL : +82 51-979-1600

TECHMARINE S/W CO., LTD.
head office :
homepage add : www.techmarine.net
main products : Loading Computer System
TEL : +82 51-467-7003

FRIEND CO., LTD.
head office : Gangseo Busan
homepage add : www.tsdream.co.kr
main products : cable tray, heating coil, strainer
TEL : +82 51-974-7900

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homepage add : www.tmc-cable.com
main products : marine cable, optical fiber cable
TEL : +82 2-771-3434

WARTSILA ACCOMMODATION SYSTEMS KOREA, INC.
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homepage add : www.whayoung.co.kr
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homepage add : www.wwckorea.com
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TEL : +82 51-831-0131

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homepage add : www.yoowonind.com
main products : steering gear, auto filter, deck machinery
TEL : +82 51-205-8541

YOUJEON STEEL CO., LTD.
head office : Changwon Gyeongnam
homepage add : www.youjeon steel.co.kr
main products : Marine Engine Parts-Engine Bed
TEL : +82 55-297-2121

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• http://www.shi.samsung.co.kr

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• http://www.hshi.co.kr

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