

Smart Energy Technology to the better life

**HANYANG**  
ELECTRIC Co., LTD

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Smart Energy Technology to the better life



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# OPEN the FUTURE ENERGY

What will **energy innovation** look like in the Fourth Industrial Revolution?

Pronoun of AI, AlphaGo is a super-sized computer using as many as 1,200 central processing units (CPU), 176 graphic processing units (GPU), and 920 terabytes of memory, and it is said to consume enormous electricity of 12 gigawatts. According to telecommunications experts, by 2040, it is estimated that the amount of information that computers around the world will need to process is about one million times that of today, and it is predicted

that the energy that semiconductors will use to deal with this will be as high as 1027 Joules. This means that this amount only can be supplied with billions more thermal power plants. In other words, if there is no semiconductor that uses less electricity, the Fourth Industrial Revolution is impossible to achieve.

Hanyang Electric Co., Ltd. will do the best to make everyone's life better by developing the most advanced ultra power saving solution and new and renewable energy.



## Key Fact

### Technical capability

40<sup>+</sup> year

Since 1978,  
Hanyang Electric

20<sup>+</sup> year

Since 1999,  
R&D Research Institute

47<sup>+</sup> cases

Intellectual  
properties

30<sup>+</sup> %

Ratio of  
Specialists

50<sup>+</sup> Billion  
won

Export performance  
for recent 3 years  
(China, Vietnam, etc)



Hanyang Electric was established in 1978 under the management philosophy of 'quality', 'innovation', and 'trust'. We have been leading switchgear production based on 40 years of technology, and are heading the popularization of energy supply in Korea by growing into a specialized company in the field of renewable energy.

### Production Capacity

17,792 m<sup>2</sup>

Factory site scale  
(5500pyeong)

6,000 panels

Annual production capacity  
(Switchboards)

100 MW

Photovoltaic power generation system  
Annual construction capacity

900 Locations

Photovoltaic power generation system  
Total construction sites

## CONTENTS

### COMPANY

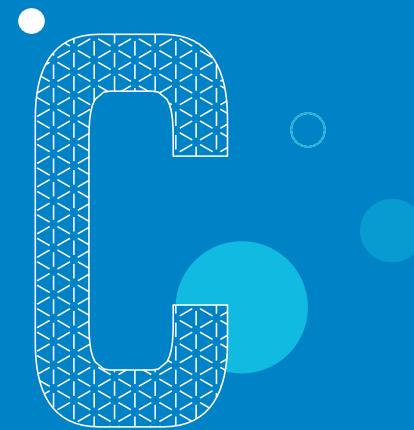
Business Area of  
Hanyang Electric

### PRODUCT

Switchgear  
New and Renewable Energy

### ACHIVEMENT

Certification status  
Facilities  
Performance status



## COMPANY

Expert group  
leading change

### ■ Hanyang Electric

Company overview

History

Management philosophy

Organization

Core competence

### ■ Business areas

Switchgear

New and renewable energy



## Company overview



Smart Energy Technology Leader  
**HANYANG ELECTRIC**

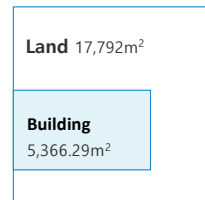
Company name	Date of establishment	CEO
Hanyang Electric Co., Ltd. (Hanyang Electric)	1978. 11. 15	Yang Kyu-Hyun, Yang Jeong-Il

Headquarters and Factory	
Address	98-23, Suworam 2-gil, Seotan-myeon, Pyeongtaek-si, Gyeonggi-do, Republic of Korea
TEL	(031)945-4461 (Telephone)
FAX	(031)945-4460
E-MAIL	<a href="mailto:hyele@hyele.co.kr">hyele@hyele.co.kr</a>
HOME	<a href="http://www.hyele.co.kr">www.hyele.co.kr</a>

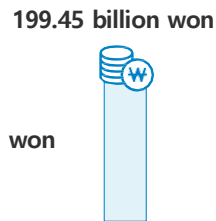
	<b>Switchgear Business headquarters</b>	TEL (070)4485-5712 FAX (031)945-4460
	<b>New and Renewable Energy Business headquarters</b>	TEL (070)4485-5716 FAX (031)945-4460



Factory scale

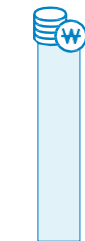


Capital



Total asset

700 billion won /year



Production capability



Number of employees



Based on the philosophy of continually challenging and developing as 'Flowing water does not rot', we created a globe shape figure by implicitly encompassing the expansion globally, and it was incorporated into H and Y to create a flexible type lettering logo.

## History

The 40 years that Hanyang Electric has walked is the history of Korea's new and renewable energy sector.

We are opening a **new history of Global No.1!**

Registered as a partner company of Kumho E&C for photovoltaic power generation facilities power generation facilities  
Registered as a partner company of Daewoo Shipbuilding & Marine Engineering Registered trademark Hanyang Electric Co., Ltd.  
Overseas training on 35th company anniversary to Beijing  
Family company agreement and employment agreement with Duwon Institute of Technology  
Completion of Hanyang Electric Pyeongtaek Plant  
Established Chile SPA of Hanyang Electric Co., Ltd.  
KS product certification (10kW or less grid-connected inverters for solar power generation)  
Signed joint development project with KEPCO Engineering & Construction Company  
Completed solar power facility (460KW) Hanyang 1 Power Generation Plant  
Excellent group standard product certificate (Korea Electrical Manufacturers' Cooperative)

January 1, 2013

January 2, 2013

June 7, 2013

September 26, 2013

July 2, 2014

April 4, 2017

July 28, 2017

January 18, 2018

March 23, 2018

January 2, 2019

March 29, 2019

2013-  
2019

2000-  
2012

June 7, 2000 Development test of the electronic centralized display control device for switchgears  
March 30, 2004 Inauguration of the 20th Chairman of the Korea Electrical Manufacturers' Cooperative - CEO Yang Kyu-Hyun  
September 1, 2004 Selected as a promising small and medium business in Gyeonggi-do  
October 13, 2008 Registered as a qualified supplier for Korea Southern Power Co., Ltd.  
April 15, 2009 Registered as a qualified supplier for selected items for Korea East-West Power Corporation  
August 12, 2009 Registered as a supplier of equipment and materials for Korea Midland Power Co., Ltd.  
January 1, 2012 Registered as a partner company of Samsung C&T's Engineering & Construction Group  
June 1, 2012 Selected as a future leading project of 2012 Korea Small Business Innovation Research Program  
July 31, 2012 Register as an overseas construction business (Electric construction business)

Company established November 15, 1978  
Technical cooperation with Yushin Engineering Co., Ltd. March 20, 1985  
Joined as a partner company of Samsung Construction Co., Ltd. January 1989  
Selected as manufacturer of water and thermal power generation equipment for KEPCO June 20, 1990  
Selected as a domestic manufacturer of nuclear power generation facilities by KEPCO October 19, 1992  
Joined as a partner company of Hyundai E&C Co., Ltd. December 1993  
Joined as a partner company of Samsung Engineering Co., Ltd. March 7, 1997  
Moved company headquarters and factory March 23, 1999  
(603-2, Janggok-ri, Jori-eup, Paju-si)  
Established and Certified Research Institute of Hanyang Electric Co., Ltd. May 17, 1999

1978-  
1999

## Management philosophy

### Customer satisfaction through quality differentiation

#### Sustainable growth

GROW

Sustainable and reliable growth



#### Harmony

BALANCE

Harmonized management of self-determination and responsibility

#### Customer Satisfaction

satisfaction

Satisfying customers with technology development and enhanced marketing

#### Hanyang Electric Headquarters & Factory

98-23, Suworam 2-gil,  
Seotan-myeon, Pyeongtaek-si,  
Gyeonggi-do, Republic of  
Korea

#### Factory scale

Land 17,792m<sup>2</sup>

Building 5,366.29m<sup>2</sup>

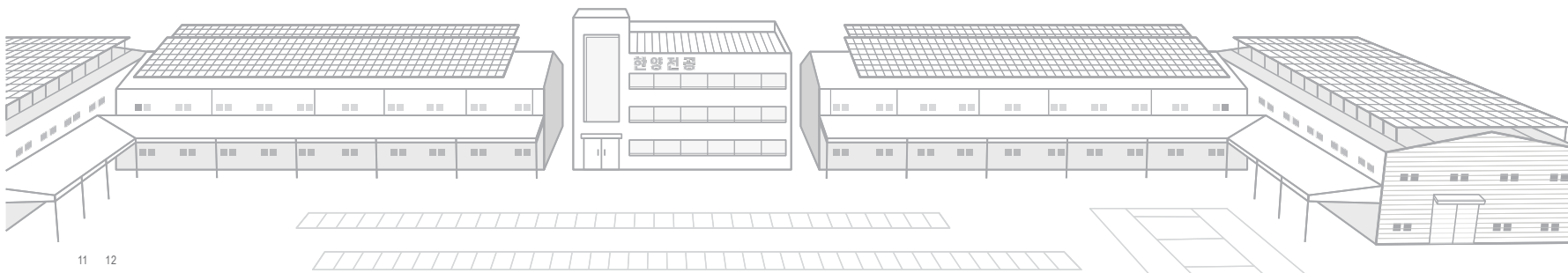
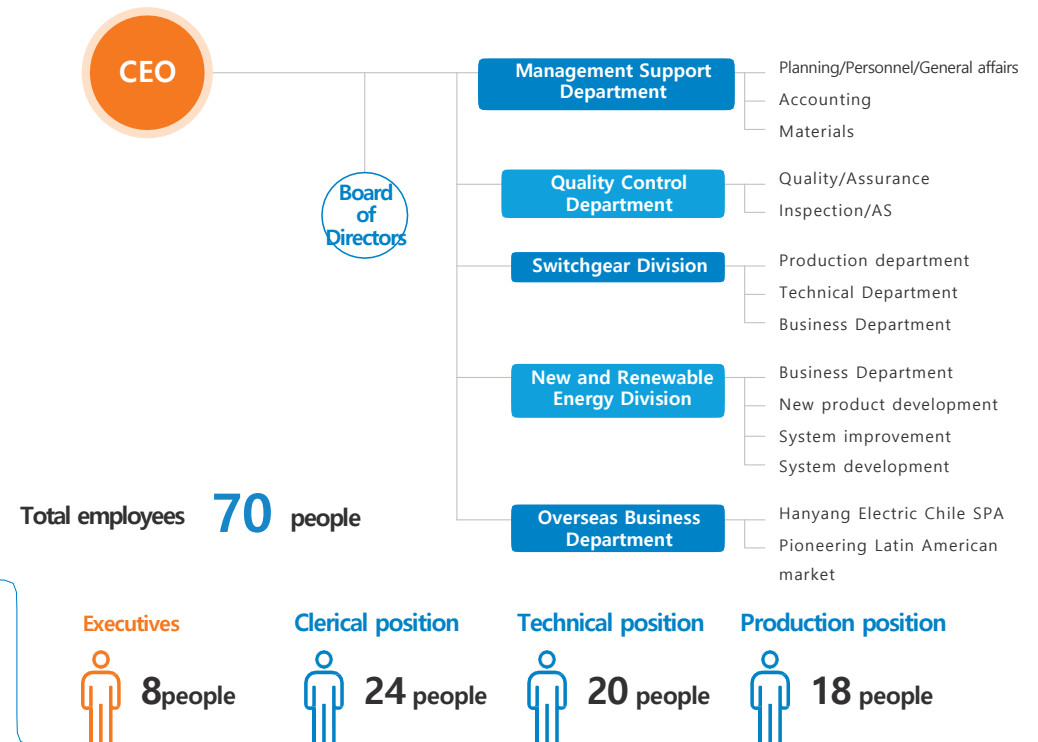
#### Production capability

Switchgears 6,000panels/year

New and Renewable 100MW or more/year

## Organization

### Realize customer's dream with creative challenge spirit





## Core competence

We realize values more than customers' needs

### Production capability



#### Switchgears

Comply with strict delivery time with annual production capacity of more than **6,000 panels**

#### New and Renewable

Construction capacity over **100 MW**

### R&D



Self-development through R&D Institute

### Quality system



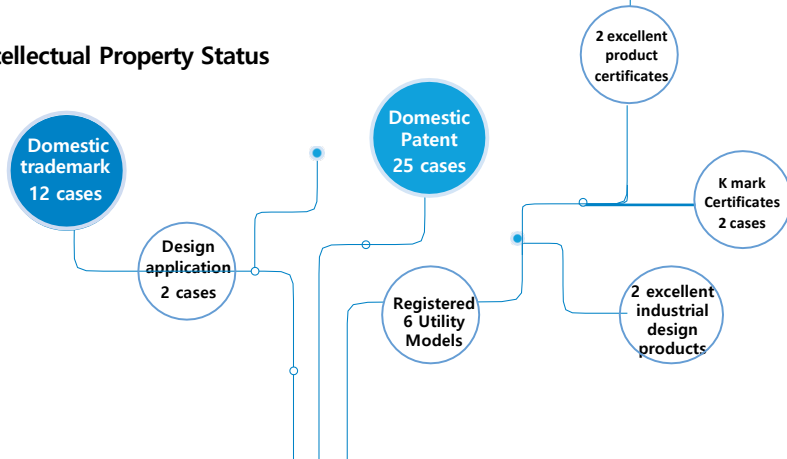
Provide total solution from parts to A/S management

### R&D Status

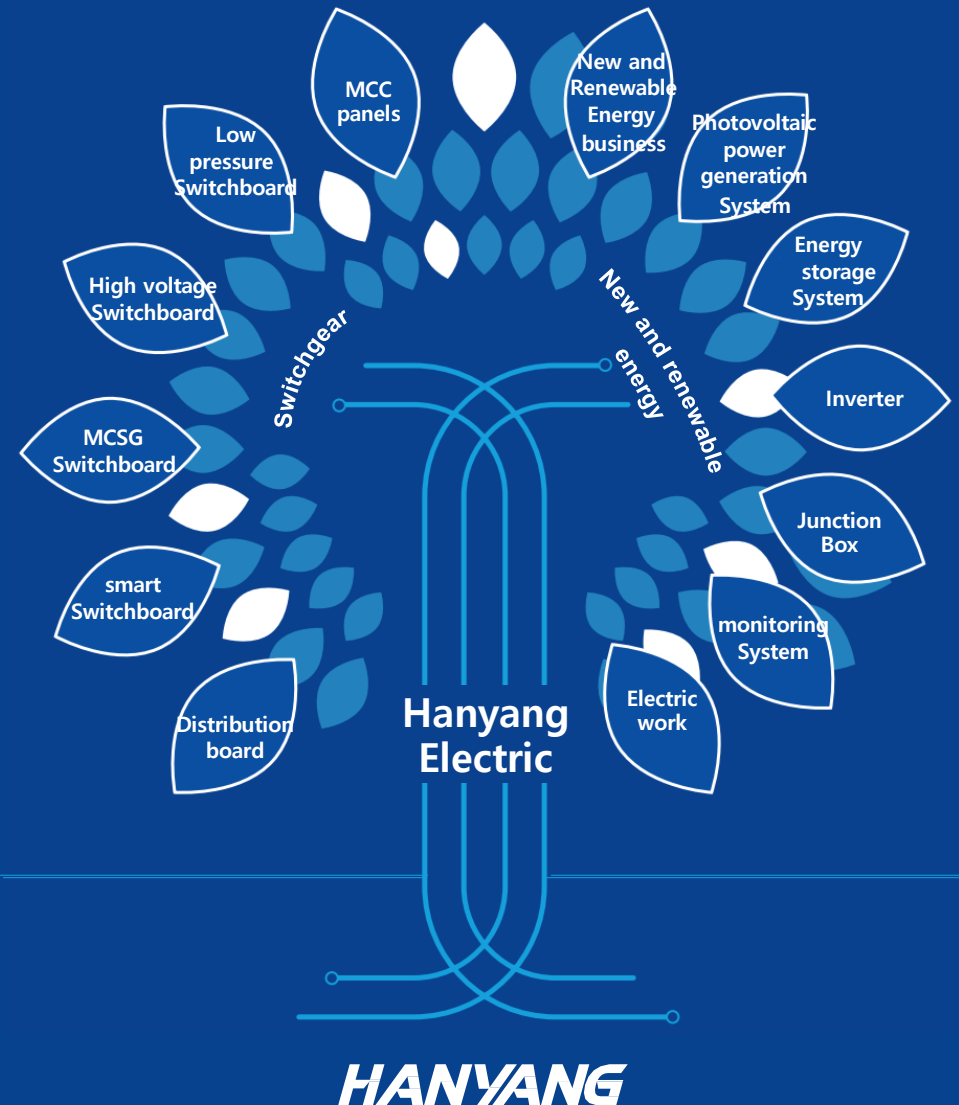
<b>March 2005</b>	High efficiency energy equipment and materials certification - HYPIS-ES	ISO 9001
<b>April 2007</b>	KEPCO Cooperative R&D Project "High Efficiency Multi-string 3-Phase 50kW PCS Development"	ISO 14001
<b>August 2011</b>	Registered a patent "Method for monitoring solar power plant, and monitoring device used therein"	Inno-Biz
<b>February 2012</b>	Registered a patent "Photovoltaic array monitoring apparatus"	Main-Biz
<b>May 2012</b>	Selected as a future leading project of 2012 Korea Small Business Innovation Research Program	Acquired product mark certification compliant to Standards of private sectors
<b>January 2014</b>	Passed the general test for Photovoltaic Intelligence Junction Box (HYPIS-IJB)	K mark certification
<b>January 2015</b>	K mark certification (solar power generation system)	KS Product Certification
<b>March 2015</b>	"Named Excellent Product" (Photovoltaic power generation system)	Q Mark Quality Certification
<b>June 2019</b>	KS Product Certification 3.5Kw Integral Junction Box Inverter C8564, KS C8567)	Electrical Appliance Safety Certification

### Major Certification Status

### Intellectual Property Status



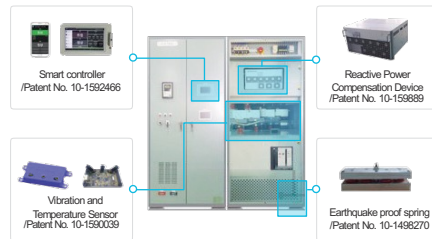
## Business areas



## Switchgears

Power system that provides **perfect functions** and the **highest safety** created by Hanyang Electric's 40-year-old technical power

### Smart Switchboards



### MCSG switchboard



### High voltage switchboards



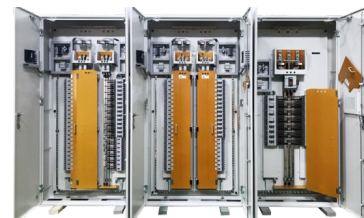
### Low voltage switchboards



### Motor control panel (MCC panel)



### Distribution board



## New and Renewable Energy

**Optimal photovoltaic system** applying experience of photovoltaic development, construction, operation and maintenance

### Features of Hanyang Electric Photovoltaic System

- 1 Development and production of own inverters, junction boxes, and monitoring
- 2 Experience in constructing various photovoltaic power generation facilities
- 3 Maintenance by operating own A/S team
- 4 Pioneering Overseas Market
- 5 Technical personnel (8 persons including top class technicians)

### New and Renewable Energy Business

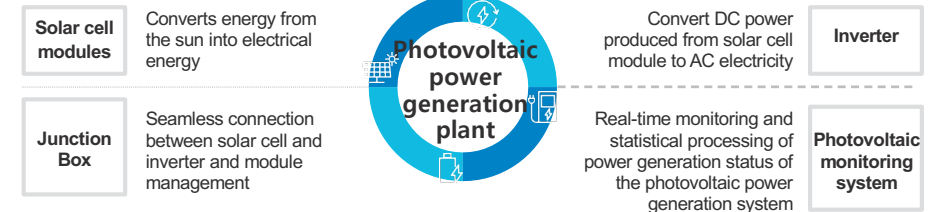
#### Photovoltaic power generation business

- RP S system**
- In order to expand and distribute renewable energy, the system mandates obligated suppliers to supply new and renewable energy within the range of 10% of total electricity production.
- Installation obligation system**
- Projects required to supply more than the obligated supply ratio of the expected energy usage amount with new and renewable energy for buildings with a total area of 1,000m<sup>2</sup> or more newly built or renovated by public institutions

#### Government Support Project

- Housing Support Program**
- When installing a new and renewable energy source in a house, the government subsidizes a part of the installation cost and the electricity generated by installing it on the roof or rooftop is directly used.
- Building Support Program**
- If a new and renewable energy source is installed in a general building or barn (except for buildings owned and managed by houses and local governments), the government subsidizes part of the installation fee.

### Photovoltaic power generation system



### Energy storage systems

#### Residential purpose



- Photovoltaic input type
- Combined grid tied and stand alone type (UPS)
- Rack integrated type or movable type
- Selectable from lead storage battery, lithium series battery
- Satisfied with GSF-025-4 (Ed2.0:2015-12)

#### Industrial purpose



- All in one solution - PV, Battery, Grid connected, Stand alone
- Flexible Battery Type (li-ion, lead-acid)
- Multiple Working Mode Presettable
- Build-in transformer for grid isolation

#### Communication purpose



- I/O Insulation type MPPT Charger
- Optimization Solution Power Supply (-48V) for communications
- 19" rack or wall attached type
- Equipped with emergency power generator control function
- Expandable from 2 kW to 20 kW
- Remote monitoring

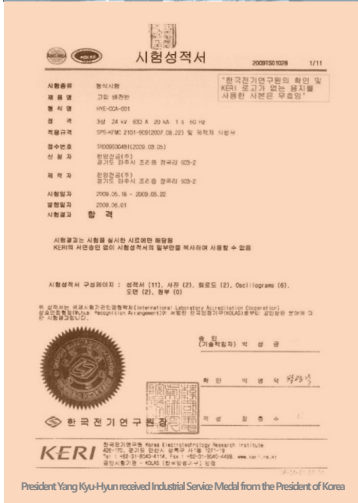




## Birth and Leap

Unlimited possibilities into reality

# 生



## Change and development

Towards the top class without hesitation

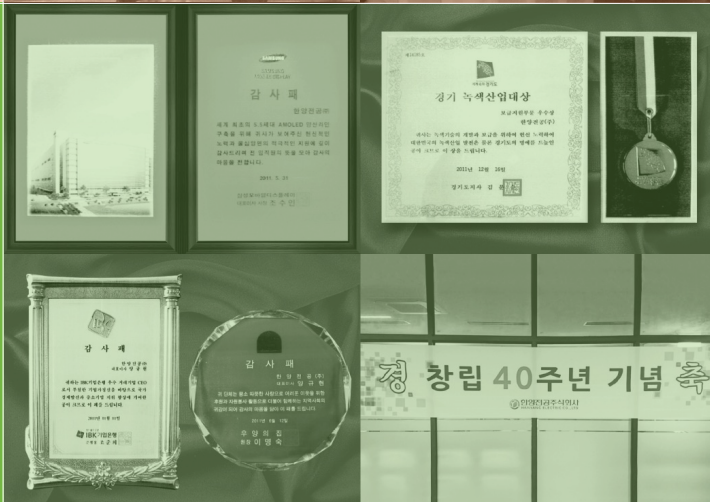
# 進



## Vision and value

Let a new millennium be Hanyanglites' century

# 飛



# P

## PRODUCT

Products providing differential value

### Switchgears

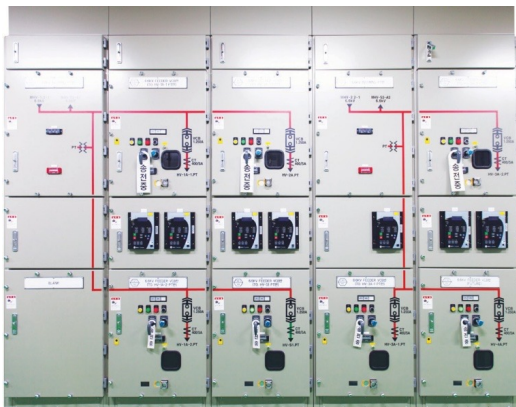
Switchgears(High voltage switchboard)  
Switchgears(Low voltage switchboard)  
Electric motor control board  
Distribution board  
Smart Switchgear  
MCSG Switchgear

### New and Renewable Energy

Residential Power storage device  
Photovoltaic juninverter(Transformer type)  
Photovoltaic juninverter(Transformerless type)  
Photovoltaic juninverter(Transformerless String Inverter)  
Photovoltaic junction box  
Photovoltaic monitoring system  
Direct production of Photovoltaic structures

## ① Switchgears

## High voltage switchboards



## Features

## FEATURE

## 01- Enclosure

- Bolt assembly type structure with bent frame and parts standardized to vertically closed stand alone type
- Hanyang Electric's unique rigid frame and hinge structure to prevent sagging of the door

## 02- Structure

- Design and manufacture focusing on reasonable device arrangement, function and safety
- Secure enough space for easy testing and changing of internal equipment
- Consider safety aspects such as grounding and safety devices
- Designed for easy drawing out to the outside by applying draw-out type equipment such as instrument transformer and lightning arrester

## 03- Applicable standard

- KEMC2101(High voltage switchboard)
- IEC 60694(High voltage switchboard general), IEC 62271-200 (1 ~ 52kV AC voltage metal closed switchboard)
- JEM1425(High voltage switchboard)
- Confirm to KS, ESB, JEM, our standard and required standards of other ordering organizations

## System specification

Criteria	Unit	Ultra high voltage board standard	High voltage board specifications
Rated insulation voltage	kV	24/ 25.8	7.2/ 3.6
Rated voltage	kV	22.9	6.6/ 3.3
Rated current	A	630,1250,2000	400,630,1250,2000, 2500,3150,4000
Rated frequency	Hz	60or50	60or50
Rated short time current	kA	MAX.25	MAX.40
Power frequency withstand voltage (Power frequency Withstand Voltage: 1 min.)	kV	50	20(22)/ 16
Lightning impulse withstand voltage (Lighting & Switching Impulse Withstand Voltage: 1 min.)	kV	125	60/ 45
Rated operating voltage	V	DC110or125	DC110or125

## ① Switchgears

## Low voltage switchboards



## Features

## FEATURE

## 01- Enclosure

- Assembly type structure using standardized parts facilitates future changes and expansions
- Rubber packing for dust prevention is mounted on the part where the front and rear door is touching.

## 02- Structure

- Easy handling due to the door type protective cover on the front of ACB and MCCB
- Design and manufacture of a protective cover capable of internal monitoring on the horizontal and vertical buses inside the board
- Terminal block for MCCB secondary power cable connection is vertically located on the half rear part of the board

## 03- Applicable standard

- KEMC2102(Low voltage switchboard)
- IEC 61439-1(General)
- JEM 1265(Low voltage switchboard)
- Conform to KS, ESB, our standard and required standards of other ordering organizations

## System specification

Criteria	Unit	저압반 규격
Rated voltage	V	600
Rated current	A	400,630,1250,1600,2000, 2500,3150,4000,5000,6300
Rated frequency	Hz	60or50
Rated short time current	kA	MAX.65
Power frequency withstand voltage (Power Frequency Withstand Voltage: 1 min.)	V	Main circuit: 2000(2200) Control circuit:1500
Rated operating voltage	V	DC 110or125



## ① Switchgears

## Electric motor control board



## Features

## FEATURE

## 01. Enclosure

- Assembly type standard module configuration
- Provided with 600 mm wide and 100 mm vertical wire way

## 02. Structure

- Draw-out type and easy to maintenance and check
- Design and manufacture of a protective cover capable of internal monitoring on the horizontal and vertical buses inside the board
- Application of wiring method conforming to international standard (POWER: B, C/CONTROL: B, C)
- Sufficient for external wiring and easy maintenance secure space, install safety shatter on unit if necessary

## 03. Applicable standard

- KEMC 1108 (Motor control center)
- JEM 1195 (Motor control center)
- Conform to KS, ESB, our standard and required standards of other ordering organizations

## System specification

Criteria	Unit	저압반 규격
Rated Voltage	V	600
Rated Current	A	Horizontal busbar:MAX.2500 Vertical busbar:MAX.600
Rated Frequency	Hz	60or50
Rated Short Time Current	kA	MAX.65
Power frequency withstand voltage (Power Frequency Withstand Voltage : 1MIN.)	V	Main circuit:2000(2200) Control circuit:1500
Rated Operating Voltage	V	AC 110or220

## ① Switchgears

## Distribution board



## Features

## FEATURE

## 01. Enclosure

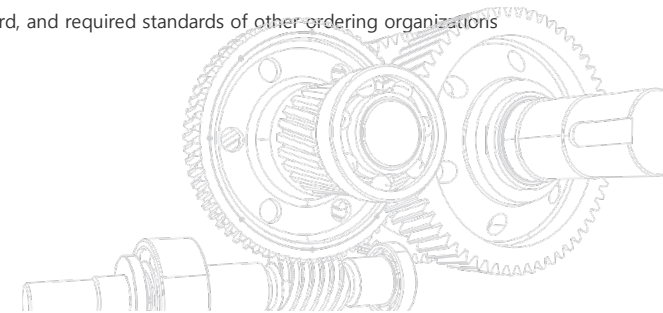
- Assembly type standard module configuration
- Beautiful appearance with eco-friendly color coating
- Freely design and manufacture the enclosure dimensions according to the installation conditions

## 02. Structure

- Installation of power measurement module for energy management by load circuit
- Design and manufacture of a protective cover that enables internal monitoring on the vertical bus by a vertical bus system
- Secure enough space for external wiring and easy maintenance inspection

## 03. Applicable standard

- KEMC 2104 (distribution board)
- Conform to KS, NEMA, our standard, and required standards of other ordering organizations



## 1 Switchgears

# Smart Switchgear



## Features

## FEATURE

- Vibration/temperature combined sensor: Vibration sensor and temperature sensor are composed in one mold for monitoring internal state of the switchboard
- Smart controller: Analyzes data received from combined sensor to control alarm and trip when threshold value is exceeded
- Reactive power compensation device: Stable operation and energy saving of a facility by improving the leading and lagging power factors
- Earthquake proof device: protects switchgear in case of earthquake by buffering vibration in vertical and horizontal directions

# MCSG switchgear



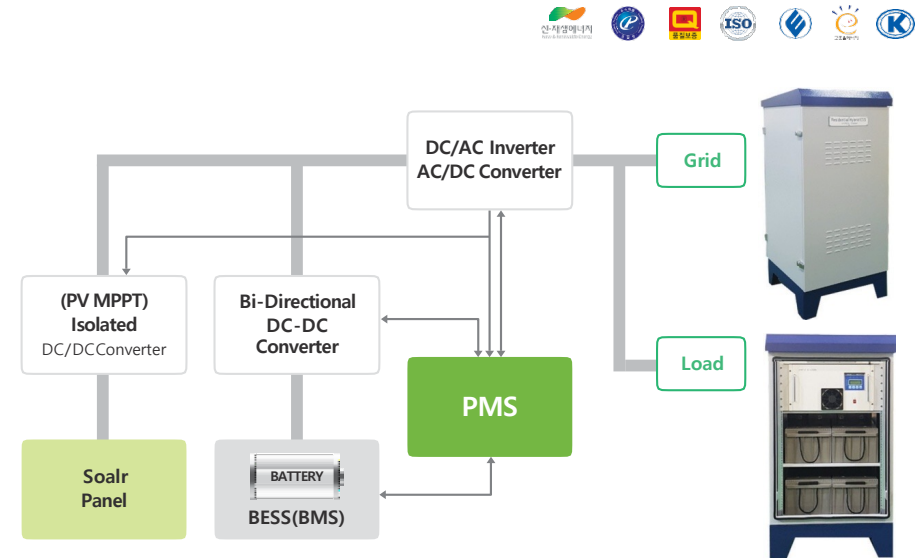
## Features

## FEATURE

- Metal-clad switchboard, a metal-closed switchboard with compartments with metal partitions whose components must be grounded.
- Rapid arc removal and protection function technology applied for operator safety in case of failure due to internal accident
- Development of MCSG with IAC (internal arc classification) and passed Korea Electrotechnology Research Institute (KERI) type test
- IEC 62271-200 : High voltage closed switchboard (24 kV & 7.2 kV SWGR)

## 2 New and Renewable Energy

# Residential power storage device



## Features

## FEATURE

- New and renewable energy generation input type such as photovoltaic and the like.
- Grid tied and off-grid independent operation (UPS function)
- Intelligent operation control through power management system (PMS)
- Power peak control function (digital power control)
- Long time backup function by connecting various large capacity batteries
- System status, alarm monitoring and interlocking function through Energy Management System (EMS)
- Parallel operation function
- Battery module can be expanded (separate consulting)

## System specification

Criteria	SPECIFICATION
Rated output voltage	220Vac single phase
Rated output capacity	3kW
Max. charge voltage/current/capacity	56V / 100A
PV max. input voltage/capacity	500V / 3kW
MPPT voltage	100 ~ 450V
Total efficiency	93%
Transfer time (UPS function)	Within 4mS



## ② New and Renewable Energy

## Photovoltaic | Transformer type inverter



[11~36kW]

[41~51kW]

[76~100kW]

## Features

## FEATURE

- Grid tied Transformer Type
- Wide MPPT Voltage Range with 2 Boost Inputs
- High Euro Efficiency and MPPT Efficiency
- Low output harmonic current distortion
- DC Ground Fault Detection Function
- Transformer Excitation Inrush Current Minimization Function
- Independent operation mode switching function
- Combined usage of 3-phase 3-wire, 3-phase 4-wire

## System specification

Criteria	SPECIFICATION		
Rated output power (kW)	11,16,21,26,31,36	41,46,51	76,100
DC max. input voltage	875V		
MPPT voltage range	250 ~ 700V		
MPPT efficiency	99.9% or more		
Conversion efficiency (Euro)	93.5% or more	94% or more	
Harmonics (THD)	3% or less		
External dimensions	650x1350x565	850x1450x600	1100x1850x675
Protection class	IP20 indoor type		
Operating temperature range	- 20 ~ 40°C		
Communications	RS - 485 ModBus		

## ② New and Renewable Energy

## Photovoltaic | Transformerless type inverter



[3.5kW]

[11~51kW]

## Features

## FEATURE

- Grid tied Transformerless Type
- Wide MPPT Voltage Range
- High Euro Efficiency and MPPT Efficiency
- Low output harmonic current distortion
- DC Ground Fault Detection Function
- Independent operation mode switching function
- Combined usage of 3-phase 3-wire, 3-phase 4-wire
- Combined usage of IP65/IP54 Indoor/Outdoor

## System specification

ITEM	SPECIFICATION			
Rated output power (kW)	3.5	11,16,21	26,31,36	41,46,51
Max. DC input voltage (V)	500	875		
MPPT voltage range (V)	100 ~ 450	250 ~ 750		
Output voltage (V)	220	3W + N + PE 380-220Vac		
Euro efficiency (%)	≥ 96%			
THD (%)	≤ 3%			
Operating temperature range	-20 ~ 50 °C			
Communication interface	RS-485 Modbus			

## 2 New and Renewable Energy

# Photovoltaic | Transformerless String Inverter inverter



[12~20kW]

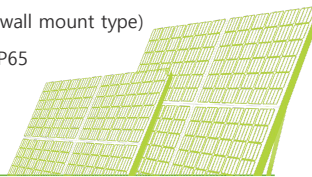


[33~40kW]

## Features

### FEATURE

- DC max. input voltage 1,000V
- High Euro Efficiency 98%
- Built-in DC switch
- Built-in junction box function (string monitor)
- Compact design
- Independent 2MPPT
- Easy installation (wall mount type)
- Protection class IP65



## System specification

Criteria	SPECIFICATION			
Rated output power (kW)	12	20	33	40
Max. DC input voltage (V)	1,000Vdc			
MPPT voltage range (V)	450 ~ 800Vdc			
Output voltage (V)	3W + N + PE 380Vac			
Euro efficiency (%)	≥ 97.5%		≥ 98%	
THD (%)	≤ 3%			
Operating temperature range	- 20 ~ 60°C			
Communication interface	RS-485 Modbus, WIFI (option)			

## 2 New and Renewable Energy

# Photovoltaic junction box



[4 ~ 20CH wall mount type]



[4 ~ 20CH self-standing type]

## Features

### FEATURE

- Photovoltaic array integrated surveillance management
- Best insulation effect
- Modular structure expandable in 4CH units
- Weather sensor module integrated type
- Various alarm detection functions
- Adoption of fuse holder made of flame retardant materials, Fire prevention
- Possible to manufacture indoor wall mount type

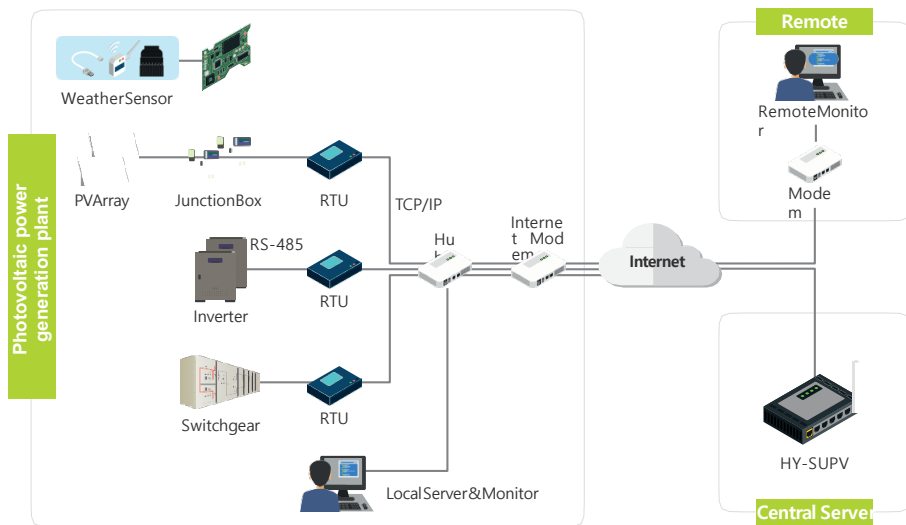
## System specification

Criteria	SPECIFICATION	
Electrical characteristics	Max. input voltage	1,000V
	Protection Fuse	15A (with Fuse holder)
	Max. number of measuring circuits	20CH
	Alarm detection	String Voltage & Current, Heat Sink Temperature, Over Voltage, Over Current, Fuse Disconnection, Communication abnormality
Environmental characteristics	Enclosure	SUS, AL
	Protection class	IP54
	Operation temperature range	-20 ~ 60°C
Communication interface		RS-485 Modbus



## ② New and Renewable Energy

## Photovoltaic monitoring system



## Features

## FEATURE

- Real time monitoring of photovoltaic array, junction box, inverter operating status
- Various statistical analysis functions
- Local, Web combined
- Including switchgear operating status monitoring
- Establishment of economic system
- Web Camera (Option)
- Status panel (TV) Display (Option)

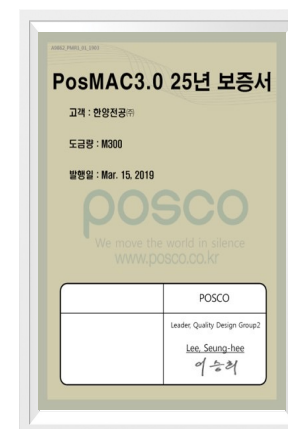
## System specification

ITEM	SPECIFICATION
Server	2.7GHz
OS	Windows7
Memory	6GB
HDD	500GB
Monitor	LED 22"
RTU	RS485 to Ethernet

## ② New and Renewable Energy

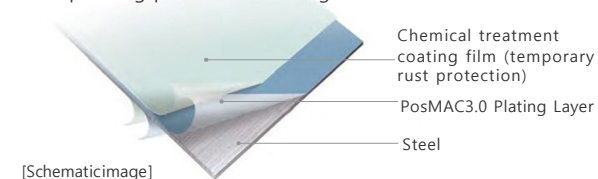
## Direct production of Photovoltaic structures

## PosMAC3.0



## Product characteristics

- PosMAC3.0 has more than 5 ~ 10 times corrosion resistance compared to general hot galvanized zinc plated steel sheet (GI, GI (H)) with the same amount of metal attachment, and it is possible to replace post-plated product because it has very good corrosion resistance of cutting surface.
- It is possible to apply the same processing, assembly and painting process as existing GI steel sheet.

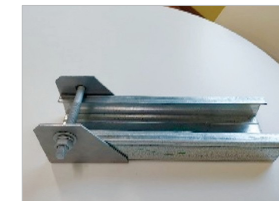
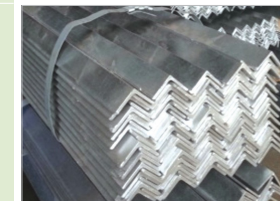


[Schematic image]

## Structure (hot galvanized zinc plating, PosMAC) comparison table

Criteria		Hot galvanized zinc plating (before change)	PosMAC (after change)
Corrosion resistance	Flat plate part	1 time	5~10 times
	Curved processing part	1 time	2~3 times
	Cup processing part	1 time	2~3 times
	In 10 % ammonia solution	Red cyan corrosion occurred at 1,000 Hr	1,200Hr or more
Lifetime expectancy assessment endurance years prediction		25 years	50 years
Plating layer hardness (scratch resistance)		Hv 60~80	Hv 110~130

Product picture



## Photovoltaic structures Direct production

Solar structure  
Direct production



production facilities



## Photovoltaic construction



## ACHIEVEMENTS

### A history of endless challenge

#### Certification Status

Company Certification  
Quality management  
Product Certification  
Intellectual property

#### Facilities

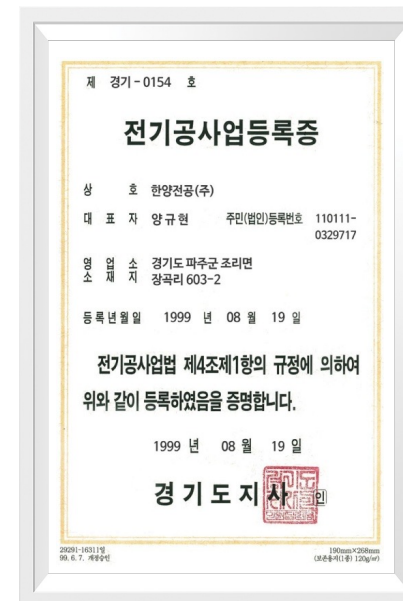
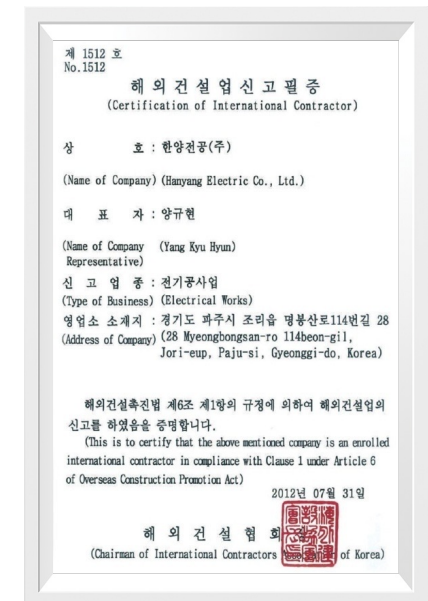
Inspection facilities  
Test facilities  
Manufacturing facilities  
O.A / CAD facilities

#### Performance Status

Construction achievements  
Delivery achievements

## ① Certification Status

## Company Certification

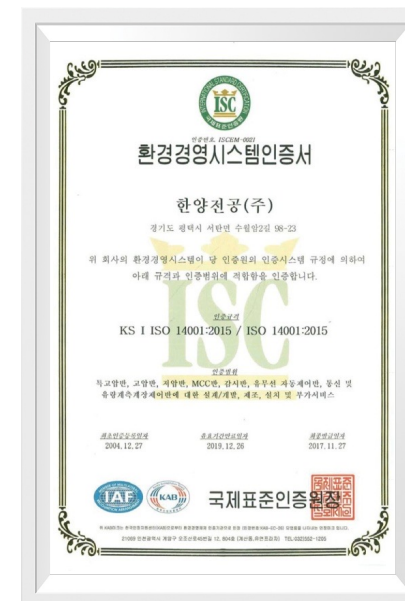
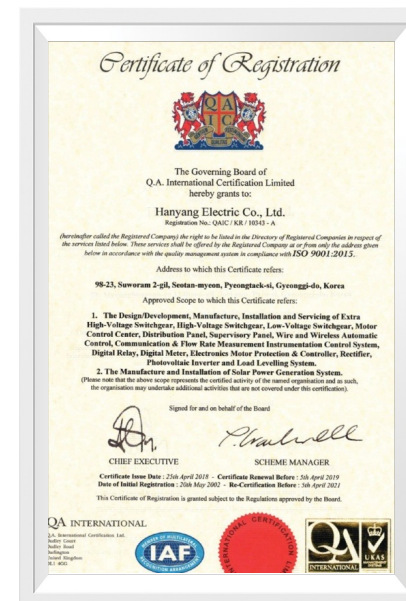
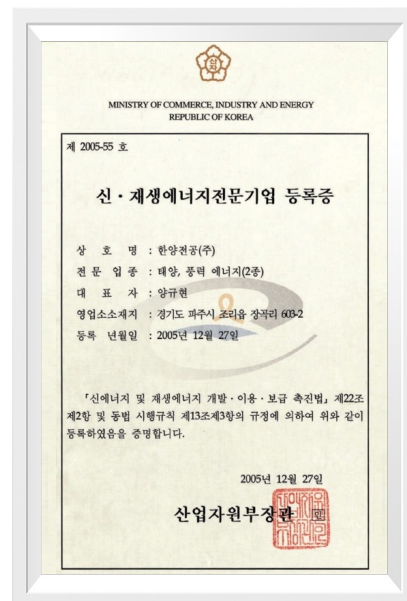
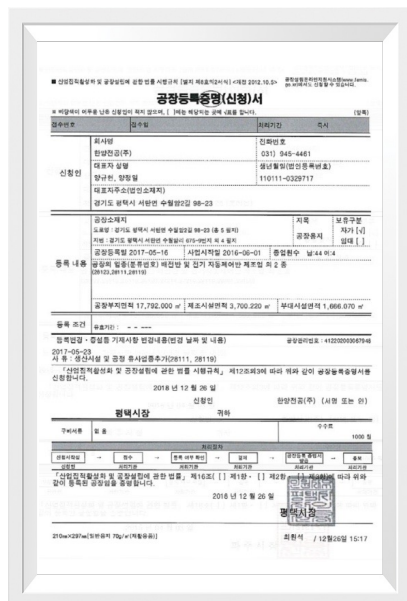
Business Registration  
CertificateCompany-affiliated  
research institute  
certificateElectrical Construction  
Business registration  
certificateCertificate of Declaration on  
Overseas Construction  
Business

Company Certification



## Certification Status

## Quality management



Factory registration certificate

Certificate of Registration as a professional company in the field of New and Renewable Energy

ISO 9001:2015

ISO 14001:2015

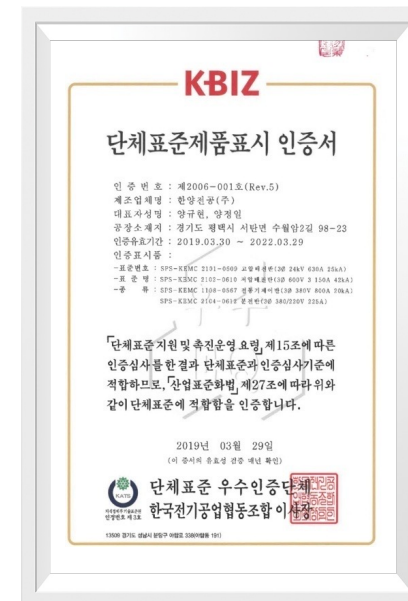
Quality management



Certificate of Innovative  
SME (Inno-Biz)



Certificate of Management  
Innovation Business SME  
(Main-Biz)



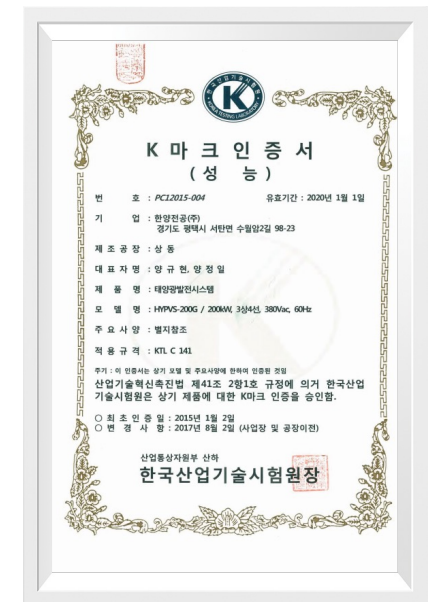
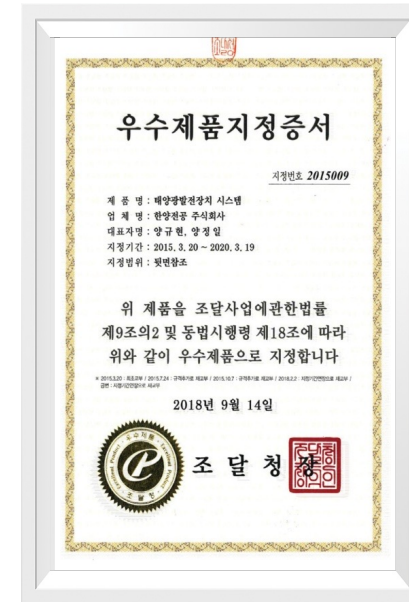
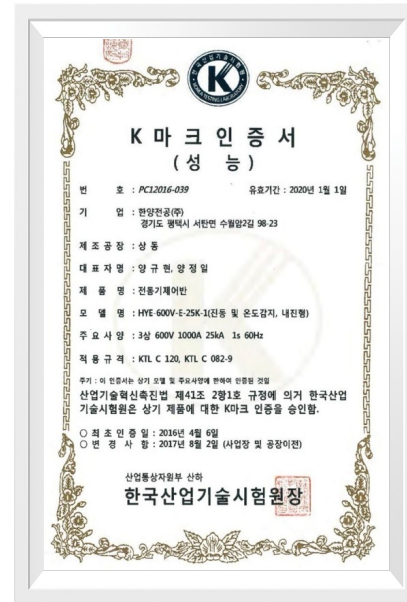
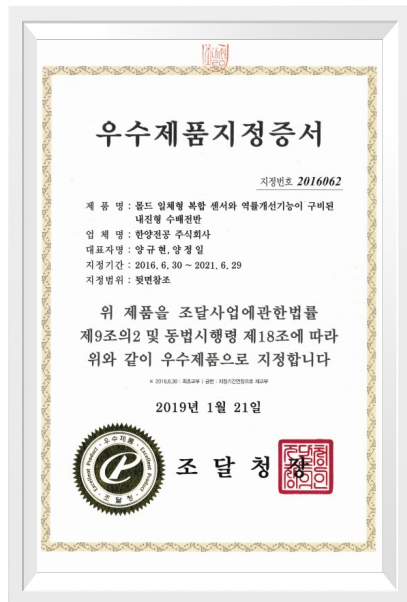
Certificate of Group  
Standard Product Marking



TEST REPORT

## ① Certification Status

## Product Certification



## Certificate of Designation of Excellent Product

- Photovoltaic power generation system

## K Mark Certificate

- High voltage switchboards
- Low voltage switchboards
- Electric motor control board

## Certificate of Designation of Excellent Product

- Photovoltaic power generation system

## K Mark Certificate

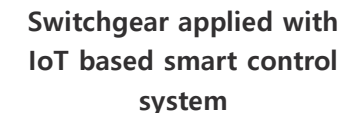
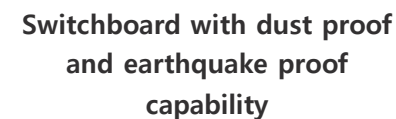
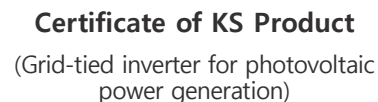
- Photovoltaic power generation system

Product Certification



## Intellectual property

## Patent Certificate | Switchgear Division



## Patent Certificate | Switchgear Division

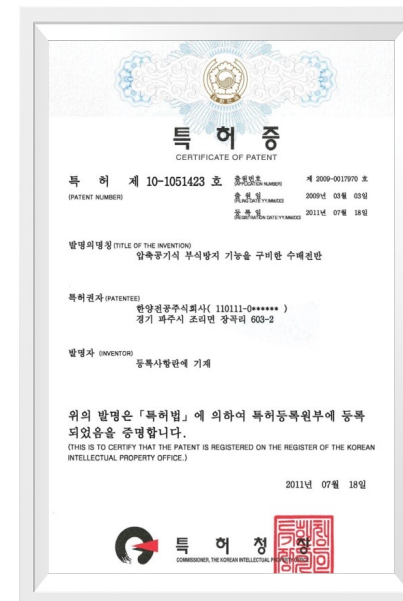


Switchgear mounted  
with fire protection  
sensing device



Earthquake proof type  
switchgear

## Patent Certificate | Switchgear Division

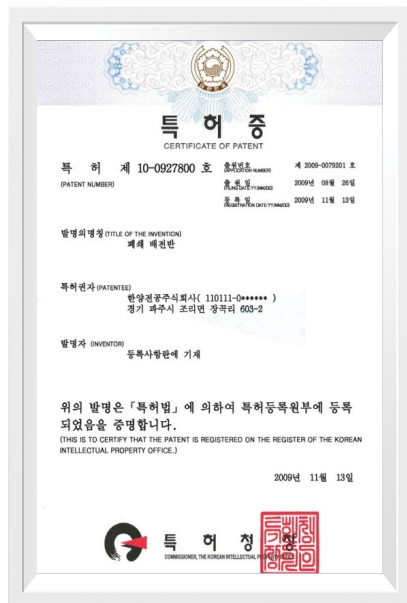


Switchgear provided with  
compressed air type  
corrosion protection function

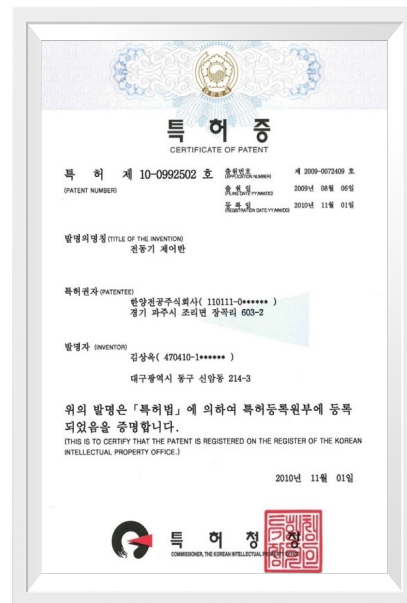


Earthquake proof  
switchboard with damping  
unit and displacement  
limiting unit

## Patent Certificate | Switchgear Division



Closed switchboard



Electric motor control board

## Patent Certificate | New and Renewable Energy



Real-time failure notification system and method in photovoltaic power generation



Photovoltaic power generation system and method considering power rate



## Patent Certificate | New and Renewable Energy



Photovoltaic modules serve as  
building exterior materials



Degradation monitoring  
method for inverters, and  
inverters used therein

## Patent Certificate | New and Renewable Energy



Photovoltaic inverter and  
control method of  
photovoltaic inverter

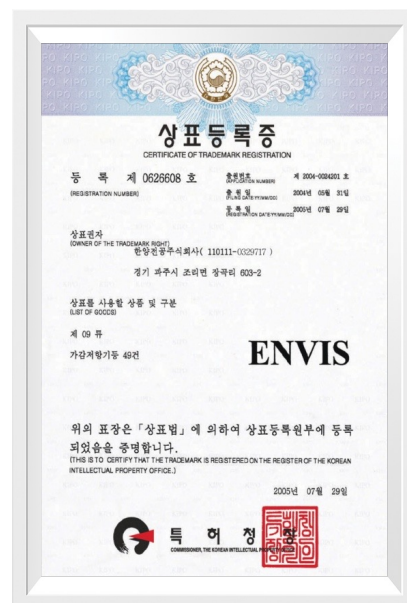
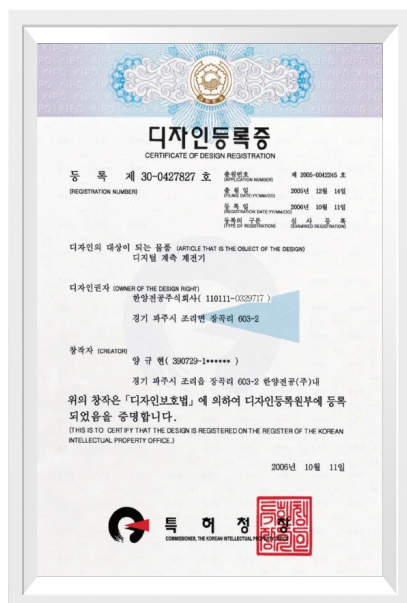


Monitoring method of  
photovoltaic power  
generation facilities and  
monitoring device used  
therein

## Inspection facilities

Control No.	Product Name	Specification	Manufacturer	Device No.
HYI - 01	3Φ Circuit Tester	3Φ4W,0-380V 0~9A	Daeyang Electric Co., Ltd.	DY-201
HYI - 02	3Φ Circuit Tester	3W121/242V0~6.05A 4W209/419VCOSQ90	KyongBo Electric Co., Ltd.	KTS-201
HYI - 03	Circuit tester (RELAYTESTER)	AC250V,50A	MUSASHI	IP-R
HYI - 04	Circuit tester (RELAYTESTER)	0~50A,0~300V Stopwatch 0~99.999	KyongBo Electric Co., Ltd.	KTR-20
HYI - 05	Real voltage lightning tester	Input:3Ø3WAC380V Output:AC7KV60HZ	Daeyang Electric Co., Ltd.	DY-404
HYI - 06	Load Current Tester (Large current tester)	Input:1ØAC220V60Hz Output:1Ø0~100A	Daeyang Electric Co., Ltd.	DY-303
HYI - 07	Voltage Resistance Tester (75KV)	1Φ75KV(5KVA)	Daeyang Electric Co., Ltd.	DY-101
HYI - 08	Voltage Resistance Tester	AC5KA / 200mA	Daeyang Electric Co., Ltd.	DY-104
HYI - 09	Voltage Resistance Tester (DC)	DC 60KV,5mA	HIPOTRONICS	860PL
HYI - 10	Current load tester	AC 5V-4000A	DooSan ENG.	-
HYI - 11	Digital insulation resistance tester	1000v4000MΩ 500v2000MΩ	HIOKI	3453
HYI - 12	Film thickness tester	6000FSI	PosiTector	6000
HYI - 13	Dial caliper	0~150mm,0.01mm	MITUTOYO	-
HYI - 14	Vernier callipers	0~150mm(0.05m/m)	MITUTOYO	-
HYI - 15	Outer micrometer	0~25mm,0.01mm	MITUTOYO	DY-601
HYI - 16	Contact resistance meter	12V80mA	Daeyang Electric Co., Ltd.	-
HYI - 17	Insulation resistance meter	1000V - 2000MG	YOKOGAWA	CP105
HYI - 18	Voltammeter	AC30~750V 0.15~30ACCLASS0.5	CEW	CP111
HYI - 19	Wattmeter	120-240V 5A-25A	CEW	RU-610B
HYI - 20	Decade Resistance Box	1Ω~1MΩ	ED	170116199
HYI - 21	Calibrator	2.5V,25V / 25mA	HIOKI	140225790
HYI - 22	Digital multimeter	AC,DC60mV-1000V AC,DC600μA-10A	HIOKI	140225790
HYI - 23	Digital insulation resistance tester	250V-5000V/ 105.0MΩ-1200GΩ	KYORITSU	E0052412
HYI - 24	Digital vernier caliper	0-150mm(0.01mm)	Mitutoyo	15328135
HYI - 25	3Φ Circuit Tester	3Φ4W,0-380V 0~9A	Daeyang Electric Co., Ltd.	DY-202

## Others



Certificate of Design Registration

Certificate of Trademark Registration

## 2 Facilities

## Test facilities

Control No.	Product Name	Specification	Quantity	Manufacturer	Remarks
HYI –SYS- 1 4	Oscilloscope(100MHz)	SS-5711	1set	IWATSU	
HYI –SYS- 1 7	EMC Test System	EMC PRO	1set	KeyTek	
HYI –SYS- 1 9	Dielectric Analyzer	7410	1set	EXTECH	
HYI –SYS- 2 0	Waverunner(500MHz)	LT354	1set	LeCroy	
HYI –SYS- 2 1	Power Hi Tester	3193	1set	HIOKI	
HYI –SYS- 2 2	L.C.R Meter	3522-50	1set	HIOKI	
HYI –SYS- 2 4	Multimeter	187	1set	FLUKE	
HYI –SYS- 2 6	Differential Probe	ADP-300	1set	LeCroy	
HYI –SYS- 3 1	DC Power Supply	ED-330	1set	ED	
HYI –SYS- 3 3	Multimeter	177	1set	FULKE	
HYI –SYS- 3 6	Clamp on Leak Hitester	3283	1set	HIOKI	
HYI –SYS- 3 8	Digital Oscilloscope	TDS3034	1set	Tektronix	
HYI –SYS- 4 2	Digital Power Meter	WT1600	1set	YOKOGAWA	
HYI –SYS- 4 4	Multimeter	73III	1set	FLUKE	
HYI –SYS- 4 5	Infrared Thermometer	572	1set	FLUKE	
HYI –SYS- 4 9	DC Power Supply	EX750L2	1set	TAKASAGO	
HYI –SYS- 5 8	Thermohydrstat	STHN 730-S	1set	SHINSAENG	
HYI –SYS- 6 0	Oscilloscope	TDS3034C	1set	Tektronix	
HYI –SYS- 6 1	Multimeter	289	2set	FLUKE	
HYI –SYS- 6 2	Power Supply	E3631A	1set	AGILENT	
HYI –SYS- 6 4	Battery Hitester	3561-01	1set	HIOKI	
HYI –SYS- 6 6	RESISTIVE LOAD BANK	K1-807021	1set	LOAD POWER	100kW resistance load
HYI –SYS- 6 7	Midi LOGGER	GL220	1set	GRAPHTEC	Temperature, voltage
HYI –SYS- 6 9	PROGRAMMABLE DC POWER SUPPLY	62150H-1000S	1set	Chroma	SIMULATOR
HYI –SYS- 7 0	DIGITAL INSULATION TESTER	TK-4003	1set	CHEKMAN	MEGA
HYI –SYS- 7 3	Digital Power Meter	TOS 3200	1set	KIKUSUI	

## 2 Facilities

## Manufacturing facilities

Facility no.	Facility Name	MODEL	Manufacturer	Manufactured No.
HYM – 2	Cutter	M - 3045	AMADA	30451341
HYM – 3	Bending machine	RG - 100	AMADA	105449
HYM – 5	Press	KIP - 50	KUKIL Precision Co., Ltd.	A120G
HYM – 6	Press	KIP - 30	KUKIL Precision Co., Ltd.	8303917
HYM – 11	Arc welder	EW180	E-WON Electric Co.	-
HYM – 12	CO <sub>2</sub> welding machine	3207	Samick Welding Machine Co., Ltd.	C30017
HYM – 14	PLASMA Cutter	CNW75AP	SEAH Industry	-
HYM – 15	STUD welding machine	TWS-CD906	SEAH Industry	-
HYM – 16	DC arc welding machine	PLUS-230A	Hankuk Machine	9925
HYM – 17	Tamping drill machine	STD - 410	Samchully Machinery Co., Ltd.	850903
HYM – 23	BUS-BAR Machine	WJBB-313A	Woo Jin Precision and Industries Co., Ltd	900970
HYM – 24	BUS-BAR Machine	WJBB-313S	Woo Jin Precision and Industries Co., Ltd	900035
HYM – 25	BUS-BAR Machine	WJBB-313	Woo Jin Precision and Industries Co., Ltd	900394
HYM – 26	BUS-BAR Machine	WJBB-313A	Woo Jin Precision and Industries Co., Ltd	9002000
HYM – 28	BUS-BAR Machine	WJBB-MH205	Woo Jin Precision and Industries Co., Ltd	290016
HYM – 29	Belt sander	TSB-190	Yongsoo Precision Co., Ltd.	2008.06
HYM – 31	Argon Welding Machine	GENESIS-350DT	DongJoo Welding Co., Ltd.	-
HYM – 32	Dust Collector	CB-200	GangSan Hitech Co., Ltd.	90218
HYM – 33	N.C.T	VIPROSZ358	AMADA	35870011
HYM – 34	BUS-BAR Horizontal Bending Machine	WJHB-150	Woo Jin Precision and Industries Co., Ltd	201012



# OA/CAD facilities

Product Name	System specification	Quantity	Network	Department of use
Unsudaedong	Dual Core E5400 2.7G			Affiliated Research Institute
ES4GH-SO1	MEMORY 2GB RAM HDD 300GB	1	CONNECT	Affiliated Research Institute
DM-V599-DA11S	Intel G620 2.6GHz MEMORY 2GB RAM HDD 500GB	2		Affiliated Research Institute
NT-NC10(Notebook)	Intel Atom CPU N270 1.6GHz MEMORY 1GB RAM HDD 150GB	1		Affiliated Research Institute
NT540U3C(Notebook)	Intel Core i5-3317V 1.7GHz MEMORY 8GB RAM HDD 120GB	1		Affiliated Research Institute
NT300E5A(Notebook)	Intel i5-2450 2.5GHz MEMORY 6GB HDD 500GB	1		Affiliated Research Institute
MONITOR	17" LCD MONITOR	8		Affiliated Research Institute
MONITOR	19" LCD MONITOR	2		Affiliated Research Institute
MONITOR	20" LCD MONITOR	1		Affiliated Research Institute
MONITOR	23" LCD MONITOR	2		Affiliated Research Institute
MONITOR	24" LCD MONITOR	1		Affiliated Research Institute
TV	50" PDPTV	1		Affiliated Research Institute
DM-V400	Intel core(TM)2 Q840 2.66GHz MEMORY 4GB HDD 180GB	1		Sales Division
DM-V600	Intel core(TM)2 i3 3.30GHz MEMORY 2GB HDD 1TB	1		Sales Division

# Construction achievements

2024  
49,857,188,717

Company Name	Price
Samsung Electronics Co., Ltd.	27,020,837,000
Samsung C&T Corporation	5,150,405,600
Geumyang Co., Ltd.	3,947,400,000
Industrial Bank of Korea	3,347,755,273
Samsung SDI Co., Ltd.	1,562,400,000
TW Industrial Development Co., Ltd.	1,400,000,000
Hyundai Engineering & Construction Co., Ltd.	1,282,723,506
SEMES Co., Ltd.	1,186,500,000
Samsung Display Co., Ltd.	898,204,000
Gyeonggi Goyang Office of Education	550,620,000
Gyeonggi Gimpo Office of Education	426,909,092
Pyeongtaek City, Gyeonggi	382,724,001
Gyeonggi Yeoncheon Office of Education	285,454,546
Gyeonggi Ansan Office of Education	254,683,637
Woomee Construction Co., Ltd.	228,546,000
Samsung E&A	223,055,200
NSK Korea Co., Ltd.	204,954,545
Mando Industrial Co., Ltd.	200,000,000
Gyeonggi Dongducheon-Yangju Office of Education	132,727,273
Gyeonggi Bucheon Office of Education	113,636,364
Woomee Development Co., Ltd.	101,096,000
Brilliant Garden	100,000,000
S-1 Corporation	92,970,000
Others	763,586,680

# Construction achievements

2023  
51,892,484,533

Company Name	Price
Samsung Electronics Co., Ltd.	26,731,079,900
Samsung C&T Corporation	6,549,405,700
Samsung Display Co., Ltd.	493,962,120
Samsung SDI Co., Ltd.	307,000,000
SEMES Co., Ltd.	508,500,000
Samsung Engineering Co., Ltd.	50,868,800
Hyundai Engineering & Construction Co., Ltd.	2,302,241,632
Industrial Bank of Korea	7,133,434,727
Hwaseong City Hall	221,636,364
ROK Marine Corps Unit 9518	178,754,547
LH Corp., Goyang Branch	261,950,000
Gyeonggi Gunpo-Uiwang Office of Education	177,604,546
Gyeonggi Paju Office of Education	120,909,091
Suwon City, Gyeonggi	109,500,000
Pyeongtaek City Hall	174,859,638
Korea Rural Community Corp., Chungnam	70,490,910
Hwaseong City Environmental Office	69,418,183
Korea Expressway Corp. Asan-Cheonan Project	67,300,000
Gyeonggi Office of Education	65,681,819
Korea Rural Community Corp. Gyeonggi	52,671,855
Gyeonggi Pyeongtaek Office of Education	29,127,273
Seoul Housing & Communities Corp.	28,657,770
S-Energy Co., Ltd.	4,135,000,000
Others	2,502,429,658



# Construction achievements

	Company Name	Price
2022 37,946,178,156	Samsung Electronics Co., Ltd.	22,244,489,000
	Samsung C&T Corporation	9,430,281,500
	KEPCO Solar Co., Ltd.	1,291,059,000
	SEMES Co., Ltd.	640,200,000
	IMI Critical Engineering Korea	640,000,000
	Hyundai Engineering & Construction Co., Ltd.	625,620,361
	Hwaseong City Hall	490,960,909
	Samsung Display Co., Ltd.	326,717,000
	Doosan Enerbility Co., Ltd.	310,000,000
	Doowon ENG Co., Ltd.	276,566,000
	Doowon EFC Co., Ltd.	125,580,000
	Korea Rural Community Corp. Gyeonggi Regional Office	122,865,455
	Korea Institute of Geoscience and Mineral Resources	106,569,091
	S-1 Corporation	91,700,000
	Samsung SDI Co., Ltd.	91,400,000
	Air Force 20th Fighter Wing	72,810,910
	Samsung Engineering Co., Ltd.	71,118,000
	Woojin Electrical Co., Ltd.	70,000,000
	Gyeonggi Pyeongtaek Office of Education	60,000,000
	Kolon Global Corporation	51,071,000
	Anseong City, Gyeonggi	45,600,000
	Gyeonggi Guri-Namyangju Office of Education	44,769,091
	Gyeonggi Gimpo Office of Education	44,769,091
	Others	672,031,748

## Construction achievements

2021

39,416,591,983

Company Name	Price
Samsung Electronics Co., Ltd.	16,889,824,400
Samsung C&T Corporation	8,205,837,000
HLB Life Science Co., Ltd.	5,264,000,000
Korea Rural Community Corp. Yeongsangang Project	2,112,784,363
Wooshin Environmental Construction Co., Ltd.	827,040,000
Hyosung TNC Co., Ltd.	709,230,000
SEMES Co., Ltd.	551,000,000
JSKM Plus Co., Ltd.	538,059,340
Imgo Agricultural Cooperative	350,000,000
Kolon Global Corporation	311,732,000
Korea Expressway Corp. Daegu Circular Road Project	275,988,684
Saeon ENC Co., Ltd.	260,190,000
Jeollabuk-do Provincial Police Agency	208,827,273
Samsung Engineering Co., Ltd.	176,170,985
Republic of Korea Navy Logistics Command	173,664,546
SONO International Co., Ltd.	146,737,000
Korea Rehabilitation Agency	120,089,701
Daemyung Construction Co., Ltd.	63,000,000
Samsung Display Co., Ltd.	60,343,000
Hwaseong Agricultural Technology Center, Gyeonggi	29,592,074
Others	2,142,481,617

# Construction achievements

2020  
30,688,328,004

Company Name	Price
Samsung Electronics Co., Ltd.	10,977,986,600
Samsung C&T Corporation	8,977,764,147
Samsung SDI Co., Ltd.	3,388,700,000
SEMES Co., Ltd.	1,551,700,000
Wooshin Environmental Construction Co., Ltd.	1,224,431,550
Incheon Port Authority	949,999,999
Wooshin Material Co., Ltd.	684,361,641
Korea Expressway Corp. Miryang-Ulsan Project	182,100,001
Samjin Elex Co., Ltd.	158,220,000
Daemyung Construction Co., Ltd.	143,937,000
Daemyung GEC Co., Ltd.	125,020,000
Korea Disease Control and Prevention Agency	118,558,355
Kolon Global Corporation	117,197,000
Golden Gate LLC	117,000,000
Seohan Co., Ltd.	96,363,200
Hwaseong Agricultural Technology Center, Gyeonggi	93,636,365
Marishi Korea LLC	89,070,000
Osan City, Gyeonggi	84,748,182
Seoul Metropolitan Police Agency	82,344,183
Others	1,525,189,781
Samsung Electronics Co., Ltd.	15,029,016,000
Samsung C&T Corporation	9,530,809,798
Ewon Energy Solar Power Plant	1,181,818,182
Seohan Co., Ltd.	1,085,732,000
Wooshin Environmental Construction Co., Ltd.	1,039,500,000
Wooshin Material Co., Ltd.	648,000,000
Yerim 1 Solar Power Plant	305,000,000
Yerim 2 Solar Power Plant	244,000,000
Korea Forest Service	212,804,100
Daemyung GEC Co., Ltd.	154,280,000
Samsung SDI Co., Ltd.	171,400,000
Samsung Display Co., Ltd.	127,547,000
LG Uplus Corp.	152,019,000
Korea Water Resources Corporation	178,260,000
Others	1,980,253,962

2019  
35,138,061,774



# Construction achievements

2018  
29,207,222,121

Company Nam	Price
Samsung Electronics Co., Ltd.	8,811,050,000
Samsung C&T Corporation	6,203,774,998
Samsung SDI Co., Ltd.	3,917,800,000
Samsung Engineering Co.,Ltd.	1,265,495,480
Gimhae-si, Gyeongsangnam-do	830,386,800
Samsung Display Co., Ltd.	710,137,000
Hyosung Co., Ltd.	481,875,261
Daelim Industrial Co., Ltd.	390,392,000
Daemyung Construction Co., Ltd.	332,483,179
Paju-si Tourism Promotion Center, Gyeonggi-do	285,280,910
Korea Land & Housing Corporation Gyeonggi Regional Head Office	256,574,937
Korea Forest Service	212,727,273
Others	2,854,295,015

2017  
23,002,435,459

Samsung C&T Corporation	9,281,792,254
Hyosung Co., Ltd.	2,729,807,199
Samsung Electronics Co., Ltd.	1,934,378,300
Samsung Display Co., Ltd.	1,335,182,060
Samsung Engineering Co.,Ltd.	1,326,271,896
Seoil Industrial Co., Ltd.	1,000,000,000
WOOJIN Industrial Technology Co., Ltd.	625,342,700
NSK Korea Co., Ltd.	620,000,000
Gimhae-si, Gyeongsangnam-do	490,292,100
GNTEL Co., Ltd.	221,150,000
Daemyung Construction Co., Ltd.	208,224,000
Etopiaenc Co., Ltd.	169,640,000
Others	2,157,749,626

2016  
70,252,709,725

Samsung Engineering Co.,Ltd.	23,599,845,078
Samsung C&T Corporation	8,471,400,260
Samsung Display Co., Ltd.	22,862,000,000
Samsung Electronics Co., Ltd.	697,000,000
Hyosung Co., Ltd.	345,000,000
SunWoo Electric Co., Ltd.	444,000,000
Yangju, Gyeonggi-do	729,660,000
Chungnam National University	242,770,000
Seoul Housing & Communities Corporation	184,460,000
EAGON Co., Ltd.	728,380,000
Etopiaenc Co., Ltd.	1,443,640,000
Taeon Daylight Power Plants 1 ~ 4	580,000,000
Others	3,335,090,000

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**2015****23,948,022,478**

Company Name	Price
Samsung Electronics Vietnam Company	6,383,133,898
Samsung Engineering Co., Ltd.	4,671,783,929
Samsung C&T Corporation	1,879,765,500
Samsung Display Co., Ltd.	1,342,100,000
Hyundai Heavy Industries Co., Ltd.	1,155,000,000
DooWon ENG Co., Ltd.	573,896,640
Daemyung Construction Co., Ltd.	541,601,000
Hyosung Co., Ltd.	295,000,000
SONG & LEE Best	491,164,000
Gyeonggido Gwangju Hanam Office of Education, Gyeonggi Provincial Office of Education	441,556,364
SEMES Co., Ltd.	374,543,000
Seoul Housing & Communities Corporation	361,498,182
Others	3,990,184,285

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**2014****33,210,601,803**

Samsung Display Co., Ltd.	19,071,130,000
Samsung C&T Corporation	2,601,753,920
Samsung Engineering Co., Ltd.	172,148,030
Hyundai Heavy Industries Co., Ltd.	153,100,000
Daehan Ceramics Co., Ltd.	99,100,000
SEMES Co., Ltd.	75,560,000
Cheil Industries Co., Ltd.	73,294,900
S-1 Co., Ltd.	36,744,400
Seoul Housing & Communities Corporation	26,739,272
Samsung Electronics Co., Ltd.	16,459,000
Samsung SDI Co., Ltd.	12,200,000
Hyundai Engineering & Construction Co., Ltd.	10,000,000
Others	169,032,951

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**2013****23,745,110,581**

Samsung Engineering Co., Ltd.	663,330,175
Samsung C&T Corporation	356,980,455
Samsung Heavy Industries Co., Ltd.	351,822,000
Samsung Everland Co., Ltd.	135,284,200
Samsung Electronics Co., Ltd.	41,800,000
Korea Land & Housing Corporation	238,661,329
Jaeyoung Co., Ltd.	100,000,000
Jookwang Electric Co., Ltd.	38,530,000
Woosun Energy and Construction Co., Ltd.	20,400,000
Woohyeon Electric Co., Ltd.	11,500,000
SEMES Co., Ltd.	8,799,735
Daehan Ceramics Co., Ltd.	11,600,000
Others	183,392,106

## Construction achievements | Photovoltaic power generation facilities



Hillstate Yangju Okjeong Patiofore



24 Year Building Support Project for NSK Cheonan Plant, Korea

2024

No.	Company Name	Site name	Capacity(Kw)	Subtotal(Kw)
1	Incheon Regional Headquarters of Korea Housing Corporation	Goyang Janghyang A-4BL Apartment	210	2099.26
2	S1 Co., Ltd	Radong Solar Facility Replacement Project	35.75	
3	Hyundai Engineering & Construction Co., Ltd	Hillstate Yangju Okjeong Patiofore	809	
4	Korea Energy Agency	14 households in housing support projects	44	
5	Pyeongtaek, Gyeonggi-do	Green Remodeling at Cheongbuk Daycare Center	14	
6	Pyeongtaek, Gyeonggi-do	Green Remodeling at Hyundeok Daycare Center	11	
7	RPS	38 Suwolam-gil, Seotan-myeon, Factory Roof	83.78	
8	Gyeonggi-do Office of Goyang Education	New Electrical Engineering Materials of Janghang Elementary School	264	
9	Pyeongtaek, Gyeonggi-do	Pyeongtaek City Memorial Park Excellent Products	66	
10	Gyeonggi Environmental Energy Agency	24 Years of Housing in Gyeonggi-do Province, 25 solar power households	75	
11	RPS	38 Suwolam-gil, Seotan-myeon, Factory Roof	78.75	
12	RPS	Yanggam-myeon Yongsori 1010-10 Factory Roof	99.82	
13	Korea NSK Co., Ltd	Korea NSK Cheonan Factory Building Support Project	144.36	
14	Mando Industrial Co., Ltd	1304 Dongpae-dong, Paju-si - Mando Industrial Co., Ltd	163.8	



2023

No.	Company Name	Site name	Capacity(Kw)	Subtotal(Kw)
1	Pyeongtaek Office of Education	Godeok 8 Kindergarten	42	1816.415
2	Korea Rural Community Corporation Yeosu Icheon Branch Public Office	Complex Construction Project of Jumdong-myeon Public Office	92.04	
3	RPS	It's a great solar power plant	92.95	
4	RPS	Hoho Solar Power Plant	85.8	
5	Hwaseong City Environmental Office, Gyeonggi-do	Solar Installation Project at Hyangnam Transfer Terminal	30	
6	Korea Energy Agency	23 households in housing support projects	69	
7	Pyeongtaek, Gyeonggi-do	Green Remodeling of the City Song Young's House	13.625	
8	Paju District Office of Education	Munsan High School Solar Power Plant	54.6	
9	Hwaseong, Gyeonggi-do	Jeongnam-myeon Administrative Welfare Center Renewable Energy	79.2	
10	Hyundai Engineering & Construction Co., Ltd	Naver Sejong Data Center	180	
11	Hyundai Engineering & Construction Co., Ltd	Hillstate Gapcheon 1 Tripul City	1077.2	
1	Korea Institute of Geoscience and Mineral Resources	Safety Facility Office of the Korea Institute of Geoscience and Mineral Resources	45	1761.31
2	Hyundai Engineering & Construction Co., Ltd	Hillstate shin bang hwa Station	39.8	
3	Kolon Global Co., Ltd	Haneulchae-Centreville, Sejong City	372.67	
4	Naval Command	Integrated Maintenance Depot of the Artillery	75	
5	20th Air Force Fighter Wing	Seosan (KF-16) Science and Maintenance Training Facility	30	
6	Anseong, Gyeonggi-do	Anseong Sports Park	21.78	
7	Korea Energy Agency	53 Housing Support Projects	159	
8	Doosan Efficiency Co., Ltd	IMI Critical Engineering Korea Carbon neutral facility support project	799.68	
9	IMI Critical Engineering Korea Co., Ltd	IMI Critical Engineering Korea Solar Power Facility Construction		
10	Samsung C&T Co., Ltd	Solar Power at Yongin Residential Performance Research Center	44	
11	Hwaseong, Gyeonggi-do	Banwol Sports Center Convergence of Renewable Energy	36.78	

2022

2021

No.	Company Name	Site name	Capacity(Kw)	Subtotal(Kw)
1	Anyang Fire Station	Bisan 119 Safety Center	10.08	3,485.55
2	Hwaseong Agricultural Technology Center	Purchase and installation of farming solar power generation facilities	51.8	
3	Sono International Co., Ltd	Sejong City Tech Valley Small and Medium Business Technology Information Promotion Agency	31.50	
4	Korea Energy Agency	78 households in the housing support project in 2021	234	
5	Sono International Co., Ltd	Sejong City Knowledge Industry Center	121.5	
6	Sono International Co., Ltd	Godeok Station officetel	91.53	
7	Eunpyeong-gu, Seoul	Zero Energy Remodeling per Old Bird's Long Bone Path	9.66	
8	Imgo Agricultural Cooperative Federation	Imgo Agricultural Cooperative Agricultural and Fishery Distribution Center Solar Power Plant	348	
9	Hyosung T&C Co., Ltd	Jess Enertech Yeoncheon 1st Solar Power Plant	128	
10	Hyosung T&C Co., Ltd	Ushin Solar Town Yeoncheon 1st Solar Power Plant	100	
11	Hyosung T&C Co., Ltd	Ushin Solar Town Yeoncheon 1st Solar Power Plant	200	
12	Hyosung T&C Co., Ltd	Guanwoo No. 2 solar power plant	75	
13	Korea Rural Community Corporation Yeongsan River Project Group	Nabul 1st and 2nd District Onshore SolarPower Plant	1986.56	
14	North Jeolla Provincial Police Agency	Construction of Sunchang Police Station	97.92	
1	Samho Co., Ltd	ePyeonhansesang Daejeon Beop-dong	118.4	4612.71
2	Wooshin Environmental Construction Co., Ltd	Yeondang-ri Solar Power Plant in Pocheon City (No. 1, 3)	1,498.8	
3	Wooshin Environmental Construction Co., Ltd	Yeondang-ri Solar Power Plant in Pocheon City (No. 2, 3)	1,766.61	
4	Korea Energy Agency	128 Housing Assistance Projects	384	
5	Korea Centers for Disease Control and Prevention	Public Vaccine Development Center	39.84	
6	Seoul City	11 mini solar households	33	
7	Samsung C&T Co., Ltd	Bujeon-Masan Railway Site	36	
8	Osan City	Chopyeong-dong Administrative Welfare Center	36.78	
9	POSCO ICT	Ilisan KINTEX Residence	31.5	
10	Incheon Port Authority	Incheon International Port IPA2 Solar Power Plant	550	
11	Daemyung Construction Co., Ltd	Sejong City Tech Valley Public Office (Start-up Promotion Agency)	19.5	
12	Golden Gate Limited	Golden Gate Solar Power Plant	98.28	

2020

2019

No.	Company Name	Site name	Capacity(Kw)	Subtotal(Kw)
1	Hanyang 1 Power Plant	Hanyang 1 Power Plant PV + ESS Installation Construction	459.9	4,417.28
2	Daemyung Construction Co., Ltd	Bupyeong Daemyung Bellion Officetel Building	75.9	
3	Lee Dae Sil	Taeon County Solar Power Plant	63.51	
4	LGU+	Sejong Alloy Solar Power Plant in Hwaseong City	201.6	
5	a supply project	Housing support project 79 households in 2019	237	
6	LEE ONE energy	LEE ONE Energy Solar Power Plant in Taeon County	930.92	
7	Siheung Office of Education	Gunseo High School Solar Power Unit	30	
8	POSCO ICT	A New Knowledge Industry Center in Siheung-dong	60.175	
9	RPS	Cheongju Yerim 1st and 2nd solar power plants	432.75	
10	Ulsan Buk-gu Office	Ulsan Buk-gu Office's solar power supply project 7 households	21	
11	Dongil Glass Co., Ltd	Cheongju Dongil Glass Building Support Project	25.9	
12	Cheongho Nice	56 households in housing rental projects in 2019	168	
13	Forest Service	National Sejong Arboretum Construction Project	160	
14	Hyundai Engineering & Construction Co., Ltd	Urban Regeneration of Cheonan Dongnam-gu Office	50.625	
15	Wooshin Environmental Construction Co., Ltd	No. 1 and 3 solar power plants in Yeondeul-ri, Pocheon-si	1,500	

2018

1	Dissemination Program	2018 39 households on First Housing Assistance Program	117.00	2,024.54
2	Eleccom Co., Ltd.	Eleccom Co., Ltd., Icheon Plant	50.40	
3	Unsan Ri Townhall	Unsanri Townhall Warehouse	30.00	
4	RPS	Gimje Jinwoo Hayoung Photovoltaic power generation plant	565.92	
5	Paju-eup Office	5 other locations including Baekseok 2-ri senior center	26.00	
6	Korea Land & Housing Corporation	Hwaseong Dongtan 2 2nd Elementary School Construction Site	153.36	
7	Fuyuan Electronic Co., Ltd.	SH Corporation Gurohang-dong 8th Complex	36.72	
8	Daemyung Construction Co., Ltd.	Guro Knowledge Industrial Center New Construction Site	105.60	
9	Paju-si, Gyeonggi-do	Minbuk Tourism Office Dorasan Observatory	68.00	
10	MS Grid Co., Ltd.	Wonju MS Grid photovoltaic power generation plant	99.96	
11	Gimhae-si, Gyeongsangnam-do	107 Senior Centers in Gimhae-si	340.00	
12	RPS	Gwangsan No. 2 photovoltaic power generation plant	98.55	
13	Daelim Industrial Co., Ltd.	E easy world apartment 2nd construction site	301.35	
14	Kolon Global Co., Ltd.	Cheongdam Complex Facility Construction Site	31.68	



2017

No.	Company Name	Site name	Capacity(Kw)	Subtotal(Kw)
1	Institute of Technology & Education Jungbu Campus	Seoul Institute of Technology & Education Jungbu Campus	35.00	686.13
2	Paju City Hall	4 other places including Yeongiang 3-ri Senior Center	15.00	
3	Paju-si, Gyeonggi-do	Dujiri Agricultural & Marine Products Sales Facility	10.00	
4	Paju-si Beobwon-eup	Eunbichsalangchae Townhall and 3 other places	26.00	
5	Guro-gu, Seoul	Guro 1 Pump Station	10.00	
6	Haeoreum Construction Co., Ltd.	Jinyoung Clear Water Circulation Center	201.00	
7	Daemyung Construction Co., Ltd.	LH Corporation Multifunctional Administrative City M6 Block	70.20	
8	Kolon Global Co., Ltd.	Gasam-dong Bellion Officetel	94.50	
9	Dissemination Program	Cheonan Ssangyong-dong Haneulchae New Construction	37.20	
10	Kolon Global Co., Ltd.	Shingu University Building Support Program	49.14	
11	Sueok agriculture corporation	Stepping-stone of Hope, Nae 2-ri Agricultural and Marine Products Warehouse	35.00	
12	Samho International Co., Ltd.	E easy world apartment Seosan Techno Valley	35.96	
13	Kwan2ri village agriculture corporation	Gwan2ri Townhall Photovoltaic power generation equipment	25.13	
14	Dissemination Program	Korea Energy Agency photovoltaic 3kW facility	42.00	

2016

1	Samsung Engineering Co.,Ltd.	Samsung Electronics Seoul National University Research Center new construction site	250.80	1,754.66
2	Yangju, Gyeonggi-do	Yangju Sincheon Sewage Management Center	255.00	
3	Chungnam National University	Chungnam National University Global Human Resource Development Center	80.00	
4	Hyojin Co., Ltd.	SH Corporation Ogeum Bogeumjari Housing Complex 1, 2	190.00	
5	Samho International Co., Ltd.	E easy world apartment Seosan Techno Valley new construction site	35.96	
6	Teefactory Co., Ltd.	KT Hoengye branch office, training center	46.90	
7	Haeoreum Construction Co., Ltd.	Sejong Happy Center Multifunctional City Apartment Construction Site	45.00	
8	Il Kwang Photovoltaic power generation plant	Taeon Il Kwang Photovoltaic power generation plant	400.00	
9	NSK Korea	NSK Korea Cheonan Plant	300.00	
10	Gangseo-gu, Seoul	Gangseo Youth Hall	20.00	
11	Paju-si, Gyeonggi-do and more	Paju-si Majang 3-ri Senior Center and 4 other places	16.00	
12	Seodaemun Fire Station, Seoul	Seodaemun Fire Station, Bukgajwa 119 Safety Center	20.00	
13	Seocho Fire Station, Seoul	Seocho Fire Station 119 Safety Center	10.00	
14	Korea Polar Research Institute of Korea Institute of Ocean Science & Technology	Antarctic Changbogo Science Base	10.00	
15	City of Seoul	Seoul Mini Photovoltaic Dissemination Program	37.00	
16	New and Renewable Energy Center of Korea Energy Agency	New and renewable energy Housing Support Program	38.00	

2015

No.	Company Name	Site name	Capacity(Kw)	Subtotal(Kw)
1	Daemyung Construction Co., Ltd.	Savoy City DMC photovoltaic power generation facilities	156.96	1,106.12
2	Daemyung Construction Co., Ltd.	Munjeong District Business Facility photovoltaic power generation facilities	41.80	
3	Daemyung Construction Co., Ltd.	Munjeong District Knowledge Industry Center photovoltaic power generation facilities	91.56	
4	Gyeonggi-do Office of Education	Photovoltaic power generation facilities for GoLim High School New Construction	130.00	
5	Gyeonggi-do Office of Education	Photovoltaic power generation facilities for Seoul Wirye Elementary School	150.00	
6	Gyeonggi-do Office of Education	Photovoltaic power generation facilities for Hagil 2 Elementary School and one other school	156.00	
7	Dae Sang Electrical Contracting Co., Ltd.	SH Corporation Magok 10-1 Complex	105.00	
8	Elmetech Co., Ltd.	Munjeong-dong Office Building Construction	44.80	
9	Korea Land & Housing Corporation	LH Corporation Hanam Misa 3rd Middle School	150.00	
10	Wecan Social Welfare Corporation	Wecan Social Welfare Corporation	30.00	
11	Daishin Senior Welfare Center	Daeshin Senior Welfare Center for Urimodoo Welfare Foundation	20.00	
12	Social welfare corporation Korea Welfare Disability Welfare Center	Dongsanwon photovoltaic power generation facilities	30.00	

2014

1	SH Corporation	Naegok 2 Complex Photovoltaic power generation equipment	205.00	796.94
2	SH Corporation	Magok U-CITY Integrated Center photovoltaic power generation system	25.00	
3	Samsung C&T Corporation	Woomyeon R&D Center photovoltaic power generation facilities	49.00	
4	Hancess Co., Ltd.	Hancess Co., Ltd.	91.26	
5	DAEHAN Ceramics Co., Ltd.	Daehan Ceramics	199.68	
6	Dissemination Program	Housing-building Dissemination Program	108.00	
7	Public Procurement Service - Paju-si	6 other locations including Sikhyeon 1-ri Senior Center	26.00	
8	Dissemination Program	DaeHan Building photovoltaic power generation facilities	75.00	
9	Public Procurement Service - Anseong Office of Education	Iljuk Middle School Photovoltaic power generation equipment	18.00	

2013

1	SH Corporation	Naegok 1 Complex photovoltaic power generation equipment	90.00	1,048.89
2	Samsung C&T Corporation	Gangnam Zagok Apartment Photovoltaic	85.02	
3	Daehan Industrial Co., Ltd.	Yongin Samga Elementary School photovoltaic	40.00	
4	Yeoncheon-gun Office	Yeoncheon Public Health Center Photovoltaic	50.00	
5	Yeoncheon-gun Office	Baekhak Myeon Office Photovoltaic	18.00	
6	Namyangju-si	Namyangju Health Center Photovoltaic	26.00	
7	Gangdong-gu Office	Photovoltaics for Gangdong-gu Office and 3 other places	40.00	
8	Jaeyoung Co., Ltd.	Jaeyoung photovoltaic power generation plant photovoltaics	355.68	
9	Daeryuk Co., Ltd.	2013 General Dissemination Program	16.00	
10	Samsung C&T Corporation	Ahyeon 3 District and 5 other places	328.19	

Delivery achievements

Power  
Generation  
Facilities

Ordering Organization	Site name
Hyundai Engineering & Construction Co., Ltd.	Bundang cogeneration plant
Hyundai Engineering & Construction Co., Ltd.	Yeonggwang Nuclear Power Plant
Hyundai Engineering & Construction Co., Ltd.	Wolseong Nuclear Power Plant
KEPCO	Cheongsong Pumped Storage Power Plant
KEPCO	Muju Pumped Storage Power Plant
KEPCO	Ulsan Combined Cycle Power Plant
KEPCO	Donghae Thermal Power Plant
Korea Heavy Industrial Construction Co., Ltd.	Uljin Nuclear Power Plant
Korea Heavy Industrial Construction Co., Ltd.	Boryeong Thermal Power Plant
Korea Western Power Co., Ltd.	West Incheon Thermal Power Plant
Samsung Everland Co., Ltd.	Tangjeong Thermal Power Plant
Samsung C&T Corporation	Incheon International Airport
Samsung Engineering Co., Ltd.	High-speed Railway Site (Neung-Rok)
Samsung Engineering Co., Ltd.	Busan Railway Site
Hyundai Engineering & Construction Co., Ltd.	Taereung Station (Line 7) and 7 other places
Hyundai Engineering & Construction Co., Ltd.	Ewha Womans University Station (Line 2)
Busan Regional Maritime Affairs and Fisheries Office	Busan Port
Incheon Regional Maritime Affairs and Fisheries Office	Incheon Pier
Incheon Regional Maritime Affairs and Fisheries Office	Pyeongtaek Port
Gunsan Regional Maritime Affairs and Fisheries Office	Gunsan Port
Masan Regional Maritime Affairs and Fisheries Office	Masan Port
Jeju Regional Maritime Affairs and Fisheries Office	Jeju Port/Hallim Port/Seogwipo Port
Container dock industrial park	Gwangyang Container Docks
Busan Port Corporation	Busan New Port North Container Terminal (Step 2-1)
Gangneung Airport	Gangneung Airport
Seogwang Electric Co., Ltd.	Gimpo International Airport
Ssangyong Construction Co., Ltd.	Noksapyeong Station (Line 6) and 3 other places
Samsung Engineering Co., Ltd.	Korea Institute Of Energy Research
Agency for Defense Development	Daejeon Research Institute
Agency for Defense Development	Changwon Proving Ground
Agency for Defense Development	Anheung Test Laboratory
Agency for Defense Development	Haemi Airfield
Korea Electric Power Corporation	Korea Electric Power Research Institute (Daedeok)
Institute for Basic Science	National Fusion Research Institute
Ssangyong Construction Co., Ltd.	Ssangyong Research Institute (Daedeok)

Port/  
Aviation/  
Railway  
Facilities

Research  
Institutes

## Hospitals

## Industries/ PLANT

Ordering Organization	Site name
Samsung C&T Corporation	Seoul National University Dental Hospital
Samsung C&T Corporation	Seoul National University Cancer Conquest Research Building
Samsung C&T Corporation	Korea University Anam Hospital
Hyundai Engineering & Construction Co., Ltd.	Asan (Central) Hospital
Cheil Industries Co., Ltd.	Cheil Orthopedic Hospital
Samsung Electronics Co., Ltd.	Vietnam SEVT corporation construction work
Samsung Electronics Co., Ltd.	Pyeongtaek P-PROJECT
Samsung Electronics Co., Ltd.	Gumi wireless equipment building and others
Samsung C&T Corporation	Samsung Electronics Onyang Plant
Samsung C&T Corporation	Samsung Electronics Material Research Complex
Samsung C&T Corporation	R5-PROJECT
Samsung C&T Corporation	Yongin International Research Institute
Samsung C&T Corporation	Samsung Electronics Tangeong LCD Factory
Samsung C&T Corporation	Samsung Electronics Gumi Plant 1, 2
Samsung C&T Corporation	Samsung Electronics Pyeongtaek P-PROJECT
Samsung C&T Corporation	Samsung SDS Gumi Computer Center
Samsung C&T Corporation	Samsung Motors (Busan)
Samsung ENG Co., Ltd.	Samsung SDC Y-PROJECT
Samsung ENG Co., Ltd.	Samsung SDC Corporation A2-PROJECT
Samsung ENG Co., Ltd.	Vietnam INTEL site
Samsung ENG Co., Ltd.	Samsung SDI Co., Ltd. Cheonan Factory
Samsung ENG Co., Ltd.	Samsung SDI Co., Ltd. Busan Factory
Samsung ENG Co., Ltd.	Samsung Electro-Mechanics Daejeon Plant
Samsung ENG Co., Ltd.	Samsung Electro-Mechanics Suwon Plant
Samsung ENG Co., Ltd.	Samsung Heavy Industries Changwon Factory
Samsung ENG Co., Ltd.	Hyundai Steel (Dangjin Plant)
Samsung ENG Co., Ltd.	Samsung SDC A3-PROJECT
Samsung ENG Co., Ltd.	Samsung SDC K-PROJECT
Samsung ENG Co., Ltd.	Vietnam SDV V2-PROJECT
Samsung SDI Co., Ltd.	Cheonan Factory
Samsung SDI Co., Ltd.	Busan Factory
Samsung SDC Co., Ltd.	Q-PROJECT (Asan Tangeong)
Samsung Everland Co., Ltd.	Samsung Electronics Digital Parking Tower
Samsung Everland Co., Ltd.	Samsung Techwin Co., Ltd. Plants
Samsung Fine Chemical Co., Ltd.	Incheon Plant
Hyundai Engineering & Construction Co., Ltd.	Hyundai Motors (Ulsan)
SEMES Co., Ltd.	Cheonan Factory
Daelim Industrial Co., Ltd.	Geoje Island U-2 Factory
Sunkyung Construction Co., Ltd.	Yugong LPG Site (Ulsan)
Ssangyong Construction Co., Ltd.	Ssangyong Motors (Pyeongtaek)
Daehan Ceramic Co., Ltd.	Mokpo factory power facility extension construction
SEMES Co., Ltd.	Electric facility replacement work at TP site