



# MARINE SOLUTION

We build  
a better Future!



Dear Sirs,

Since its foundation in 1973, Hyundai Heavy Industries, Co., Ltd. has grown to become the world's largest shipbuilder and the manufacturer of choice for more than 12% of new orders in the global marine and shipbuilding markets. This remarkable growth has been fueled by our devotion to technological excellence and giving our esteemed customers the highest standards of durability, performance and value in every order.

These hallmarks of Hyundai quality distinguish our industrial products as well. Hyundai Heavy Industries group is rapidly becoming the global leader in heavy machinery and construction equipment, engines, industrial plants, offshore facilities, electrical equipment, and industrial robotics. And with nearly 40 years of broad-based technical and engineering expertise, we are ready to provide you with state-of-the-art innovation and proven reliability in all our products.

As a result of our broad-based production of cutting edge technologies, Hyundai Electric & Energy System have accumulated an enormous amount of theoretical and practical experience in this very competitive industry and have emerged as a highly dependable manufacturer in a conglomerate way to manufacture ships, we would like to present our shipbuilding equipment of the most proud high quality and reliability.

With renewed pride and enthusiasm, Hyundai takes on the challenges of the future, sparing no effort to complete quality power plants in the best interests of its valuable customers.

Thank you.



### Marine Engine & Equipment

- Diesel Engine
- Propeller & Shaft
- HiMSEN Engine
- Steam Turbine
- Thrusters
- Pumps
- EcoBallast Water Management System



### HiMSEN Engine

- H17/28
- H17/28E
- H21/32
- H25/33
- H32/40
- H32/40V



### Rotating Machinery

- Alternator
- Motor



### Switchgear

- Medium & High Voltage Switchboard
- Low Voltage Switchboard
- Ring Main Unit
- Vacuum Circuit Breaker
- Air Circuit Breaker
- Power Management System & Protection Relay



### Automation Systems

- Alarm & Cargo Monitoring System
- Bridge Navigation System
- Remote Diagnostic System
- Bridge Navigation Watch Alarm System



### Transformers & Inverters

- Dry Transformer
- Cast Resin Transformer
- Inverter

## Engine & Equipment

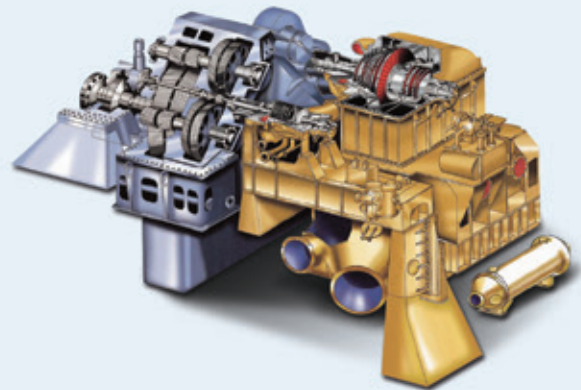
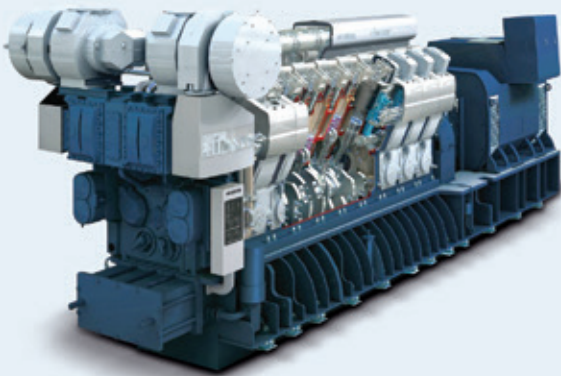


### Diesel Engine

- Hyundai-MAN B&W
- Hyundai-WÄRTSILÄ
- Engine Components:
  - Bed Plates
  - Cylinder Heads
  - Piston Rods
  - Frame Boxes
  - Cross Head Pins
  - Connecting Rods
  - Cylinder Liners
  - Cylinder Frames

### Propeller & Shaft

- Propeller
  - Max: 120Ton in Weight, 11m in Diameter
  - Min: 10Ton in Weight, 3m in Diameter
- Shaft Rudder
  - Max: 150Ton in Weight, 2,200mm in Diameter, 18,000mm in Length
  - Min: 300mm in Diameter, 2,000mm in Length



### HiMSEN Engine

- H17/28: 575 ~ 1,000kW
- H21/32: 800 ~ 1,980kW
- H32/40: 3,000 ~ 4,500kW
- H17/28E: 660kW
- H25/33: 1,440 ~ 2,970kW
- H32/40V: 6,000 ~ 10,000kW

### Steam Turbine

- HP/LP Turbine Capa.: 20,000 ~ 50,000PS
- Components: HP/IP Turbine Casing, LP Turbine Casing, Rotor Shaft, Blade etc.



### Thrusters

- CPP
  - Propeller O.D: 1,000 ~ 3,400mm
  - Motor Output: 300 ~ 4,000kW
- FPP
  - Propeller O.D: 1,000 ~ 2,000mm
  - Motor Output: 300 ~ 1,200kW

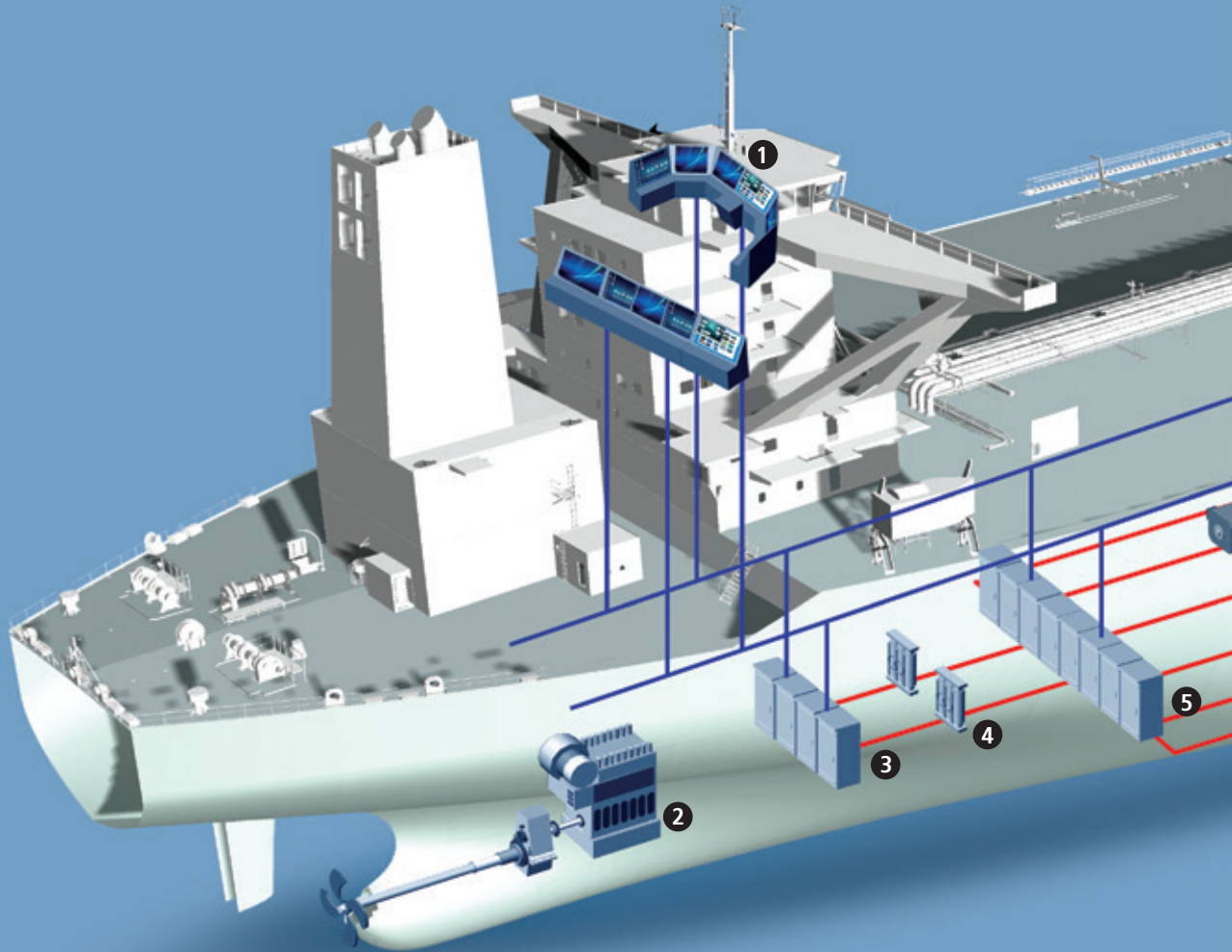
### Pumps

- Cargo Oil Pumping System
- Steam Turbine
- Submerged Cargo Pumping System



### Ballast Water Management System

- EcoBallast
  - Filter Unit
  - UV Lamp
- HighBallast
  - Filter Unit
  - Electrolysis Unit



## Automation System



**Alarm and Cargo Monitoring System**

- ACONIS

**Remote Diagnostic System**

- HIDS

**Integrated Bridge System**

- HTIBS • HiVDR

**Bridge Navigation Watch Alarm System**

- HiWMS

## Smart S



Transformer



Gas Insulated Switchgear

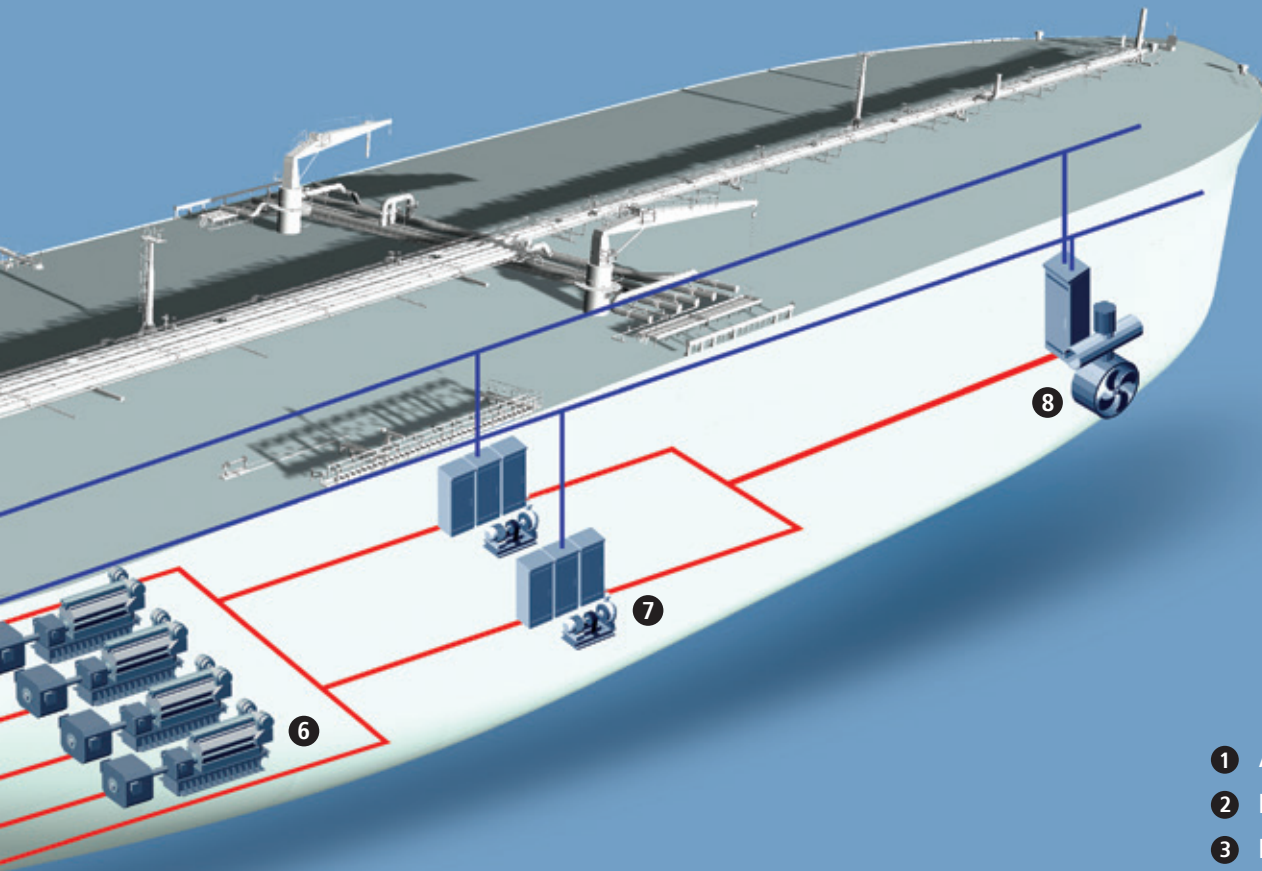


Cast-Resin Transformer



Generator

# Marine Systems ■ ■ ■



- 1 Automation System
- 2 Engine & Equipment
- 3 Inverters
- 4 Transformers
- 5 Switchgear
- 6 Rotating Machinery
- 7 Pumps
- 8 Thrusters

## Solution



## Transformers & Inverters



### Transformers

- Dry Transformer
- Cast-Resin Transformer



### Inverters

- 0.4 ~ 350kW for 200V, 400V
- 155 ~ 6,400kW for 3.3 ~ 6.6kV

## Switchgear



### Low & Medium Voltage Switchboard

- MV SWBD: 3.3kV to 12kV
- LV SWBD: up to 690V



### Ring Main Unit

- up to 6.6kV



### Vacuum Circuit Breaker

- up to 36/38kV, 50kA, 4,000A



### Air Circuit Breaker

- up to 130kA, 6,300A



### Power Management System & Protection Relay

- HiMAP-BCG
- ACONIS-2,000PMS
- HiMAP-FI, M, T

## Rotating Machinery



### Alternators

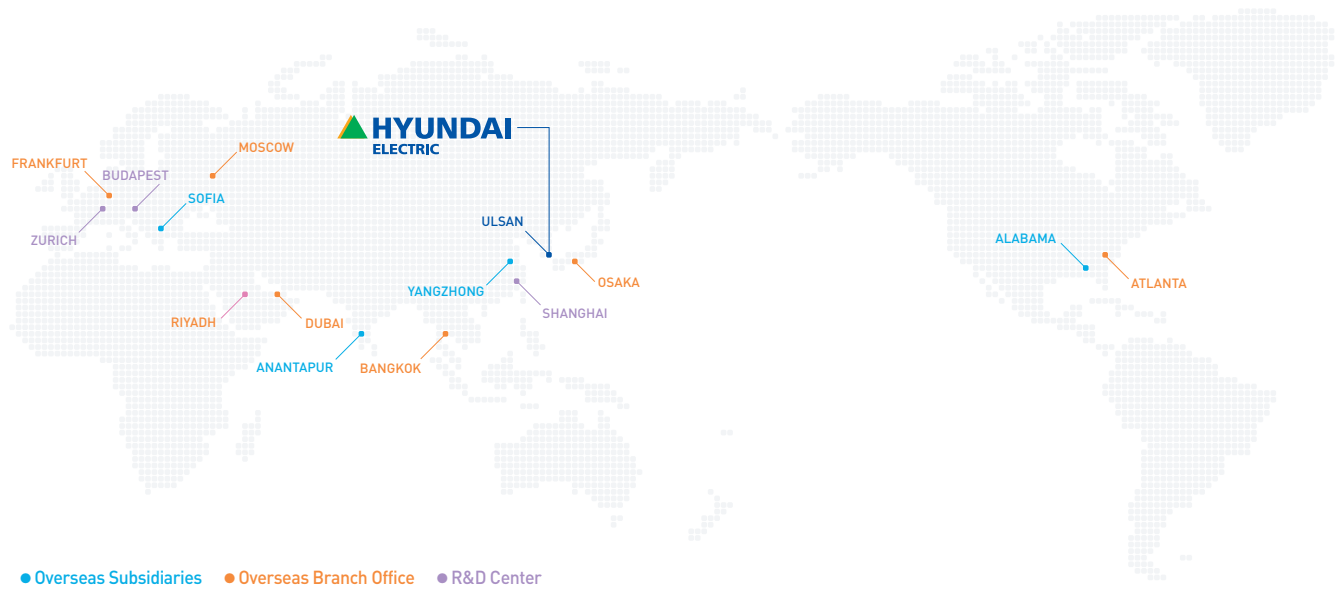
- Manufacturing Scope: 100 ~ 50,000kVA
- Voltage: 220V ~ 14kV
- Poles: 4 ~ 14Poles
- Protection Degree: IP23/IP55



### Motors

- Manufacturing Scope: 0.4 ~ 6,000kW
- Voltage: 220 ~ 690V
- Poles: 2 ~ 10Poles
- Protection Degree: IP23/IP55

# Global Network



**HYUNDAI ULSAN FACTORY**



Established Year: 1977  
Product: TR, GIS

**HYUNDAI TECHNOLOGIES CENTER HUNGARY LTD.**



Established Year: 1998  
Research Area: Rotating Machinery

**HYUNDAI BULGARIA**



Established Year: 1997  
Product: TR (Tap Changer)

**HYUNDAI CHINA**



Established Year: 2003  
Product: Circuit Breaker and Switchgear

**HYUNDAI POWER TRANSFORMERS USA**



Established Year: 2010  
Product: TR

