



NG SMART ENERGY

Review & Outlook

LSIS

Review & Outlook

Disclaimer

This presentation material is prepared for investors' reference, based on data that have not been filed with the financial supervisory commission.

Actual business performance may not necessarily be consistent with the projections herein, as a result of unexpected changes in the market environment and other conditions.

The financial information in this document are consolidated earnings results based on K-IFRS.

Total Results

4Q '16 Total Results

◆ Sales

Y-o-Y 71.8bwn increased(12.1%), Q-o-Q 139.5bwn increased(26.6%)

◆ Operating Profit

Y-o-Y 13.1bwn decreased(△32.1%), Q-o-Q 2.5bwn decreased(△8.2%)

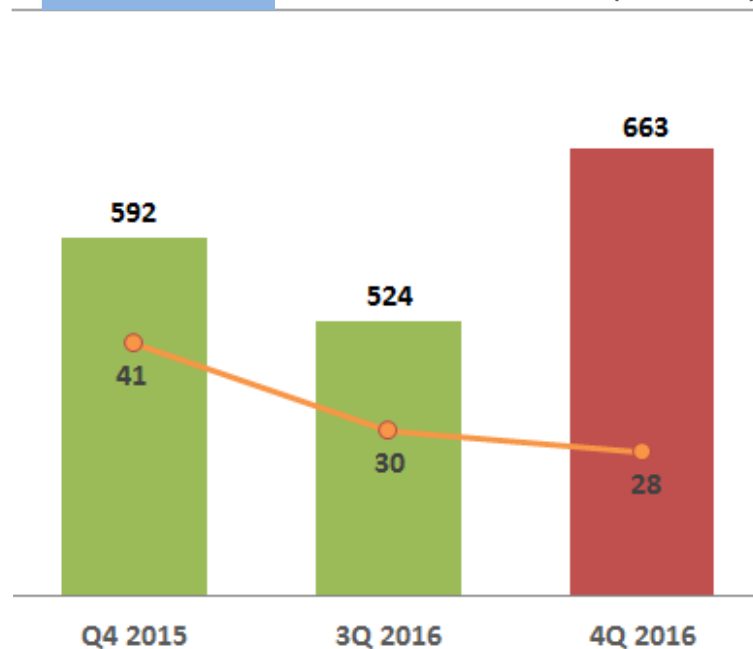
Income Statement

(unit : bwn)

Segment	Q4 2015	Q3 2016	Q4 2016	Y-o-Y	Q-o-Q
Sales	592	524	663	12.1%	26.6%
Operating profit	41	30	28	△32.1%	△8.2%
Profit before tax	30	28	25	△16.0%	△12.1%
Net income	24	22	22	△7.6%	0.2%

Sales & OP

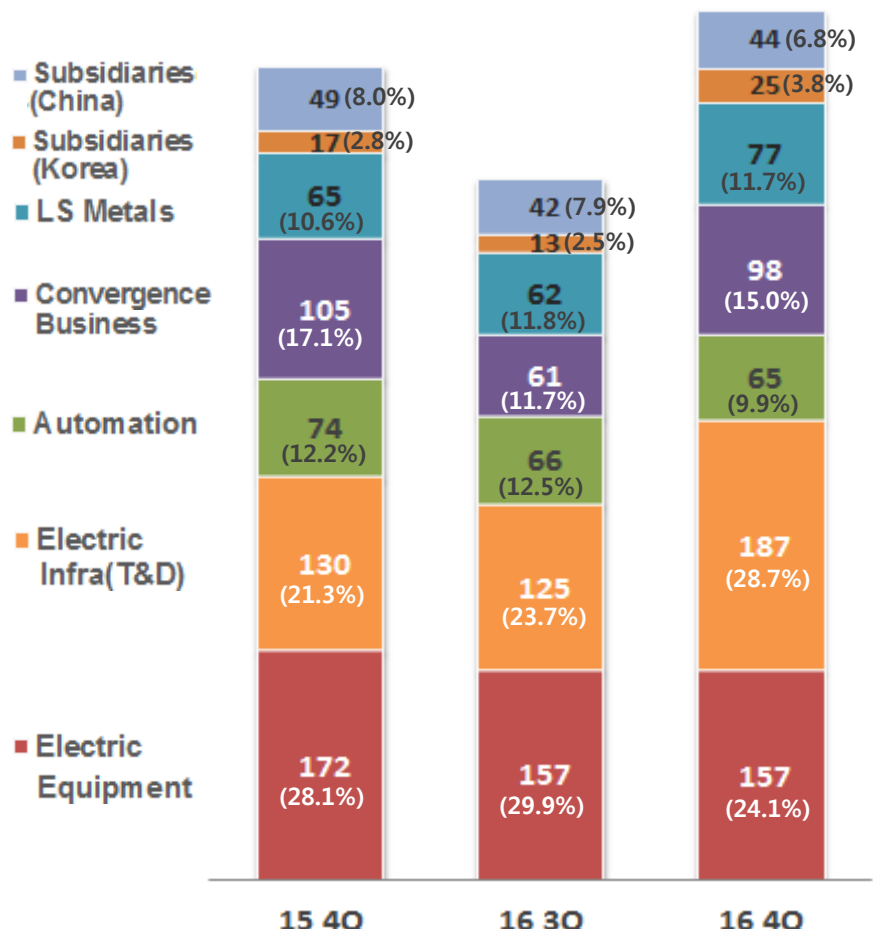
(unit : bwn)



4Q '16 Sales Breakdown

Breakdown by Business

(unit : bwn)



* Convergence Business includes Trans SOC, Solar, Smart-Grid and EV components.

* Sales of subsidiaries are before the consolidated adjustments.

◆ Headquarters

- Electric Equipment : Favorable demand in semi-conductor & chemical mkt, improving profitability by high-end market
- Electric Infra : Domestic improved continuously, oversea improved through Iraq and Vietnam mkt
- Automation : Volume decreased due to weak global economy, but continuing performance creation to high-end market
- Convergence : Weak performance due to recognition of one-off bad debts from Iraqi PJT, but Volume increased from Solar and Railway system.

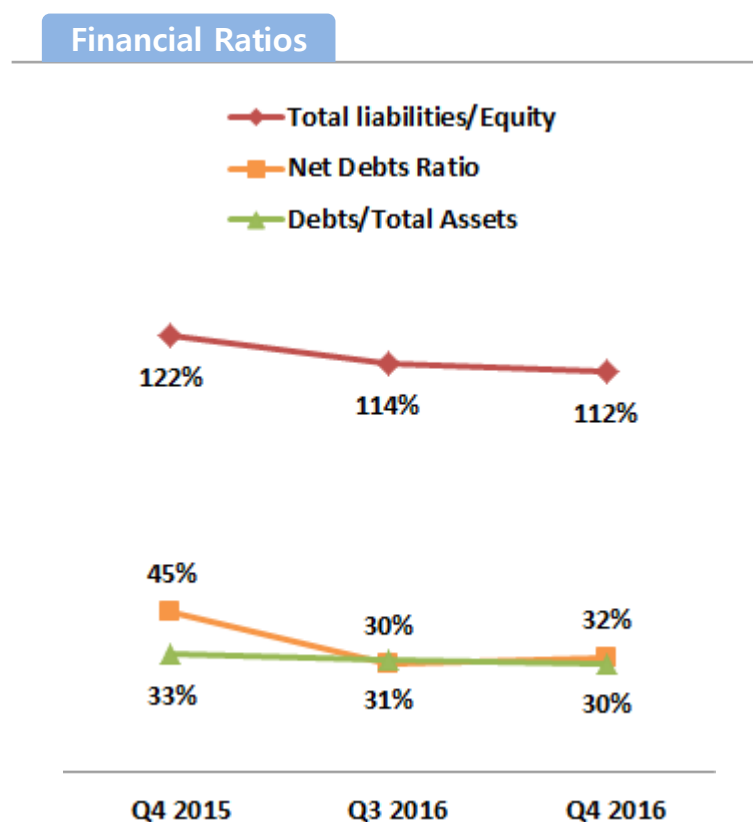
◆ Subsidiaries

- Wuxi : Volume decreased due to weak solar market
- LS Mecapion : Volume increased from favorable semiconductor mkt
- LS Metals : Performance improved due to strong dollar and commodity price

4Q '16 Financial Position

- ◆ Total assets 2,260bwn (Y-o-Y 7.8bwn increased, Q-o-Q 37.9bwn increased)
Total liabilities 1,193bwn (Y-o-Y 43.6bwn decreased, Q-o-Q 8.3bwn increased)
- ◆ Total liabilities/Equity posted 112%, net Debts ratio dropped 13%p(Y-o-Y, 45%→32%)

Financial Statement			(unit : bwn)		
Segment	Q4 2015	Q3 2016	Q4 2016	Y-o-Y	Q-o-Q
Total Assets	2,252	2,222	2,260	0%	2%
Current Assets	1,394	1,388	1,418	2%	2%
Cash & cash equivalent	286	381	340	19%	△11%
Total Liabilities	1,237	1,185	1,193	△4%	1%
Debts	740	695	682	△8%	△2%
Net Debts	454	314	342	△25%	9%
Equity	1,015	1,037	1,066	5%	3%



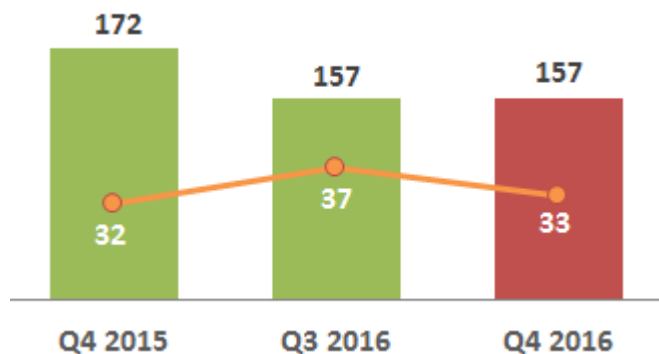
Business Results & Outlook

Electric Equipment

4Q '16 Results

- ◆ Sales Y-o-Y 8.5% decreased, Q-o-Q 0.1% decreased
- ◆ OP Y-o-Y 3.2% increased, Q-o-Q 9.5% decreased
 - Volume decreased due to economic struggle, but improved profitability by high-end market
 - Despite unfavorable demand from emerging market, Vietnam/India/Iran market improved

◆ Sales & OP trends (unit : bwn)



'17 Outlook

[Market]

- Local investment shrinkage due to political issue
- Due to global economic recession, risk exists on volume decrease
- Favorable demand in Retrofit market

[LSIS]

- Demand response in renewable energy market (Developing large capacity DC product)
- Entering High-end & SOC Market in SEAsia
- Entering new market(housing) & expanding package business in domestic

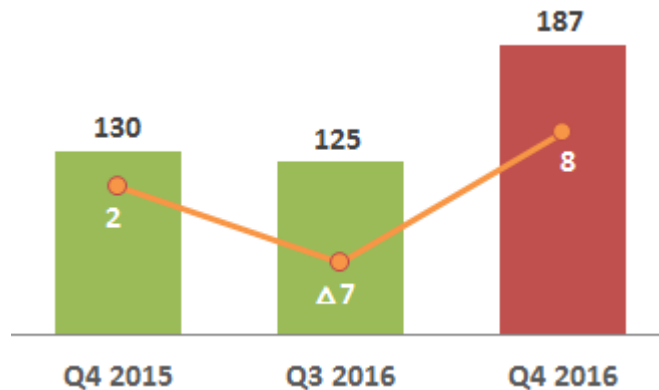
4Q '16 Results

◆ Sales Y-o-Y 43.8% increased, Q-o-Q 50.0% increased

◆ OP Y-o-Y 336.4% increased, Q-o-Q turned around

- Domestic improved with eliminating effect of bidding restriction
- Favorable with Iraqi and Vietnamese mkt

◆ Sales & OP trends (unit : bwn)



'17 Outlook

[Market]

- Infrastructure investment decrease due to economic recession
- Funding increase for investment in SWAsia in the field of Electric power infrastructure
- Business environment improve due to oil price rebound

[LSIS]

- Domestic performance improve by favorable demand
- New PJT's from Bangladesh & Egypt
- HVDC revenue recognition & prepare for new HVDC PJT
- Secure new EPC clients & associate participation

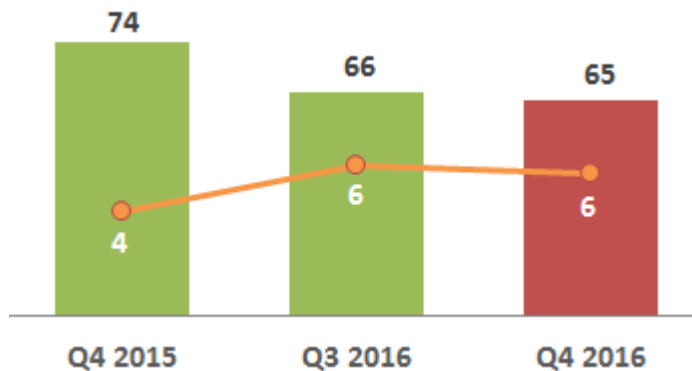
4Q '16 Results

◆ Sales Y-o-Y 12.6% decreased, Q-o-Q 1.5% decreased

◆ OP Y-o-Y 36.4% increased, Q-o-Q 4.5% decreased

- Volume decreased due to economic recession
- Continuous performance improvement from conglomerate market

◆ Sales & OP trends (unit : bwn)



'17 Outlook

[Market]

- Capex decrease by economic recession, but favorable demand from semiconductor and chemical mkt
- Smart factory market expansion by government policy

[LSIS]

- Strengthen direct sales activities to conglomerates
- Expand Smart factory business in earnest with LSIS's own solution
- Oversea performance improve through Vietnam/India/CIS market (strengthening dealer network)

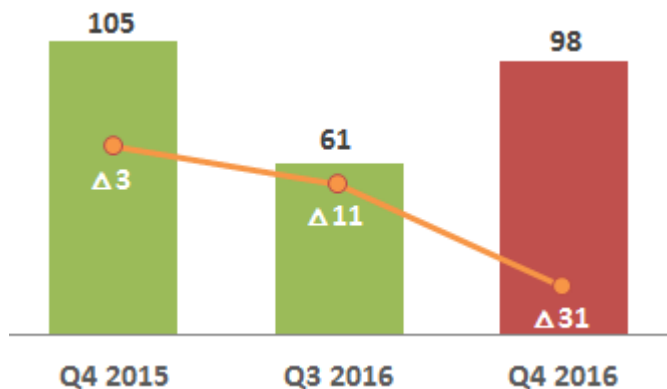
Convergence Business

4Q '16 Results

- ◆ Sales Y-o-Y 6.6% decreased, Q-o-Q 59.5% increased
- ◆ OP Y-o-Y, Q-o-Q continuous loss
- Trans S.O.C and solar performance improved
- Weak performance due to recognition of one-off bad debts from Iraqi PJT

◆ Sales & OP trends

(unit : bwn)



'17 Outlook

[Market]

- Continuous policy driving on ESS in domestic (New guidance for using ESS as an emergency electric power source, Introduction private rate on ESS users, Allowed power broker business etc)
- Global Market expansion in photovoltaic market (12GW of PV will be invested in SEAsia by '25)

[LSIS]

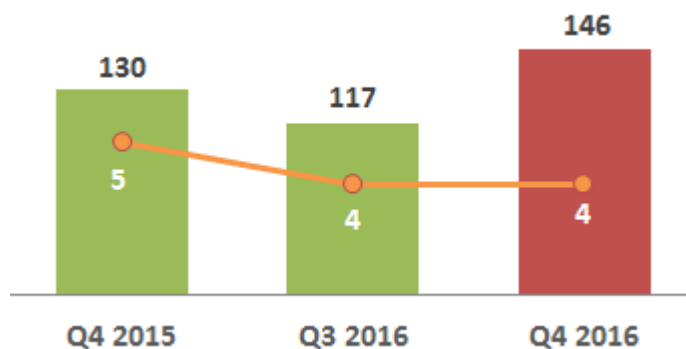
- Participate profitable EPC PJT
- Expand floating PV business with LSIS's solution
- Entering Indonesia, Thailand, Vietnam smart-energy market
- Improve business performance in railway system in oversea market

Subsidiaries

4Q '16 Results

- ◆ Sales Y-o-Y 12.1% increased, Q-o-Q 24.7% increased
- ◆ OP Y-o-Y 27.3% decreased, Q-o-Q 0.4% increased
 - Volume decreased due to weak solar market in china
 - LS Metals Profitability is improving due to production innovation activities

◆ Sales & OP trends (unit : bwn)



'17 Outlook

[Market]

- Extension of competition with global players in Chinese renewable energy market
- Business environment improve due to oil price rebound

[LSIS]

- Development enlargement in large capacity product for renewable energy market
- Expand wind power and EV components market
- Ultra high voltage PJT performance improve by associating with Chinese local company
- LS Metals profitability continue to improve

Appendix 1-1) Income Statement

(unit : bwn)

Segment	'15.4Q	'16.3Q	'16.4Q	QoQ	YoY
Sales	592	524	663	26.6%	12.1%
Costs of Sales	△476	△430	△557	29.5%	17.1%
Gross Profit	115	94	107	13.4%	△8.0%
(%)	(19.5%)	(18.0%)	(16.1%)	-	-
SG&A	△75	△64	△79	23.5%	5.0%
Operating Profit	41	30	28	△8.5%	△32.3%
(%)	(6.9%)	(5.7%)	(4.2%)	-	-
Non-OP and Loss	△11	△2	△3	51.2%	△75.6%
Profit before tax	30	28	25	△12.1%	△16.0%
Net Income	24	22	22	0.1%	△7.6%
(%)	(4.0%)	(4.1%)	(3.3%)	-	-
EBITDA Margin	9.7%	10.3%	7.7%	-	-

Appendix 1-2) Statement of Financial position

Segment	'15.4Q	'16.3Q	'16.4Q	QoQ	YoY	(unit : bwn)
Total Assets	2,252	2,222	2,259	△2%	△0%	
Current Assets	1,394	1,388	1,418	△4%	3%	
Cash&Cash Equivalents	286	381	340	△14%	6%	
Inventories	162	166	147	△2%	△2%	
Other Current Assets	947	841	931	1%	2%	
Non-Current Assets	857	833	842	△0%	△4%	
Tangible Assets	644	615	610	△1%	△6%	
Intangible Assets	138	131	130	△2%	△5%	
Other Non-Current Assets	76	87	101	11%	17%	
Total Liabilities	1,237	1,185	1,193	△6%	△3%	
Current Liabilities	618	570	681	1%	16%	
Short-term borrowings	168	48	55	8%	118%	
Non-Current Liabilities	619	615	513	△13%	△20%	
Long-term borrowings	572	566	506	△15%	△20%	
Equity	1,015	1,037	1,066	2%	3%	
Current Ratio	226%	244%	208%	△35%p	△17%p	
Equity/Total Assets	45%	47%	47%	1%p	2%p	
Total Liabilities/Equity	122%	114%	112%	△2%p	△10%p	
Net debts Ratio	45%	22%	21%	△2%p	△24%p	

Appendix 1-3) Statements of Cash Flows

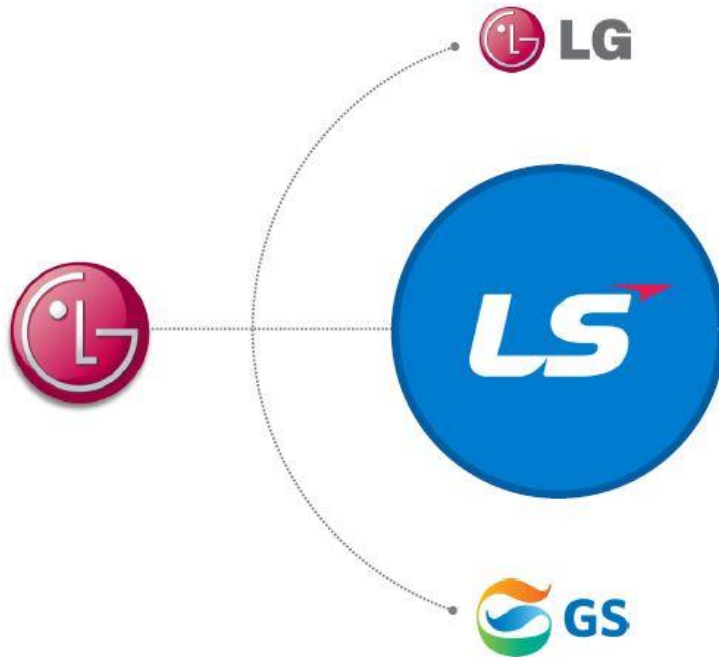
(unit : bwn)

Segment	'15.4Q	'16.4Q	YoY
Cash and cash equivalents at the beginning of year	332	286	△46
Cash Flows From Operating Activities	100	242	142
Cash Flows From Investing Activities	△96	△102	△6
Capex	△59	△41	19
R&D	△14	△13	1
Others	△23	△49	△26
Cash Flows From Financing Activities	△51	△87	△37
Effect of exchange rate changes on cash and cash equivalents	0	1	1
Cash and cash equivalents at the end of 3rd quarter	286	340	54

Growing into a World's Best from the Nation's First!

Leading company in the industrial electric, electronics, materials and energy field following its separation from LG in 2003

LS History



Management Philosophy

Greater value together!

LSpartnership®



LS is a faithful and reliable business partner

Collaboration with LS people leads to greater success

Leader in Power Solutions, Automation & Green Business

The Leading Company in the Power Distribution & Automation Industry

The first to build a Smart Grid, Green Village and Green Factory

Founded	1974
Sales	2,202billion(KRW)
Employees	3,500
Headquarters	LS Tower, Gyeonggi-do, Korea
Plants	Total 7 Plants
Overseas subsidiaries	China, Vietnam, Japan, etc.
Overseas branches	USA, Europe, Russia, Vietnam, etc.

(As of 2015)



1. A History of Challenging the Future (1970's ~ 2007)

1970's '74 Jul. Established Goldstar Instrument & Electrical Co., Ltd

1980's '87 Mar. Established Goldstar Industrial Systems Co., Ltd.



2007 Feb. Opened Marketing Subsidiary in Dubai

2005 Mar. Renamed from LG to LS Industrial Systems
Sep. Constructed the Electric & Automation equipment factory in Wuxi, China

2003 Nov. Disaffiliated from LG Group, joined LS Group

2001 Jun. Constructed Dalian factory

2000 Sep. Established high-voltage testing agency

1990's '94 Jul. Listed Goldstar Industrial Systems on the Korea Stock Exchange

'95 Feb. Renamed from Goldstar to LG Industrial Systems (LGIS)

'95 Sep. LGIS merged Goldstar I&E & Goldstar Mechanical & Electrical

'99 Apr. LGIS merged LG Metal

'99 Aug. Sold copper smelting, Vending Machine, Elevator & Escalator unit

2. Shifting the strategy to growth paradigm (2007 ~ 2012)

- 2008**
- Apr. Relocated its headquarters to Anyang LS Tower
 - Sep. Received the Korea Best Company Award (Electricity & Cable industry category)
 - Oct. LS Industrial Systems(currently LSIS) Opened R&D Center in Shanghai, China



- 2009**
- Mar. Published the Green Business Vision
 - Oct. Share in Mecapion acquired
 - Oct. European sales corporation established

- 2012**
- May. completed a EV Relay factory in Cheongju, Korea
 - Jun. Awarded the Best Korean Company Grand Award
 - Dec. Selected as one of the Top 100 Global Innovators by Thompson Reuters
 - Dec. US and Chinese patent acquired for smart meter technology

- 2011**
- Oct. Completed the Busan HVDC Plant
 - Nov. Included in the Fortune Korea's 500 Fastest Growing Companies
 - Nov. Selected as one of the Top 100 Global Innovators by Thompson Reuters



- 2010**
- Jan. LS Power Semitech J/V established
 - Feb. LS Sauter established
 - Apr. LS Metal spun off from LSIS and newly established LS Metal
 - Apr. Construction of Busan plant completed
 - May. LS Hogae Electric established in China
 - May. LS Industrial Systems(currently LSIS) got the largest number of Green Certification as the first company in Korea
 - Jul. LS Industrial Systems(currently LSIS) opened R&D Center in Beijing, China

3. Challenging for the future of Smart Energy (2013 ~ 2015)

- 2013**
- Apr. Awarded the Great Place to Work Award for 2 consecutive years
 - May. MOU with China's Dongfang Group for developing green automobile parts
 - May. Concluded contract for the transfer of HVDC technology, and partnered with KAPES and Alstom
 - Jun. Awarded the Best Korean Company Grand Award
 - Oct. Selected as one of the Top 100 Global Innovators by Thompson Reuters
 - Nov. Awarded the 39th Korea National Quality Grand Award
 - Dec. Won the 500 million Trade Tower Award

- 2015**
- Jan. Declared value-based management
 - Mar. Newly constructed R&D campus in Anyang



- 2014**
- Jan. Launched new strategic automation product lines for A&D
 - May. LSIS Vice Chairman Ja-kyun Koo Received Gold Tower Order of Industrial Service Merit
 - May. Won the World's Largest Order for Smart Grid Project in Iraq
 - Jun. Awarded the Best Korean Company Grand Award for 7 consecutive years
 - Jul. Marked the 40th anniversary of the foundation
 - Sep. Ranked number one in the Korean Standard – Quality Excellence Index for 2 consecutive years
 - Nov. Selected as one of the Top 100 Global Innovators by Thompson Reuters

We guarantee all our customers a safe and affluent life and a happy future by supplying them with convenient smart energy.

Mission

FUTURING SMART ENERGY

Vision 2020



Strategy

- Boosting Our Market Position as a Power Solutions Provider
- Leading New Markets through Convergence and Combination
- Expansion of Global Markets
- Securing Operational Excellence

Core Value



Collaboration

Execution

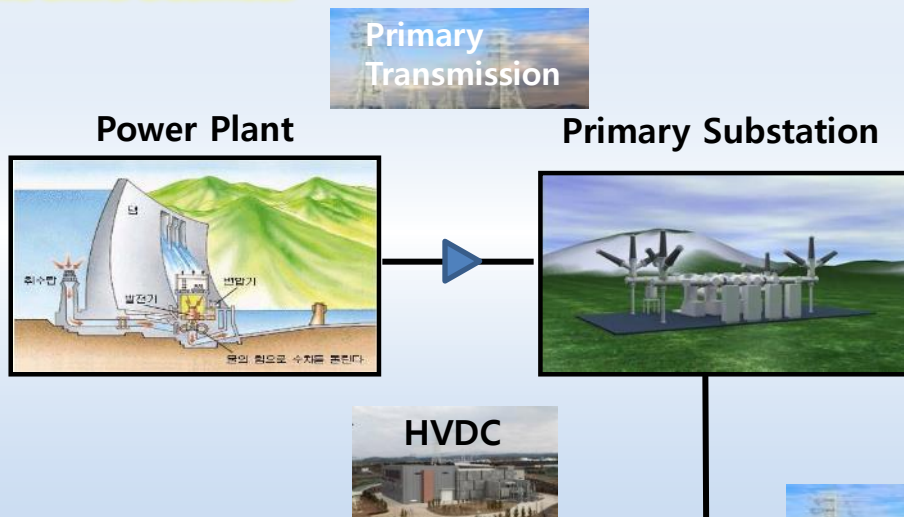
Creativity

Integrity

Appendix 3) Business Introduction

Leading Provider of Total Electric Power, Automation & Green Business Solutions

Electric Infra Business



Ultra-high voltage power transmission & distribution system equipment such as gas insulated switchgear (GIS)

< Main Products >

- Gas Insulated Switchgear (GIS)
- Power Transformers
- Remote Monitoring & Diagnosis Equipment
- HVDC

Electric Equipment Business

Factory/Building/Household



Substation



Top low and medium voltage electrical equipment for electricity users

<Main Products>

- Switchgear (SWGR)
- Vacuum Circuit Breakers (VCB)
- Air Circuit Breakers (ACB)
- Molded Case Circuit Breakers (MCCB)
- Magnetic Contactors (MC)0

Appendix 3) Business Introduction

Automation Business

Factory / Building (FA/PA)



Discrete Automation



Process Automation



Building Automation

From simple automation control to large-scale manufacturing facilities and process control, LSIS provides the optimal solutions to diverse industrial fields.

< Main Products >

- Variable Frequency Drive
- PLC (Programmable Logic Controller)
- HMI (Human Machine Interface)
- Servo Drive & Motor
- DCS (Distributed Control System)
- RTU (Remote Terminal Unit)

Convergence Business



Smart Grid



Green Car Solution



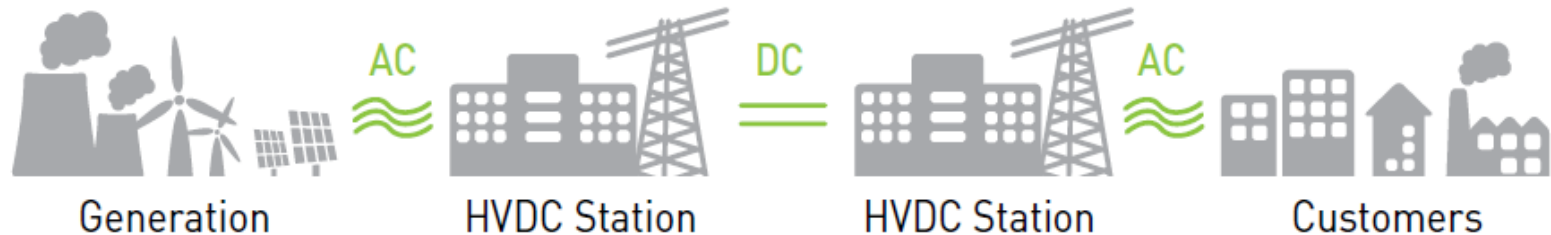
Photovoltaic System



Railway System

Appendix 4) HVDC

HVDC system converts AC to DC to transmit long distance and then converts back again to AC
Connect with the AC grid with very low loss



Long Distance Transmission with Lower Cost

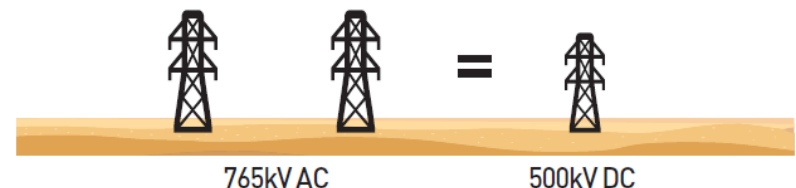
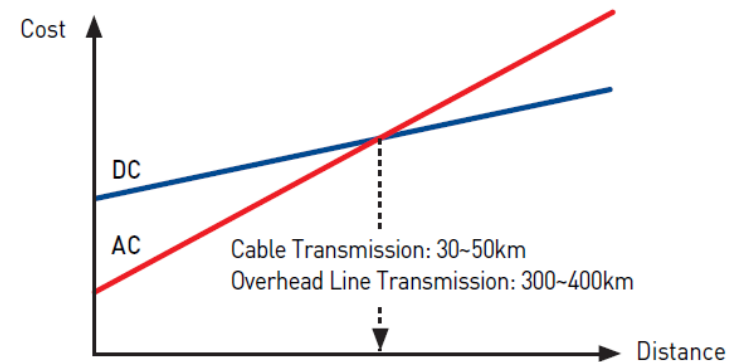
HVDC is the only option for the overhead transmission longer than 300km or submarine/underground 40km thanks to DC characteristics.

Eco-friendly Transmission

HVDC system has lower environmental impact because it requires fewer overhead lines comparing to AC system. The technology is also the key component in the future energy system based on renewable energy sources.

Optimal Grid Management

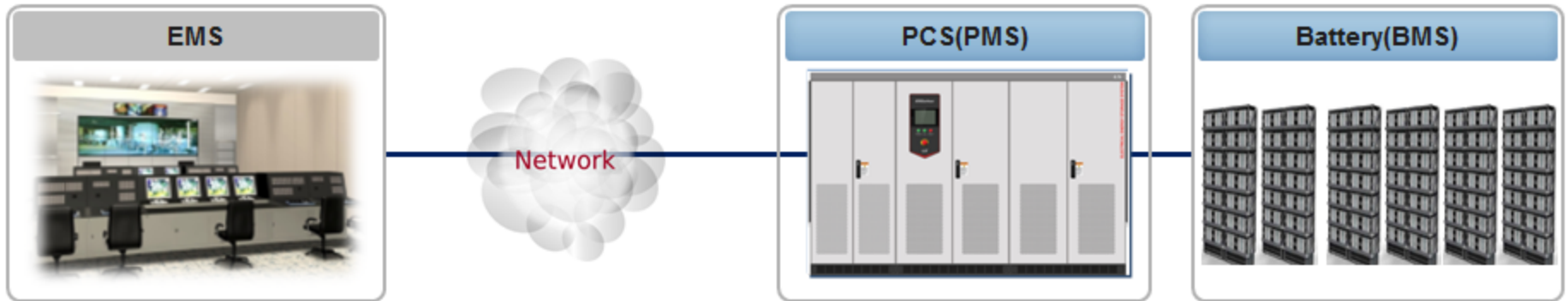
HVDC can directly interconnect load centers with huge energy sources efficiently. Therefore, negative impact on the grid is minimized. HVDC also improves the performance of AC grid by means of additional controllability.



Appendix 5) ESS Applications

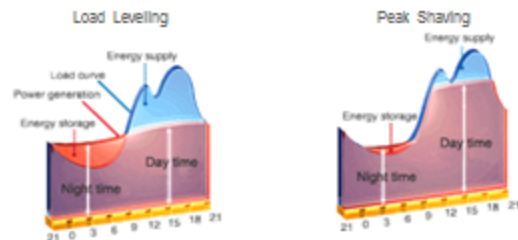
ESS(Energy Storage System) includes PCS(Power Conversion System) and battery, and make an efficient way of use electricity power

Concept of ESS



Function of ESS

➤ Peak Shaving, Load Leveling



➤ Renewable Energy Smoothing



➤ Frequency Regulation



• EMS : Energy Management System

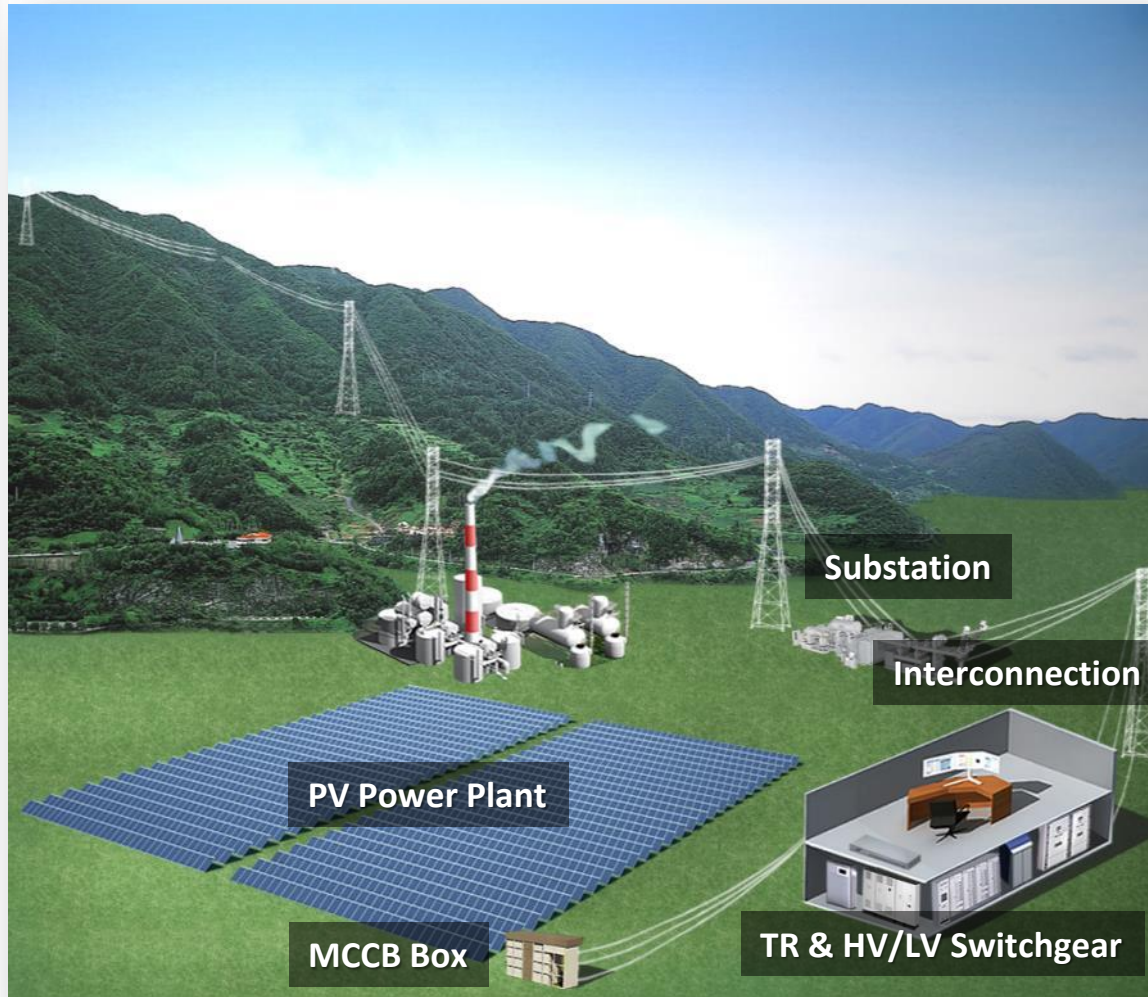
• PCS : Power Conditioning System

• PMS : Power Management System

• BMS : Battery Management System

Appendix 6) PV Power Plant

We provide total solution for PV Power Plant. In addition to PV products, we can provide customers with all kinds of electric power equipment manufactured by LSIS.



System Components



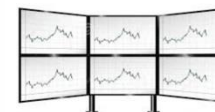
PV Power System
- Module
- Inverter
- Balance of System



- HV Switchgear
- MV Switchgear
- LV Switchgear



Transformer



Monitoring(SCADA)