

# ESSENTIAL FOR TODAY

# POTENTIAL FOR TOMORROW

HD HYUNDAI ELECTRIC  
CORPORATE BROCHURE

ENGLISH

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### RESEARCH & DEVELOPMENT

### QUALITY ASSURANCE

### GLOBAL NETWORK

# Let me invite you to our new transformation journey at HD Hyundai Electric.



## Since 1977,

HD Hyundai Electric has served as a committed partner to its customers on their growth path in the heavy electrical machinery sector and is embarking on a new beginning.

The global power industry has been going through a paradigm shift with an increasing penetration of distributed- generation (DG) by growing renewable energy demand and the expansion of ICT convergence solutions and DC power infrastructures.

To fully realize growing business opportunities, we will further focus on gaining a distinctive competitive edge in the electric power distribution and solutions sector, in addition to the transmission where we own rich experience and expertise.

Our transformation into a digital smart solutions provider will be accelerated further as we establish the ICT platform, reliability assessment center, smart factory and more.

Thank you for being part of our journey as we aspire to become the leading Smart Solution Provider in Korea.

Seok Cho  
CEO of HD Hyundai Electric *Seok Cho*

# Smart Connection to the Future

With a wide range of products and proven engineering capabilities in every field of the electrical industry, we are fully prepared to meet the most demanding requirements and to provide turnkey solutions. Our high quality products and services will satisfy customers whenever and wherever they need us.

## POWER SOLUTION

Providing equipment and systems to power system such as power generation, transmission and distribution

- Utility (National generation / transmission company)
- IPP (Private generation / transmission company)
- Generation EPC company and etc.

## MV/LV SOLUTION

Providing equipment and systems for industrial plants and general industrial sectors

- Construction, EPC
- Industrial plants, petrochemicals, etc.
- Buildings, houses, etc.

## MARINE SOLUTION

Providing electric system for ship and offshore facilities

- Shipyard, shipping company, offshore equipment provider
- Offshore plant (FPSO, etc.), petrochemical

## ENERGY SOLUTION

Providing energy-efficient and eco-friendly solutions

- General industrial energy consumer
- Energy-related local governments
- High-rise buildings and residential complexes



## 1970

- 1977 Feb. Inauguration of Electrical Engineering Division
- 1978 Jan. Completed Switchgear Factory
- 1978 Oct. Completed Transformer Factory
- 1978 Nov. Incorporation as Hyundai Electrical Engineering (HEECO)
- 1979 Aug. Completed Rotating Machinery Factory
- 1979 Sep. Completed High Voltage Transformer Test Laboratory

## 1980

- 1982 Dec. Hyundai Industrial Research Institute established
- 1983 Dec. Completed Circuit Breaker Factory
- 1984 Dec. Completed Power Electronics Factory
- 1986 Jun. Low Voltage Motor Factory established "HIMCO", Joint Venture with General Electric
- 1989 May. Completed GIS Factory

## 1990

- 1993 Dec. Merged with Hyundai Heavy Industries
- 1996 Nov. Completed Turbine & Generator Factory
- 1997 Jul. Incorporated Hyundai Heavy Industries Bulgaria Company
- 1999 Oct. Established Global R&D center in Hungary
- 1999 Nov. Completed 800 kV Transformer, GIS Factory & Test Facility

## 2000

- 2001 Jan. Renamed Electro Electric Systems (EES) Division
- 2002 Jun. 800 kV Gas Insulated Switchgear Developed
- 2003 Oct. Incorporated Hyundai Heavy Industries (China) Electric Company
- 2007 Apr. Incorporated Hyundai Ideal Electric Company
- 2008 May. Completion of switchboard and distribution transformer factory
- 2009 Jul. Expanded 550 kV GIS Factory
- 2009 Nov. Completed 400 kV Transformer Factory

## 2010

- 2011 Nov. Incorporated Hyundai Power Transformer, USA
- 2012 Jan. Achieved Total 800,000 MVA Production in Transformers
- 2014 Nov. Joint R&D venture with Bulgaria designated an excellent business
- 2015 Oct. Medium/low-voltage circuit breaker HG Series launched
- 2017 Apr. [HD Hyundai Electric launched](#)
- 2017 Apr. Launched HD Hyundai Electric's ICT Solution 'INTEGRICT'
- 2017 Jul. Won the World Largest Energy Storage System Contract
- 2017 Jul. Bangkok Branch established. (in Thailand)
- 2017 Oct. Frankfurt Branch established. (in Germany)
- 2017 Dec. HD Hyundai Electric Switzerland Ltd. established
- 2018 Apr. Completion of the World Largest (150 MWh) Energy Storage System (ESS) in Korea Zinc Ulsan Factory
- 2018 May. Reliability Assessment Center opened to enhance R&D capability
- 2018 Jul. Middle East Subsidiary established (In Saudi Arabia)

## 2020

- 2020 Jan. Completed 500 kV Transformer Smart Factory
- 2020 Apr. HD Hyundai Electric America Corporation established.

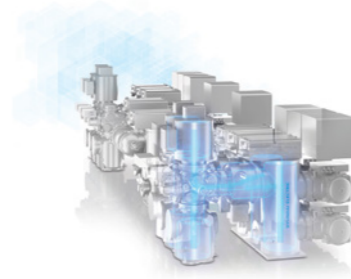
# What We Provide

HD Hyundai Electric's first goal is to provide total and continuous client-based solutions, as a reliable and experienced electrical equipment manufacturer for the power generation, transmission and distribution market. For three decades, HD Hyundai Electric has engaged in designing, engineering, manufacturing, and supplying electrical products in compliance with international standards and customer requirements.



## Transformers

- Power Transformer
- Distribution Transformer
- Cast Resin Transformer
- Dry Type Transformer
- Special Purpose Transformer



## Gas Insulated Switchgear

- 72.5 kV, 126 kV, 145 kV, 170 kV, 245 kV, 362 kV, 420 kV, 550 kV, 800 kV



## Rotating Machinery

- Electric Motor
- Generator

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## INTEGRICT

### HD HYUNDAI ELECTRIC ICT SOLUTION

- Energy Solution(ESS, BEMS, FEMS)
- Asset Management Solution

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## Switchgear

- Medium Voltage Air-Insulated Switchgear
- Cubicle-Type Gas Insulated Switchgear
- Eco Friendly gas insulated switchgear
- Low Voltage Switchgear
- Power Automation



## LV&MV Circuit Breakers

- Vacuum Circuit Breaker
- Vacuum Contactor
- Air Circuit Breaker
- Molded Case Circuit Breaker
- Magnetic Contactor
- Miniature Circuit Breaker
- Protection Relay, Meter



## Electrical Marine Solution

- High Voltage Switchboard
- Synchronous Generator
- LV & HV Motor
- Water Cooling Transformer

INTEGRICT

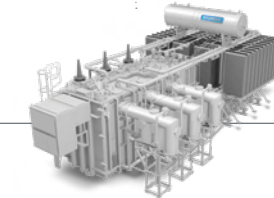
**Energy Solution** Energy solution business refers to the business of designing, procuring and establishing a system that enables the efficient use of power energy through integrated management of the production, consumption, sales and operation of power energy.

**Asset Management Solution** Asset management solution is a business that maximizes the overall business efficiency by systematically managing the performance, risk, maintenance cost and others as well as by providing an asset management solution suitable to the customer's circumstance depending on the product lifecycle (PLC) of various products.

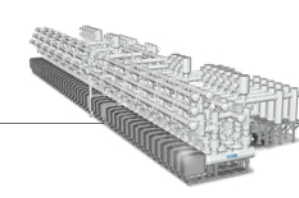
Generation(step-up)

**Power Plants**

- Supplied more than 70 countries around the world for the past 45 over years since 1978
- Satisfies the various demands of customers through the acquisition of quality certifications from international accredited institute
- Participates in the world's key technical committee such as GIGRE and others, pioneering the establishment of technology standard related to power network



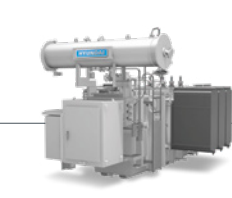
**Power Transformer**  
· up to 800kV, 1,500MVA



**Gas Insulated Switchgear**  
· up to 800kV



**Gas Insulated Switchgear**  
· up to 800kV



**Power Transformer**  
· up to 800kV, 1,500MVA



**Shunt Reactor**  
· up to 765kV, 300Mvar

- Can be installed in spaces smaller than the open type of substation by using SF<sub>6</sub> gas with outstanding insulation and arc extinguishing characteristics
- Secures advanced reliability by producing products that are resistant to external environment and climate effects through the sealing at the charge part
- Extensive project experiences around the world
- Reduces installation period and cost due to simple installation and transportation, convenient maintenance
- Design considering the safety of the workers as priority

**ECO Transformer**  
· up to 500kV, 1,000MVA

- Applies eco-friendly oil (Natural/Synthetic)
- Applies Dynamic Pressure Resistant System(DPRS)
- Guarantees excellence in safety

**SF<sub>6</sub> Free Gas Insulated Switchgear**  
· GIS for 170kV 50kA 60Hz

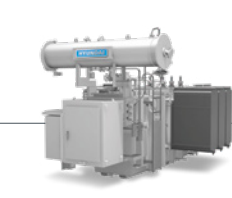
- Applies Korea's first solely developed technology
- Uses Eco-friendly Novec mixture gas instead of SF<sub>6</sub> gas

Transmission

Primary Substation/Secondary Substation



**Gas Insulated Switchgear**  
· up to 800kV



**Power Transformer**  
· up to 800kV, 1,500MVA



**Shunt Reactor**  
· up to 765kV, 300Mvar

Distribution



**Cubicle GIS**  
· up to 40.5kV

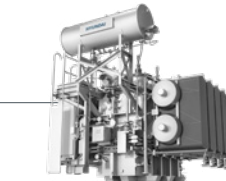
- Produces high quality products using angle-less type
- Multi-functional digital protection relay (HiMAP) applied
- High reliability secured, provides various operation information such as protection, measurement and control
- Firm external box, size and compact, making it safe
- Maintains high quality through stringent quality control system and continuous research and development



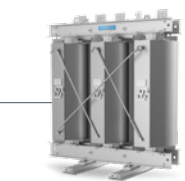
**Metal Clad Switchgear**  
· up to 38kV  
· IEC, ANSI



**Low Voltage Switchgear & Motor Control Center**  
· H8PU : 660V, 3,000A, 80kA  
· H5600 : 660V, 3,000A, 100kA  
· HiMCC : 1,000V, 5,000A, 100kA



**Distribution Transformer**  
· up to 36kV, 50MVA

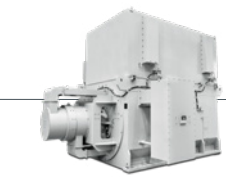


**Cast Resin Transformer**  
· up to 36kV, 20MVA

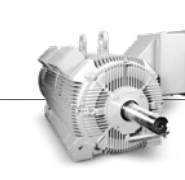
Motor & Generator



**Synchronous Generator**  
· Rated Output: < 48MVA  
· Rated Voltage: < 15kV  
· Poles: > 4P



**Synchronous Motor**  
· Rated Output: < 40MW  
· Rated Voltage: < 15kV  
· Poles: > 4P



**MV&HV Induction Motor**  
· Rated Output: < 30MW  
· Rated Voltage: < 15kV  
· Poles: 2P-30P

- Enhanced reliability and secured safety with production of products based on the world's best equipment and stringent quality system
- Realized high efficiency by selecting slot based on FEM
- Realized small and lightweight with optimal design based on FEM analysis method
- Satisfies the quality standards of international accredited institutes (IEC, IEEE, CSA, NEMA, API etc.)

Marine

Marine Solution

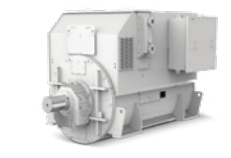
- Production of high quality marine devices satisfying the regulations and standards of key marine associations (LRS, ABS, DNV, GL, BV, NK etc.) and world's renowned institutes
- High quality safety secured through the latest equipment and stringent quality control system
- Realization of optimal high efficiency by converging SWGR, Generator, Motor, Telecom, Automation, Intelligent Motor Control Unit and others



Marine Switchgear



Marine Motor



Generator



Shaft Generator

**VCB**  
· IEC, ANSI, UL  
· up to 36/38kV, 50kA, 4,000A

**VC**  
· up to 12kV, 400A

**HGMAP**  
· HGMAP Series

**ACB**  
· up to 150kA, 6,300A

**MCB**  
· up to 15kA, 125A

**RCCB / RCBO**  
· up to 100A, 500mA

**SPD**  
· up to 200kA  
· AC, DC

**MCCB**  
· AC : up to 150kA, 1,600A  
· DC : up to 100kA, 800A

**ELCB**  
· up to 85kA, 800A, 1,000mA

**MCCB / ELCB**  
· up to 10kA, 100A, 100mA

**Distribution Box**  
· Up to 36ways  
· Surface/Flush type

**Fuse Links & Switches**  
· up to 1,250A

**HGCAM**  
· HGCAM Series

**MS / MC**  
· up to 800A

**MMS**  
· up to 100kA, 80A

**Installation Contactor**  
· up to 63A

**EOCR**  
· up to 60A

**HGDM**

**LV Induction Motor**  
· Rated Output: < 750kW  
· Rated Voltage: < 690V  
· Poles: 2P-12P

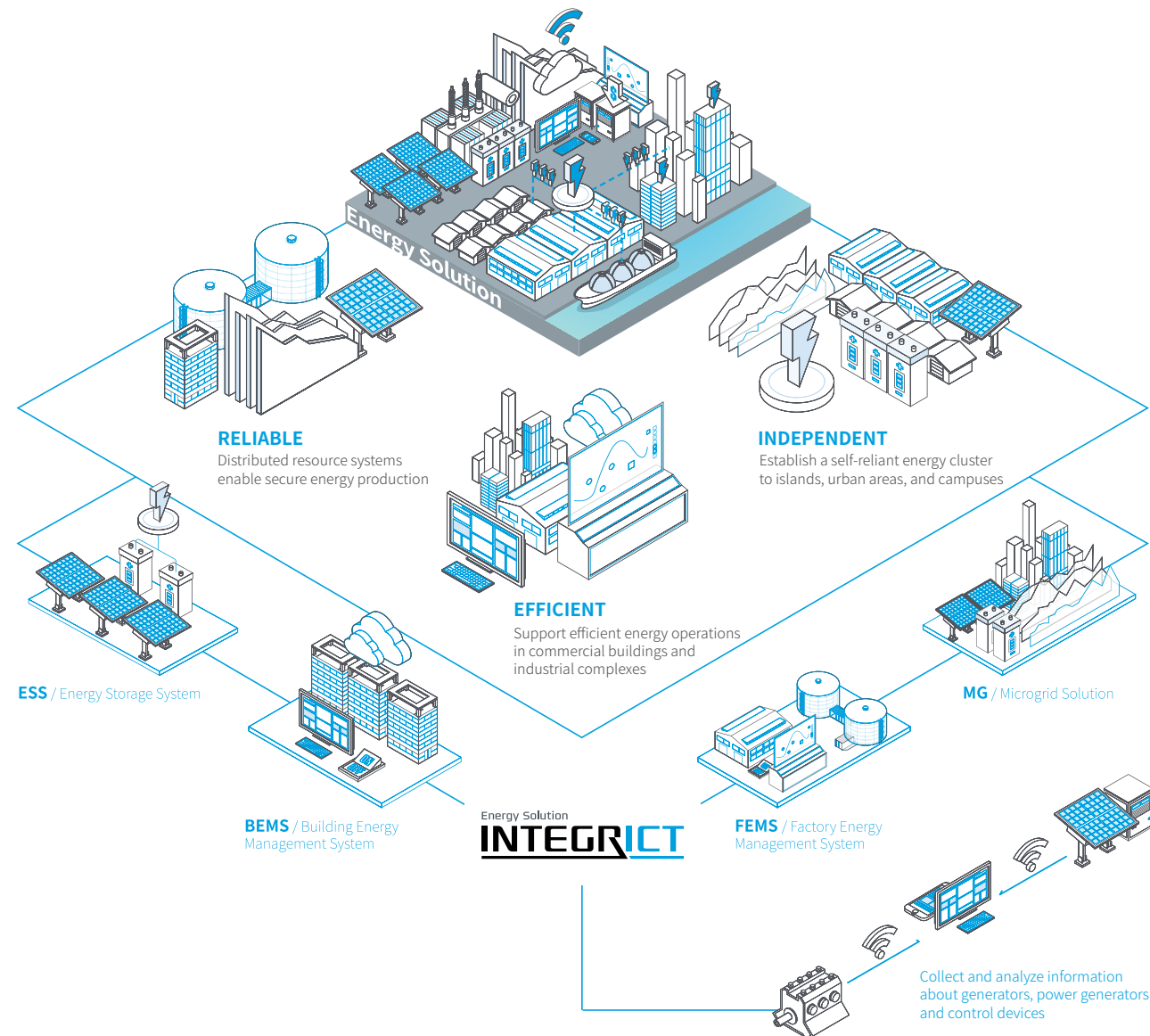
- Can be applied to various places of demand due to various domestic and international certifications and marine certifications
- Full HG-Series line-up established
- High standard of breaking capacity and various product line offers production in any load environments
- Increased reliability with reinforced breaking performance of high-breaking MCCB
- Reinforced usage stability through internal reliability verification

**INTEGRICT**

# Energy Solution

HD Hyundai Electric supplies total solutions for energy management system from a diagnostic analysis to an installation and verification.

This system can be implemented in oil / chemistry / shipbuilding factory and hotel / school / hospital buildings with high reliability.



## Energy Management Solution

HD Hyundai Electric supplies a diagnostic analysis, solution and systematic implementation for total energy system. Energy solutions implemented by accurate field diagnosis can help customers to determine appropriate improvement considering the investment.

### Industrial Energy Solution

- Field diagnosis for energy saving and system improvement (Free)
- Analysis for energy saving solution and return on invest (Free)
- Balance control solution for Pipeline Network System
- Process optimization (Oil / Chemistry / Shipbuilding)
- Solutions for system diagnosis and efficiency improvement
- Optimal operation solution for power system in renewable energy
- Energy management solution for Energy Storage System



### Building Energy Solution

- Field diagnosis for energy saving and system improvement (Free)
- Analysis for energy saving solution and payback period (Free)
- Building Automation System (BAS)
- Forecasting for power demands
- Energy saving solution for HVAC



## System Integration

To provide a truly open platform for efficient integration of third-party software applications and system standard software / hardware, all software generation and hardware selections are designed and manufactured to meet industry standards.

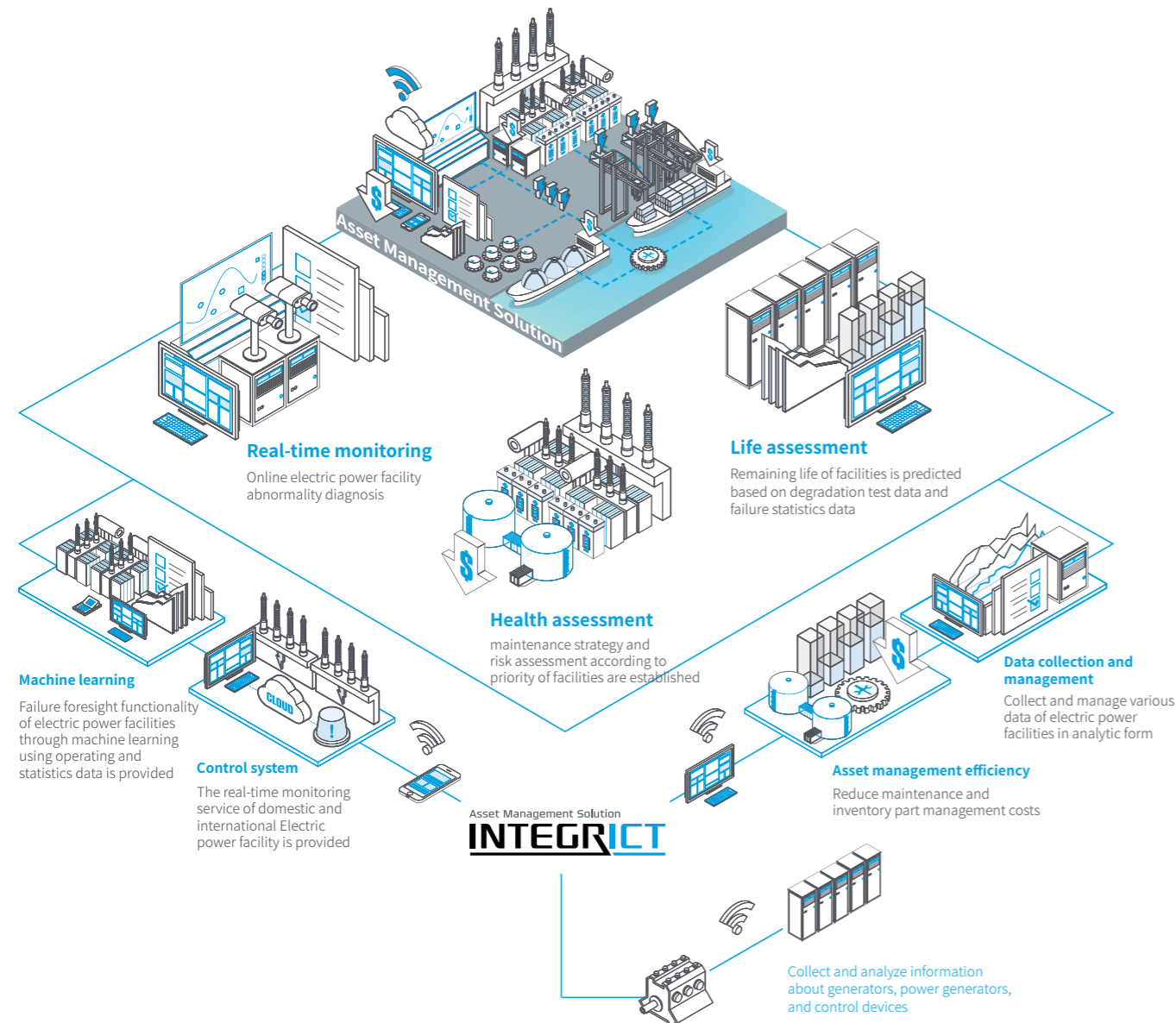
### Features and Design Criteria of System Integration

- Fully redundant data highway
- Distributed processing architecture
- Support of Multiple major RTU protocols (Modbus, DNP V3.0, IEC 60870-5), IEC 61850
- Windows based HMI & Web-based User Interface
- Open System Network
- Multi-level client / server structure
- Guaranteed to create any up-to-date system structure

# INTEGRICT

## Asset Management Solution

Based on abundant knowhow of our 40 years of electric power facility design and manufacturing technique, systematically manages data such as performance, risk, and maintenance cost during product entire lifecycle, provides appropriate asset management information for electric power facility operating condition, and supports customers to establish optimum maintenance strategy.



### Characteristics



#### Online electric power facility abnormality diagnosis

Using sensor data of electric power transformer, high voltage circuit breaker, rotating machine and switch gear, real-time electric power facility monitoring diagnosis functionality is provided



#### Machine learning based failure foresight

Failure foresight functionality of electric power facilities through machine learning using operating and statistics data is provided



#### Electric power facility health assessment

Based on failure statistics data of electric power facilities, operating history, Remaining life calculation algorithm and abnormality diagnosis data, maintenance strategy and risk assessment according to priority of facilities are established



#### Life assessment by degradation evaluation

Remaining life of facilities is predicted based on degradation test data and failure statistics data



#### Decision making

Decision is made for maintenance strategy based on facilities' statistics analysis data and health index



#### Mobile service

Real-time monitoring information of electric power facility is provided through QR code of Smartphone



#### Control system

The real-time monitoring service of domestic and international Electric power facility is provided in the cloud platform



#### Data collection and management

Collect and manage various data of electric power facilities in analytic form

# Electrical Marine Solution

Hyundai marine electrical products include dry-type transformers, generators, motors, main switchboards, and various panels. These products have been installed on a large number of ocean going vessels and are highly regarded for their economy, efficiency, and outstanding performance.

These products have been widely recognized by not only the major classification societies of LRS, ABS, DNV, GL, BV, NK, CCS, and KR but also by leading shipowners around the world.



## Production Range

### Main Switchboards

HD Hyundai Electric has accumulated decades of experience with marine electrical power distribution and control systems. Reliable designs of power distribution systems of low and high voltage and coordination of protective devices ensure continuity of service.

### Synchronous Generators

For their outstanding performance, Hyundai synchronous generators have received wide recognition from shipowners and have been installed on many ocean going vessels.

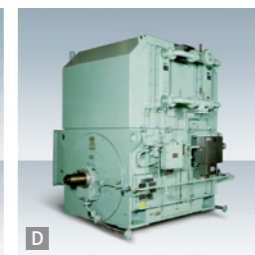
### LV & HV Motor

Hyundai rotating machinery has been supplied and tested in accordance with worldwide classification societies such as Lolyd's Register, ABS, DNV, and KR for marine and IEC, NEMA, CSA, IEEE, KS, JEC, and AS for industrial applications.



## Type

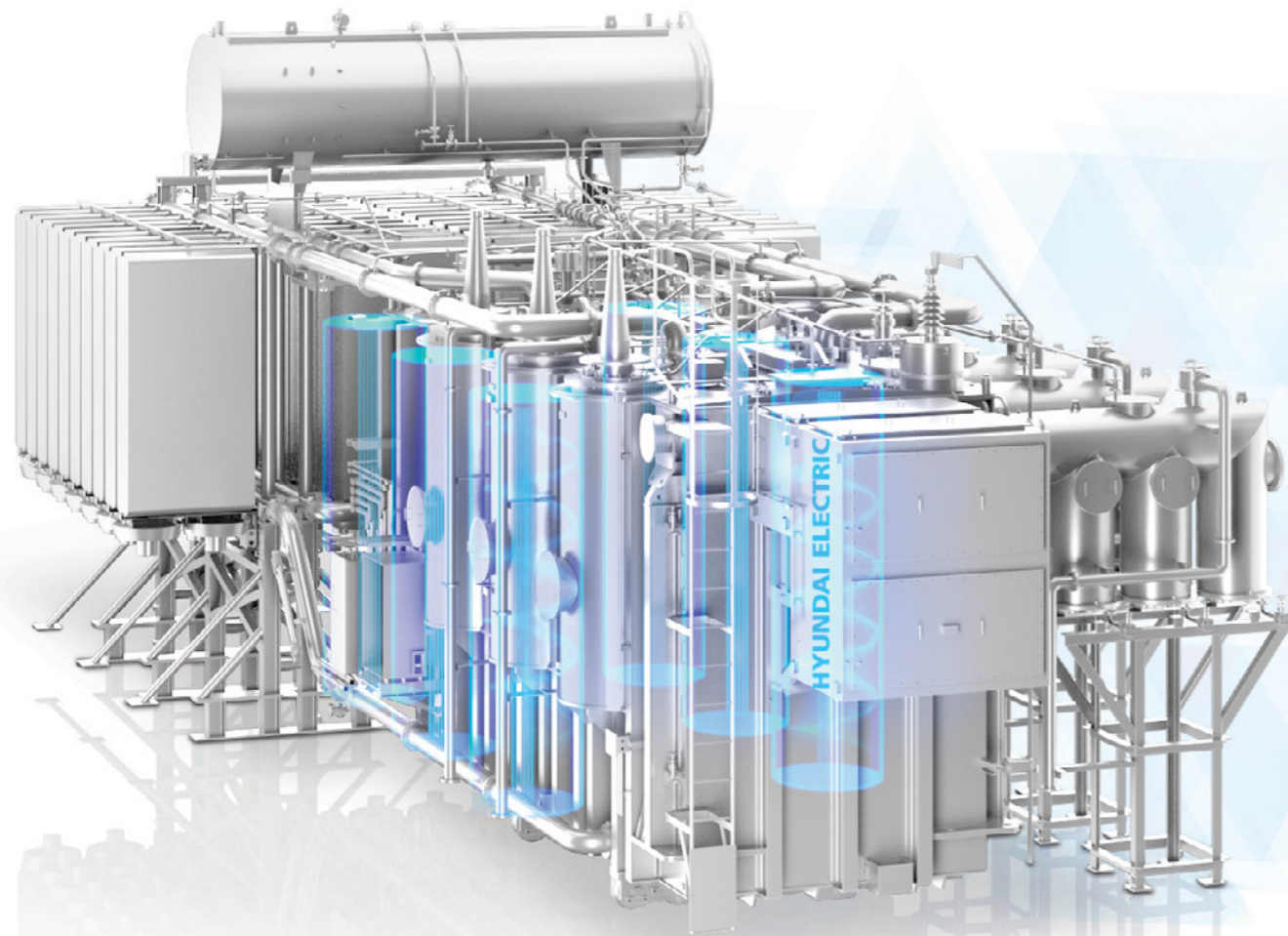
- A High Voltage Switchboard
- B Low Voltage Switchboard
- C Synchronous Generator
- D LV & HV Motor
- E Water Cooling Transformer



# Transformers

By using cutting-edge designs, state-of-the-art manufacturing facilities, and innovative production technology, we manufacture high-quality power and distribution transformers with a rated voltage of up to 800 kV and a capacity of up to 1,500 MVA.

Hyundai transformers have been widely in service around the world and can meet international standards such as IEC, ANSI, NEMA, CSA, AS, and ES.



## Prominent Features

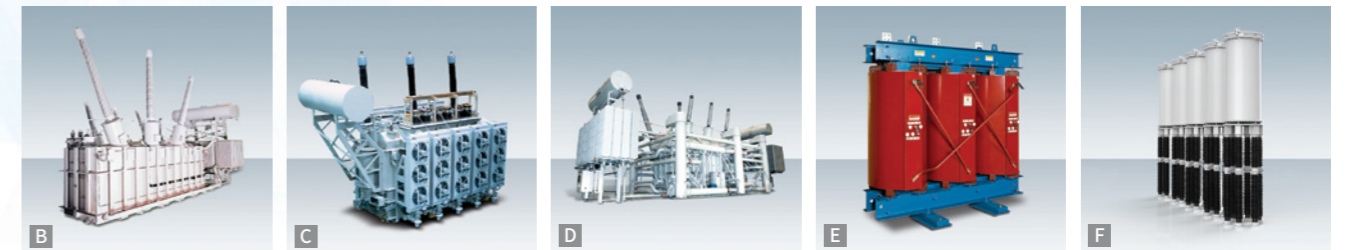
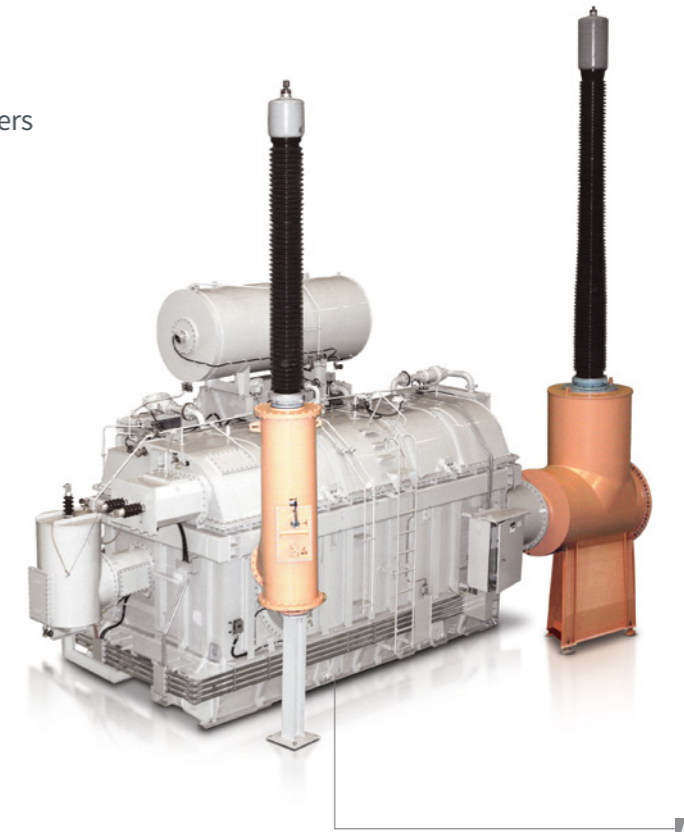
- Suitable for various site conditions and sufficient supply records proven by worldwide end-users
- Eco-Friendly with low loss, low noise, and compact design
- High reliability and long service life

## Production Range

- Power Transformers up to 800 kV Class
- Distribution Transformers
- Cast Resin Transformers, Dry Type Transformers
- Special Purpose Transformers such as Shunt Reactors, Dry Type Air Core Reactors

## Type

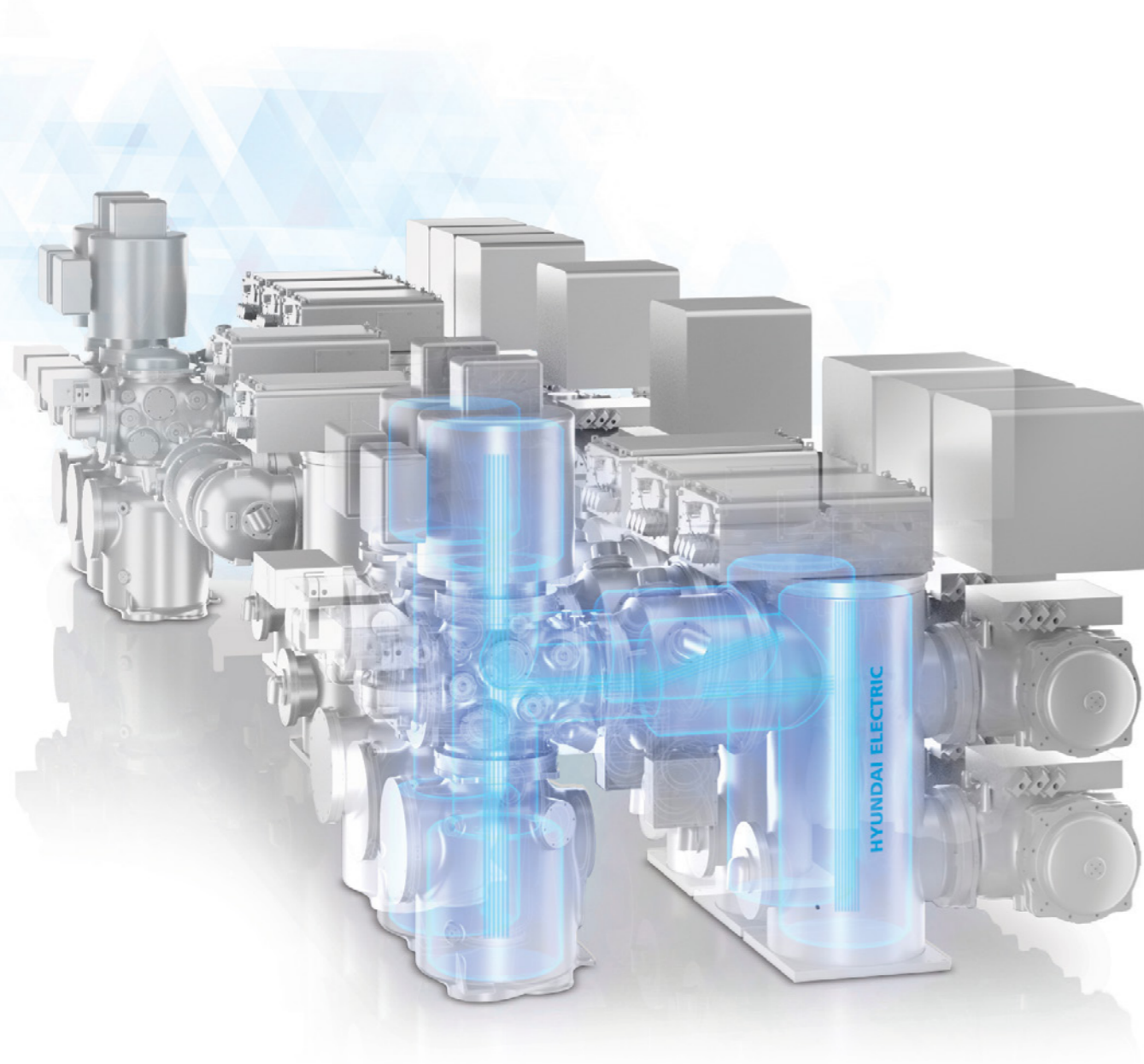
- A** 765 kV Power Transformer
- B** 500 kV Power Transformer
- C** 380 kV Power Transformer
- D** TPRS (Tank Pressure Relief System) Transformer
- E** Cast Resin Transformer
- F** Dry Type Air Core Reactor



# Gas Insulated Switchgear

SF6 Gas Insulated Switchgear (GIS) is a major piece of electrical equipment used in substations. The GIS contains a gas circuit breaker, disconnecting switch, earthing switch, voltage transformer, current transformer, and lightning arrester in a grounded metallic enclosure. The GIS is filled with SF6 gas, which has the best insulation and arc-quenching capability.

With its outstanding technical features, Hyundai GIS can meet all your requirements.



## Prominent Features

- Space saving compact design
- Easy installation
- Simple maintenance
- Full protection against contact with live parts
- Protection against pollution
- Visual harmony with surroundings

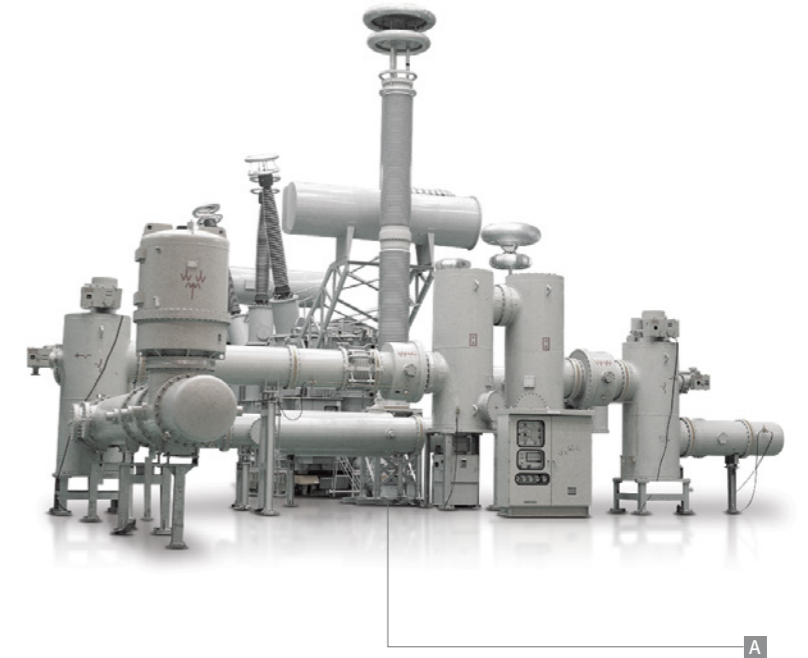
## Production Range

### SF6 Gas Insulated Switchgear (GIS)

- Rated voltage : 72.5 kV, 145kV, 170 kV, 245 kV, 362 kV, 420 kV, 550 kV, 800 kV
- Rated short - circuit breaking current : 20-63 kA

## Type

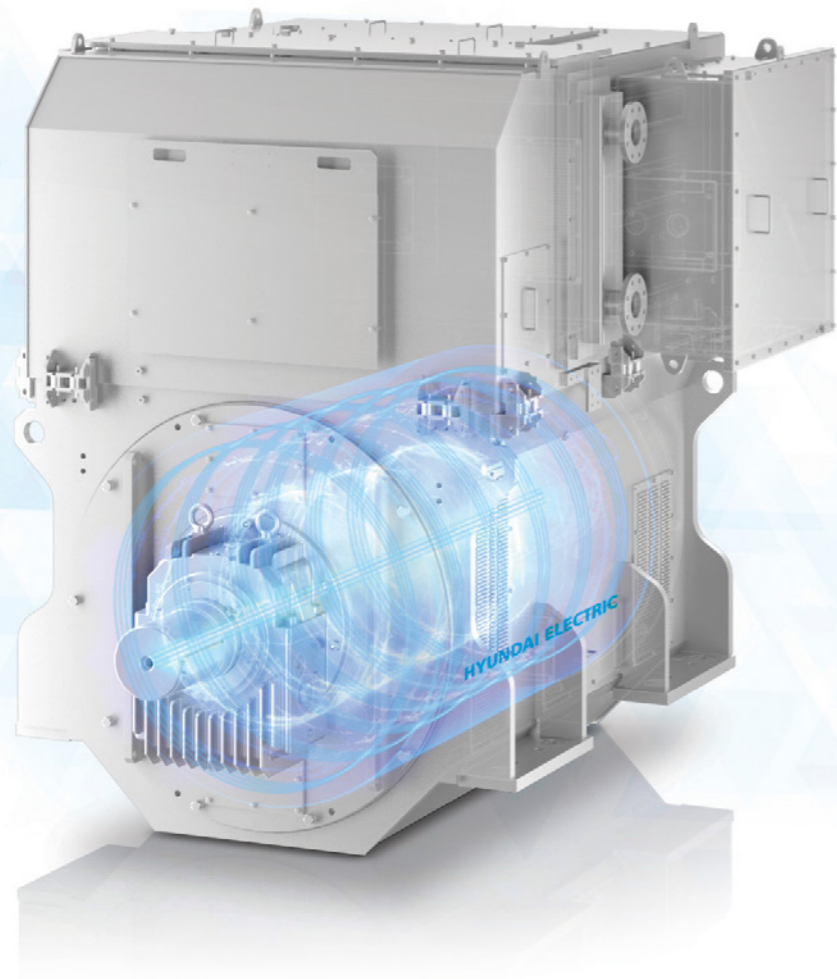
- A** 800 kV Gas Insulated Switchgear
- B** 420 kV Gas Insulated Switchgear
- C** 245 kV Gas Insulated Switchgear
- D** 170 kV Gas Insulated Switchgear



# Rotating Machinery

HD Hyundai Electric supplies high quality rotating machinery attested by international regulations and authorities such as IEC, NEMA, EN, CSA, IEEE, KS, TRCU, PESO, JEC, BASEEFA, UL, and KOSHA for industrial applications and LR, ABS, DNV, GL, BV, NK, CCS, and KR for marine use.

We have a rich performance record of providing the best technology for motors and generators in the fields of power, desalination, chemical, oil & gas as well as vessels.



## Prominent Features

- Low vibration and noise through precise rotor dynamic balancing and electromagnetic noise analysis
- Robust frames to satisfy various load conditions by FEM and vibration test
- Optimized insulation system to guarantee durability against severe environmental conditions
- Customized engineering to client specifications

## Production Range

### Electric Motor

- Medium & High Voltage Induction and Synchronous Motors up to 48,000 HP, 14 kV
- Standard Low Voltage Induction Motors up to 1,000 HP
- Premium Efficiency Low Voltage Induction Motors from 1 HP to 500 HP

### Generator

- Synchronous Generators up to 50,000 kVA, 14 kV
- Wind Turbine Generators up to 5 MW
- Marine Shaft Generators up to 4 MW

## Type

- A** Medium & High Voltage Motor
- B** Low Voltage Motor
- C** Synchronous Generator
- D** Wind Turbine Generator



# Switchgear

Hyundai switchgear offers the best solutions in the field of electric power distribution, protection, measuring, control and communication in power plants as well as industrial and public facilities.

Combined with advanced software and hardware, our products are designed, manufactured, and tested in accordance with industrial standards including IEC, ANSI, NEMA, BS, and IEEE.



## Prominent Features

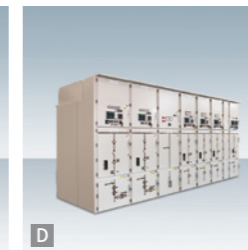
- Hyundai Switchgear provides maximum service continuity and safety with internal arc protection structure
- Able to withstand high levels of seismic vibration without service interruption
- Space-saving compactness helps simplify layout
- Qualified for all applications, including nuclear power plants

## Production Range

- Medium Voltage Air-Insulated Switchgear up to 38 kV
- Gas Insulated Switchgear, Cubicle Type up to 40.5 kV
- Eco Friendly gas insulated switchgear, Cubicle Type up to 27 kV
- Low Voltage Switchgear System
- Non-segregated Phase Bus & Bus Way
- Intelligent Measuring & Protection Devices

## Type

- A** Cubicle-Type Gas Insulated Switchgear
- B** Motor Control Center
- C** Hyundai Intelligent Measuring and Protection Device
- D** Air-Insulated Switchgear
- E** Eco Friendly Gas Insulated Switchgear



# LV & MV Circuit Breakers

Hyundai circuit breakers and contactors offer the best circuit protection and switching performance for low and medium voltage power systems. Our products cover a wide range of breaking capacities and provide innovative solutions that satisfy your safety needs.

Pursuing flexibility, safety, and reliability, our products are type-tested by internationally recognized test authorities such as DEKRA, KERI, and CESI.



## Prominent Features

- Wide and powerful range for various applications such as construction, industrial, nuclear power plants, and shipyards
- Cutting-edge and customized design for easy installation and maintenance
- High reliability based on advanced technology and R&D
- Satisfies international standards including IEC, ANSI, and NEMA
- Standardized process for local standards and approvals as requested

## Production Range

- Vacuum Circuit Breakers (VCB) up to 36/40.5 kV, up to 50 kA, up to 4,000 A
- Vacuum Contactors (VC) up to 12 kV 400 A
- Air Circuit Breakers (ACB) up to 6,300 A, up to 150 kA
- Molded Case Circuit Breakers (MCCB) up to 1,600 A, up to 150 kA
- Magnetic Contactors (MC) up to 800 A
- Digital & Thermal Type Overload Relays up to 800 A
- Miniature Circuit Breakers (MCB) up to 10 kA, 125 A

## Type

- A Vacuum Circuit Breaker
- B Air Circuit Breaker
- C Molded Case Circuit Breaker
- D Magnetic Contactor
- E Miniature Circuit Breaker
- F Protection Relay, Meter



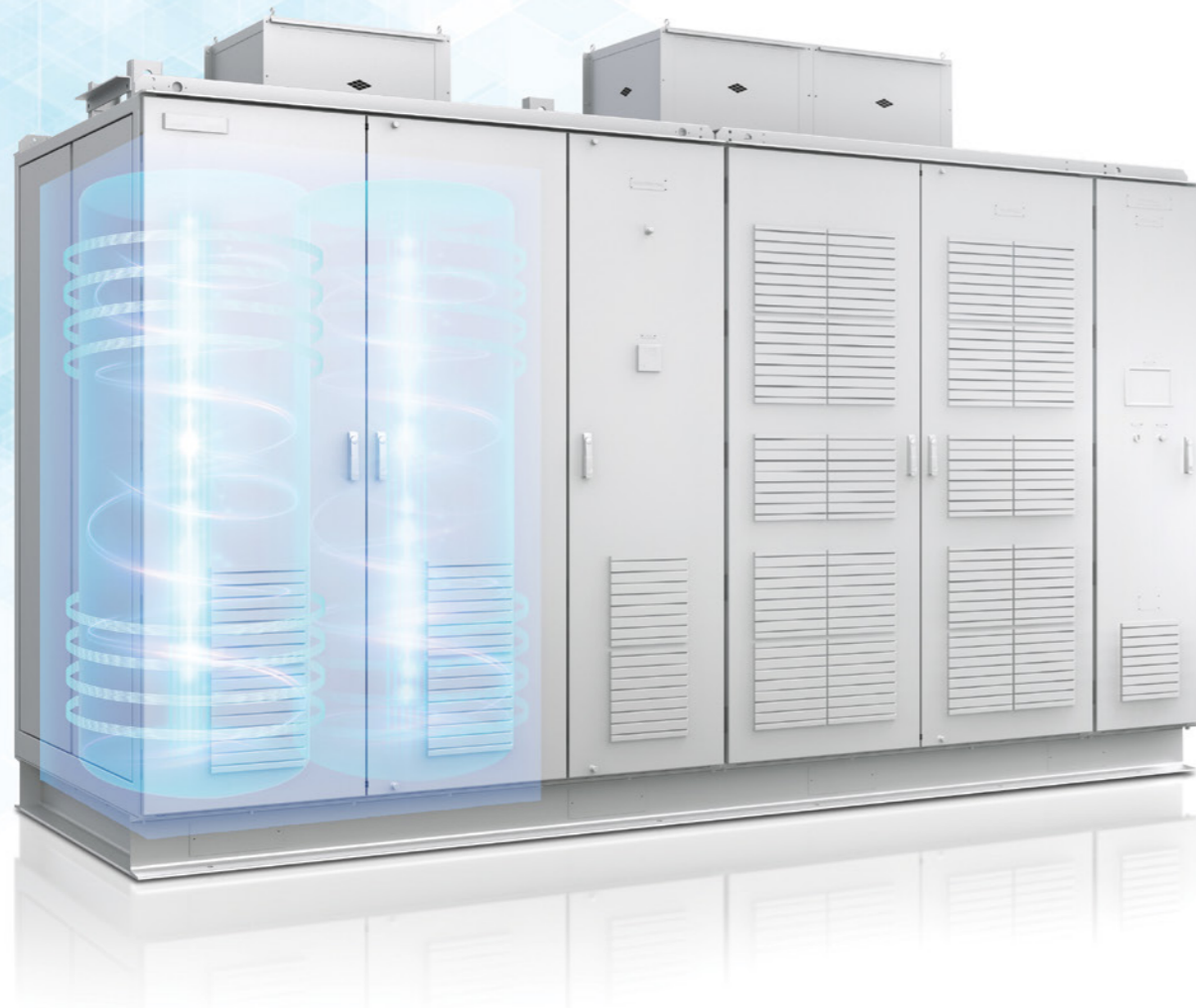
# Power Electronics

Hyundai AC drive feature sensorless vector controls and intelligent controls that allow motors to operate more efficiently. We also offer you a full range of AC drives from 0.4 kW to 12,800 kW.

## Production Range

### Medium Voltage AC Drive

- 3,300 V & 4,160 V & 6,600 V & 11,000 V & 13,800 V Class: 155-12,800 kW
- High performance and efficiency
- Clean power input
- Supplies of clean power for motors
- Small footprint and economical maintenance



N5000 Medium Voltage AC Drive

# Research & Development

HD Hyundai Electric builds tomorrow by innovation through R&D. Our continuous research activities give us both technology leadership and products competitiveness which guarantee long term growth and sustainability in the competitive global market.

'Hyundai Spirit' has made us to turn an impossibility into a possibility and pioneer new technological paradigm with our creativity and drive.

In addition, HD Hyundai Electric has been a leader in electrical and electronic systems and energy solutions for the past 40 years with its accumulated technology know-how.

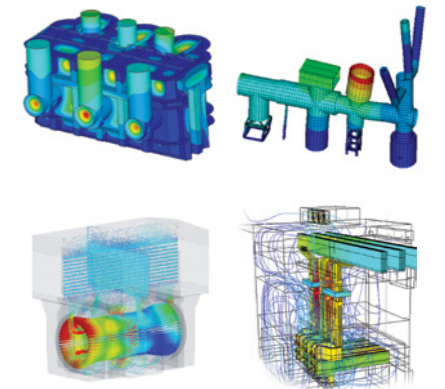


Our commitment to research and development has been a motivating factor in our technological achievements which are vital to our continued success in the future.

We operate three global research institutes : HD Hyundai Electric Research Institute (Yongin), Hyundai Technologies Center (Budapest), and HD Hyundai Electric Chinese R&D Co. (Shanghai) along with other diversified and specialized research institutes of corporate research organization. All these institutes are equipped with state-of-the art R&D equipment used by specialists to explore the possibilities of the future.

Based on our sophisticated analysis tools and various test facilities for electrical, mechanical, chemical and material technology, vigorous R&D activities are done for transformers, gas insulated switchgear and rotating machinery focusing on performance enhancement, size and weight reduction, and cost optimization.

Switchgear, circuit breakers, inverters, automation systems, smart ship and equipment, and DC grid are also investigated for the establishment of model line-up and the continuous development of new business products.



# Quality Assurance

Our well-developed resources for training enable HD Hyundai Electric to provide you with high quality, reliable products and better services.



HD Hyundai Electric's policy is to meet all contract specifications and requirements. Our quality assurance programs are designed, organized, and implemented to ensure that our products or services comply with international standards.

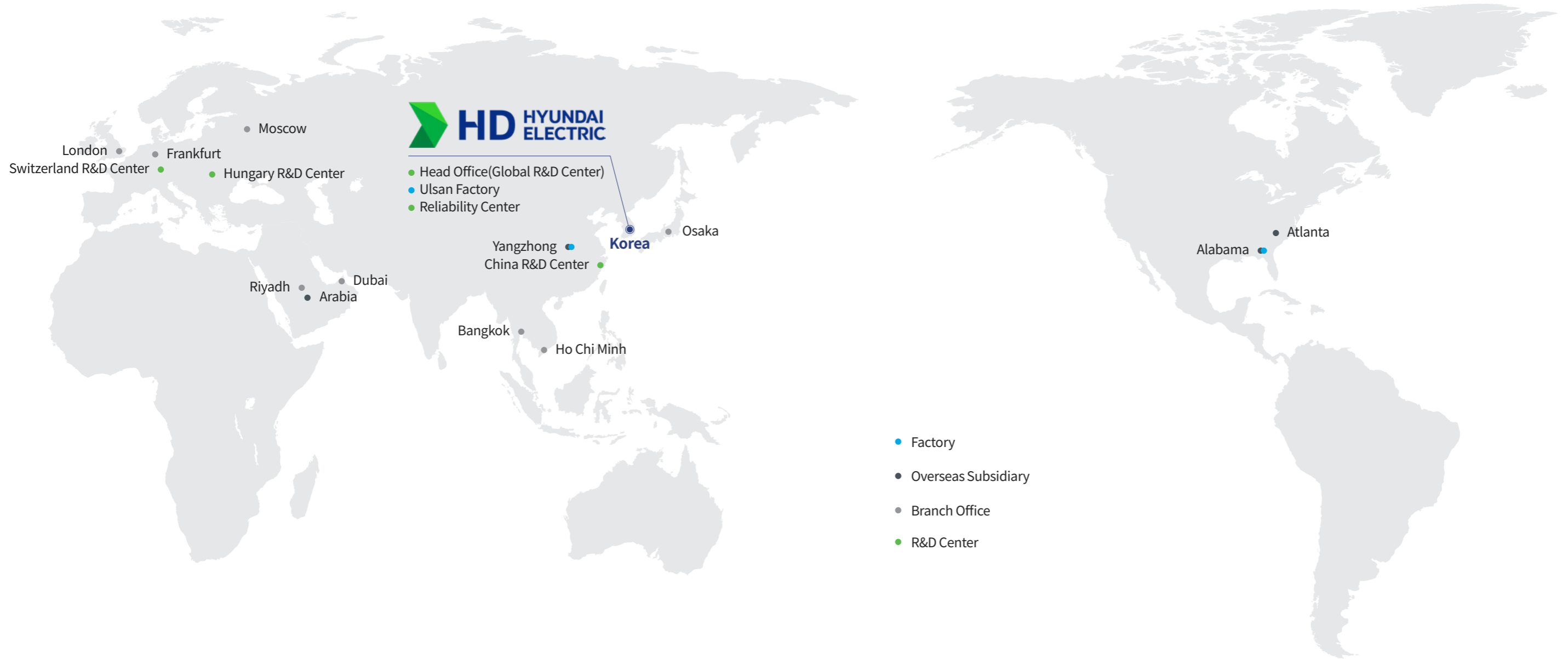
All our divisions have achieved ISO 9001 Quality Management Certification, as well as ISO 14001 Environmental Management System Certification.



## Certification

Certificate	Year	Authority	Field
ISO 9001	1990	DNV	All Products
ISO 14001	1997	DNV	All Products
ISO 45001	2001	DNV	All Products
KEPIC	1997	KEA (Korea)	Products for Nuclear Power Plant
CE Marking	1998	TÜV (Germany)	Induction Motor
CSA	1997	CSA (Canada)	LV & HV Motor
KS	1986	KSA (Korea)	Molded Case Circuit Breaker, Air Circuit Breaker, Residential Panel Board, Induction Motor
UL	2001 2010	UL	LV Motor, Induction Motor Vacuum Circuit Breaker, Vacuum Contactor Magnetic Contactor, Air Circuit Breaker, Vacuum Circuit Breaker, Vacuum Contactor
KERI	2002	KERI (Korea)	Medium Voltage Air-Insulated Switchgear, Low Voltage Switchgear Gas Insulated Switchgear (Cubicle Type) Eco Friendly gas insulated switchgear (Cubicle Type)
DEKRA	2007	DEKRA (Netherlands)	Molded Case Circuit Breaker, Miniature Circuit Breaker
CE & UL	2009	UL (Korea)	AC Drive
GOST R & RTN	2010	CCVE (Russia)	LV & HV Motors, Explosion Proof Motors Gas Insulated Switchgear (Cubicle Type)
ATEX, IECEx	2010	Baseefa (England)	Exd / Exde II B / II C T3 Flame Proof Motors
ATEX	2011	Baseefa (England), LCIE (France)	Exp II T3 / T4 Pressurized Motors
ATEX, IECEx	2013	Baseefa (England)	Ex ec IIC T3 / T4 Non Sparking Motors
TR CU	2014	CCVE (Russia)	LV Motors, Explosion Proof Motors

# Global Network



## Korea



Head Office



Ulsan Factory



Reliability Center

## Overseas Subsidiaries



Atlanta



Alabama



Yangzhong

#### Korea

Head Office	477, Bundang Suseo-ro, Bundang-gu, Seongnam-si, Korea	Tel: +82-2-479-9180	Fax: +82-2-500-4958
Ulsan Factory	700 Bangeojinsunhwan-doro, Dong-gu, Ulsan, Korea	Tel: +82-52-202-8114	Fax: +82-52-202-8010
Reliability Center	17-10, Mabuk-ro 240beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Korea	Tel: +82-31-289-5000	Fax: +82-31-289-5040

#### Overseas Subsidiaries

Atlanta	2405 Satellite Blvd, Duluth GA 30096, U.S.A.	Tel: +1-678-789-1885	
Alabama	215 Folmar Parkway, Montgomery, AL 36105, U.S.A	Tel: +1-334-481-2000	Fax: +1-334-386-8994
Arabia	Office No. 529, 5th floor Akaria-3 Building, Olaya Street, PO Box 9187, Riyadh 11413, Kingdom of Saudi Arabia	Tel: +966-11-419-0168	Fax: +966-11-419-0220
Yangzhong	No.9, Xiandai Road, Xinba Scientific and Technologic Zone, Yangzhong, Jiangsu, P.R.C. Zip:212212, China	Tel: +86-511-8842-0510	Fax: +86-511-8842-0388

#### Branch Offices

London	50-68 High Street, Weybridge, KT13 8BL, United Kingdom	Tel: +44-7979-125051	
Frankfurt	Eschborner Landstrasse 55, 60489 Frankfurt am Main, Germany	Tel: +49-69-7490-3934	
Moscow	World Trade Center, Ent.6, #412, Krasnopresnenskaya Nab.12, Moscow, 123610, Russia	Tel: +7-495-258-1381	
Riyadh	Office No. 530A, 5th Floor Akaria-2 Bldg., Olaya St., Short Address RHOB6847, Riyadh 12244, Kingdom of Saudi Arabia	Tel: +966-11-210-1107	Fax: +966-11-210-1107
Dubai	Unit 205, Emaar Square Building NO.4 Sheikh Zayed Road, Pobox 252458, Dubai, U.A.E	Tel: +971-50-321-8154	Fax: +971-4-425-7996
Bangkok	19th Floor, Unit 1908, Sathorn Square Office Tower, 98 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand	Tel: +66-02-115-7920	Fax: +66-2-115-7898
Ho Chi Minh	Room 1405, 14th Floor Centec Tower, 72-74 Nguyen Thi Minh Khai Street Vo Thi Sau Ward, District 3, Ho Chi Minh City, Vietnam	Tel: +84-28-3535-0465	
Osaka	1-Room 5th Floor Nagahori Plaza Bldg. 2-4-8 Minami Senba, chuo-ku, Osaka 542-0081, Japan	Tel: +81-6-6261-5766~7	Fax: +81-6-6261-5818

#### R&D Centers

Switzerland	Hardturmstrasse 135, CH-8005, Zurich, Switzerland	Tel: +41-76-241-6707	
Hungary	H-1145 Bacskai utca 29/a, Budapest, Hungary	Tel: +36-1-273-3733	
China	Room 10102, Building 10, 498 Guoshoujing Road, Pudong, Shanghai, China(201203)	Tel: +86-21-5013-3393 #139	

Customer Service  
service@hd.com