



Portfolio of Marine & Offshore Solution

Global Leader in Marine & Offshore Solution

World's Best

We are focusing on cost-effective green technologies that are reinventing environmental-friendly solutions, e.g., Eco solution, Automation solution & Power solution.

Marine Solution Package



Eco Solution

- BWMS
- EN-Saver
- FuGaS's Control
- S-REGAS's Control



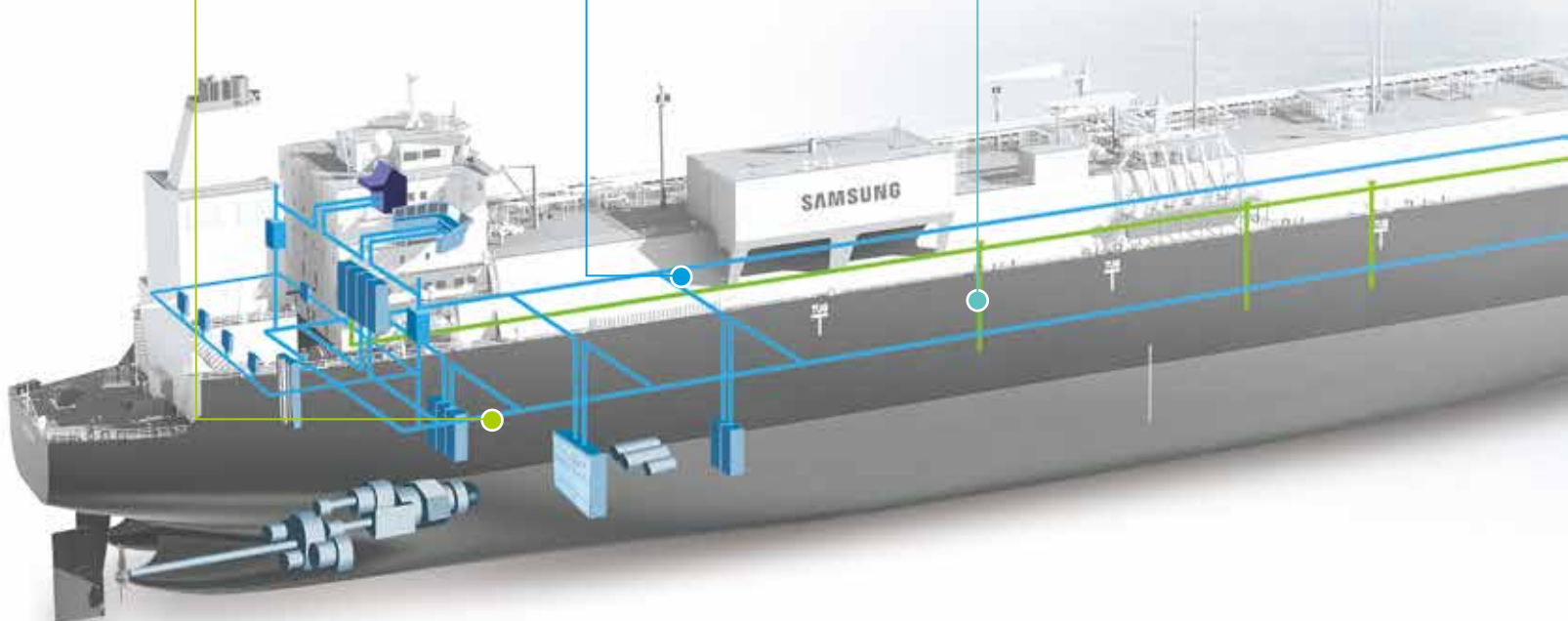
Automation Solution

- ICSS / IAS / ICMS / AMS
: SSAS-Master / SSAS-Master S
- VRCS, TLGS, RSS
- Remote Maintenance



Power Solution

- High Voltage Switchboard
- Low Voltage Switchboard
- EPP



Offshore Solution Package

FPSO



- **Automation**
VCS (Vessel Control System) / ESD / F&G / PMS with Mode Change
- **Power System**
High Voltage (up to 17.5kV) Switchboard
Low Voltage (up to 690V) Switchboard
- **Ballast Water Treatment System**

Semi-Rig



- **Automation**
VCS (Vessel Control System) / ESD / F&G / PMS with Mode Change
- **Power System**
High Voltage (up to 17.5kV) Switchboard
Low Voltage (up to 690V) Switchboard
- **Ballast Water Treatment System**

Drillship



- **Automation**
VCS (Vessel Control System) / ESD / F&G / PMS with Mode Change
- **Power System**
High Voltage (up to 12kV) Switchboard
Low Voltage (up to 690V) Switchboard
- **Ballast Water Treatment System**

Ro-PAX & Cruse



- **Automation**
VCS (Vessel Control System) / ESD / F&G / PMS with Mode Change
- **Power System**
High Voltage (up to 12kV) Switchboard
Low Voltage (up to 690V) Switchboard
- **Ballast Water Treatment System**



BWMS (Ballast Water Management System)

At ballasting, the ballast water treatment process performed by the PURIMAR™ System comprises two main unit operation : mechanical separation (filtering) and disinfection. At deballasting, a neutralization unit decreases the total residual oxidants (TRO) concentration before discharge if required.



- Space-saving design
- Non toxic by-products
- Anti-corrosion & Coating protection
- Cost saving



EN-Saver (Ship Energy Efficiency Management System)

EN-Saver provides various optimization solutions for economic ship operation as well as accurate ship performance evaluation tools complying with SEEMP Regulation. "Optimal Trim" module provides the operator with the optimal trim condition reducing the hull resistance and minimizing fuel consumption. "Optimal Route and Speed" module calculates the best route considering the forecasted weather data and finds the optimal ship speed between each way point assuring the ship safety & economy. "Optimal G/E Load Allocation" module recommends the most efficient generator engines operations. Additionally, operators can accurately evaluate the ship performance even under a variety of weather conditions with "Weather Effect and Hull Resistance Analysis".



- Reducing fuel consumption by "Trim & Route & Speed & G/E Optimization"
- Ensuring the ship safety by diverting the severe weather region
- Accurate evaluation of ship energy efficiency performance
- Advanced SEEMP Planning with ship energy simulation
- Reducing the operator workload through the electronic SEEMP report



FuGaS's (Fuel Gas Storage & Supply System) Control

FuGaS (Fuel Gas Storage & Supply System) is the most eco-friendly system to meet international environmental demands concerning gas engines which LNG as a fuel is used for. FuGaS is the best solution related to green ship projects, which can be the key to solve environmental matters and to satisfy the regulations as well.

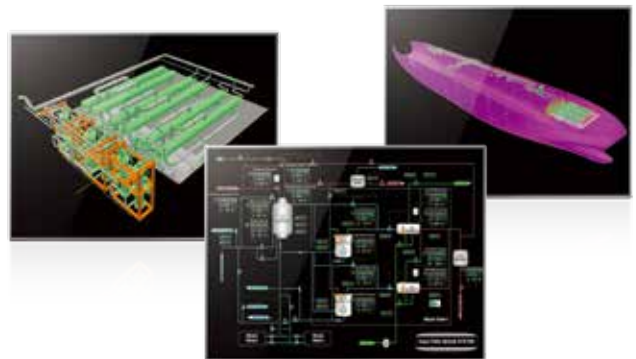


- FuGaS control system
- Control, operation and safety function



S-REGAS's (Regasification System Package) Control

Regasification System Package consists of cryogenic and high pressure process, which is optimized for the SRV(Shuttle Regasification Vessel) and LNG FSRU(Floating Storage Regasification Unit). In addition, the total solution package of process equipment and control system is one of the most effective and safety solutions for this LNG processing unit in the world.



- Regasification control system

Automation Solution



SSAS-Master (IAS)

Automation System, SSAS-Master is so innovatively designed with dual system from the high-level workstation to the low-level I/O card that has no trouble with monitoring and controlling whatever is occurring in spite of any tiny disorder. It is all adjusted for luxurious large vessels which need high reliability like LNGC, Tanker, FPSO, Container, RORO and Cruses.



- High performance & reliability component
- Powerful reliability
- Powerful integration & interface

SSAS-Master S (ICMS/AMS)

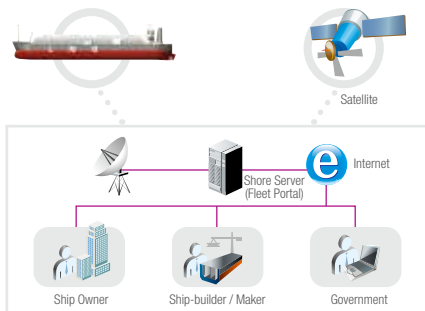
SSAS-Master S is a simplified automation system solution, which can cover AMS, ICMS and PMS as well. On LNGC, Tanker, FPSO, Container, RORO and Cruses in which SSAS-Master is installed, the SSAS-Master S is to be additionally equipped on it. Due to the applied field bus, I/O cabinet can be easily expanded. Also 32(16) channels device applies, it saves the cabinet space.



- High performance & reliability component
- Powerful reliability
- Powerful integration & interface

Remote Maintenance

Remote Maintenance is an integrated e-navigation system for operators or ship owners to facilitate safe and secure navigation of vessels. No matter where on earth, you are able to view and check easily fleet information via internet.



- Security management of ships
- Computer aided process and training management
- Computer based log system for recording data relating to a voyage

Power Solution



High Voltage Switchboard

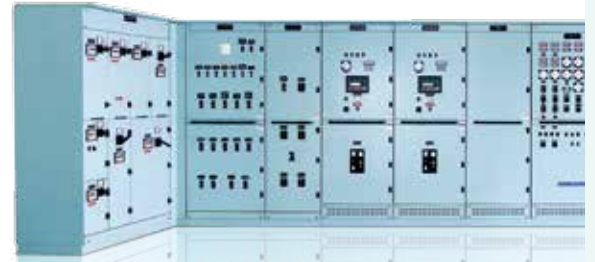
High Voltage Switchboard is specially designed and manufactured to meet the environmental and safety conditions of the marine and offshore industries.



- Achieved full type approval
- Tested in accordance with IEC Pub.62271-200
- Metal-clad construction (LSC2B and PM)
- Independently arc-fault tested

Low Voltage Switchboard

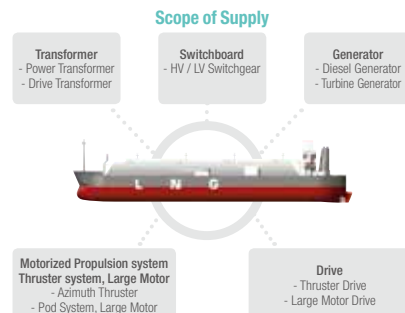
Low Voltage Switchboard has been supplying a full range of Low Voltage Switchboards for the marine electrical system with the advanced technology and experience. This Low Voltage Switchboard is specially developed for marine applications. Besides providing enough working space, the compact design of this switchboard saves the installation space.



- Totally-enclosed, dead-front, floor standing multi-cubicle type
- Tested in accordance with IEC61439
- World wide quality marine service
- Compact low-voltage board for power distribution

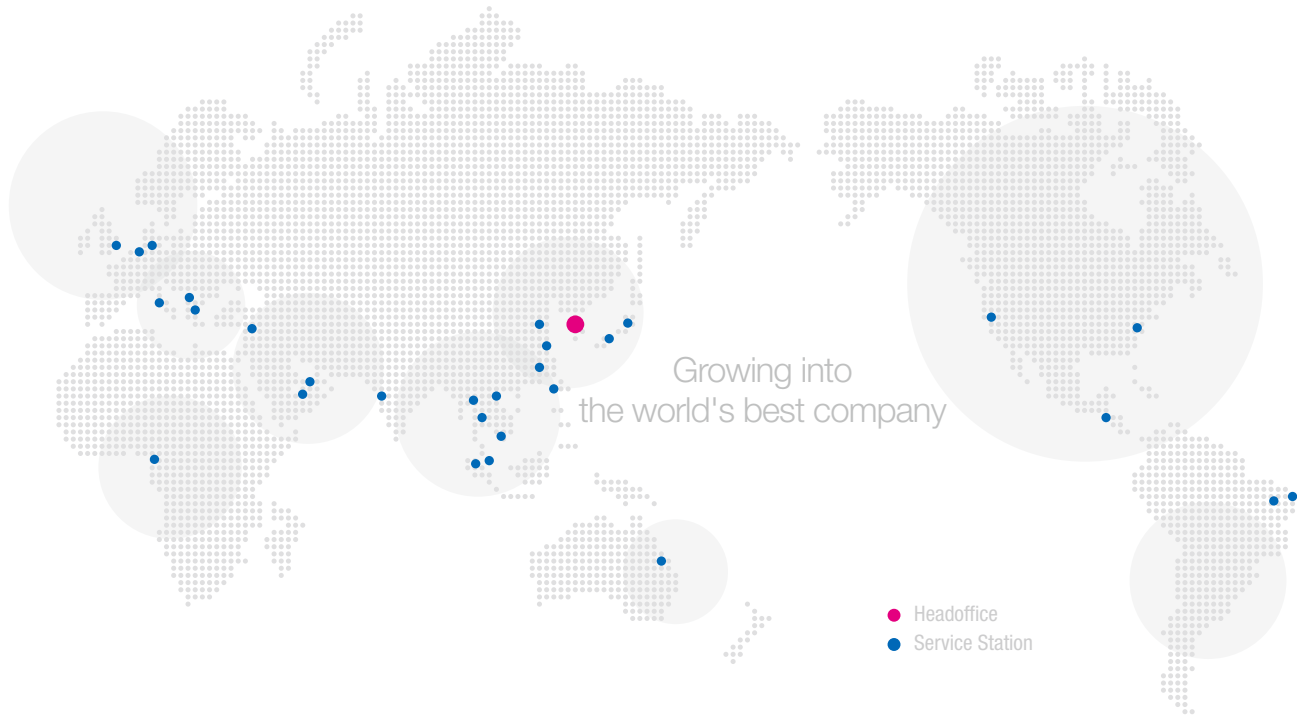
EPP (Electric Power Generation and Propulsion Package)

S&SYS cumulated technologies with numerous records from newbuilding business of marine and offshore facilities are further specialized as electrical solution provider business.



- Engineering
- Procurement
- Project management

Total Solution for Digital Vessel



Eco Solution

ASIA	
KOREA	S&SYS Co.,Ltd.
KOREA	STK Engineering
KOREA	JEWON Engineering
CHINA	Seven Seas Electronic Co.,Ltd.(Shanghai)
CHINA	Seven Seas Electronic Co.,Ltd.(Qingdao)
CHINA	Seven Seas Electronic Co.,Ltd.(Dalian)
CHINA	SAMSUN Marine Technology(HK) Co.,Ltd.
CHINA	SJE
INDIA	Indostan
JAPAN	Orient Marine Co.,LTD.
JAPAN	JRCS MFG Co.,Ltd.
SINGAPORE	Treys Ple Ltd.
TAIWAN	RESON Electronics
CENTRAL AMERICA	
PANAMA	PASRAS S.A
MIDDLE EAST	
U.A.E	MARITRONICS
U.A.E	Tensosys

North America	
USA	MarineBCTec(LA)
USA	MarineBCTec(NJ)
SOUTH AMERICA	
BRAZIL	METALOCK Brazil Ltd.
BRAZIL	DZETA Marine & Offshore
EUROPE	
GERMANY	Mare System
ITARY	MASTER CONTROL
GREECE	D.C.S.I International Ltd.
NETHERLAND	Euronavig Holdings
TURKEY	Ozsay Deniz

Automation Solution

ASIA	
KOREA	S&SYS Co.,Ltd.
KOREA	DEX
KOREA	KJ RADIO Co.,Ltd.
KOREA	STX Engineering
CHINA	Seven Seas Electronic Co.,Ltd.(Shanghai)

CHINA	Seven Seas Electronic Co.,Ltd.(Qingdao)
CHINA	Seven Seas Electronic Co.,Ltd.(Dalian)
CHINA	SAMSUN Marine Technology(HK) Co.,Ltd.
CHINA	SJE
HONGKONG	HOSTMOST Engineering
INDIA	Navicom Technology International Pvt.Ltd.
SINGAPORE	CWH Engineering
SINGAPORE	Treys Ple Ltd.
TAIWAN	RESON Electronics
THAILAND	A&MARINE THAI
OCEANIA	
AUSTRALIA	Consilium NOVAMARINE
MIDDLE EAST	
U.A.E	ELCOME INTERNATIONAL LLC
U.A.E	MARITRONICS
EUROPE	
GERMANY	Mare Systems
GREECE	NOVA ELECTRONICS S.A
GREECE	D.C.S.I International Ltd.
ITALY	MASTER CONTROL
U.K.	MJR Controls Ltd.

AMERICA	
USA	Los Angeles
CENTRAL AMERICA	
PANAMA	PASRAS S.A
SOUTH AMERICA	
BRAZIL	METALOCK Brazil Ltd.
AFRICA	
NIGERIA	Lagos

Power Solution

ASIA	
KOREA	S&SYS Co.,Ltd.
KOREA	STK Engineering
OCEANIA	
AUSTRALIA	Consilium NOVAMARINE
MIDDLE EAST	
U.A.E	MARITRONICS
SOUTH AMERICA	
BRAZIL	METALOCK Brazil Ltd.



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