



FUTURING
SMART
ENERGY

Opening the Future of Smart Energy



About This Report

LSIS has published Sustainability Report since 2015 to share its economic, social and environmental performances with various stakeholders. In preparing the third sustainability report, we focused on disclosing our sustainability management performance and results in 2016 in a balanced and transparent manner. We published the previous sustainability report in June 2016.

Reporting Period

• This report covers our quantitative and qualitative data regarding our performance from January 1 through December 31, 2016 and in some cases, historical data from 2014, 2015, and the first half of 2017 have been included for trend analysis.

Scope and Boundary

• We aimed to report status and performances in such major aspects of sustainability management as environment, society, and economy in our domestic business sites in principle, but included overseas business sites where relevant.

Reporting Standards

• This report was prepared in accordance with the Global Reporting Initiative (GRI) G4 Guidelines.

Assurance

• The reliability of this report was verified by the Korea Management Registration Inc. (KMR), a third-party assurance institution which is independent from our businesses and has expertise in sustainability management. The assurance report can be found in the appendix of this report.

Inquiries on the Report

• For more information or suggestions, please contact us using any method below.

10F, LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, 14119, Korea

LSIS Corporate Planning Team

- **Website** www.lsis.com
- **Tel** +82-02) 2034 4432
- **Fax** +82-02) 2034 4949

Cover Story

The cover design of this report represents the future that LSIS pursues with its smart combination and convergence solutions as the leader in the power and automation industries. The elaborate network of grid and mission emblem symbolizes LSIS ushering in the future of smart energy.



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2016 Sustainability Management HIGHLIGHTS

March

R&D Campus Became "Korea's First Construction Outfitted with BEMS"



The R&D Campus in Anyang, South Korea, is Korea's first construction that has acquired the certification of Building Energy Management System (BEMS) from Korea Energy Agency. Outfitted with BEMS, the R&D Campus Building develops energy saving plans based on energy source-specific consumption analysis, and maintains the optimal operation of key equipment (hot/cold water dispenser, boiler and etc.) through real-time analysis of energy efficiency.

August

LSIS Winning Substation Contract in Portoviejo, Ecuador



LSIS, since its project to build substations in Haiti in 2014, has made strong inroads into the electricity infrastructure markets in the Central and Latin America. The latest achievement of winning the bid for the substation project in Portoviejo, Ecuador, is expected to help LSIS tap further into the local markets.

April

World's First UL Certification of PCS for MW-class ESS



LSIS has won the world's first certification for its power conversion system (PCS) for a megawatt-class mass capacity energy storage system (ESS), from Underwriters Laboratories (UL) of the United States. It will lead to accelerate the company's advance into the ESS market of the US, which is rapidly growing by expanding new renewable energy generation and introducing the smart grid for its outdated transmission networks.

September

PLC and Inverter Ranked Top in the KS-QEI for Four Consecutive Years



LSIS has been selected as the No. 1 company in the Programmable Logic Controller (PLC) and Inverter category for four consecutive years at the Korean Standard - Quality Excellence Index Award, solidifying its position as the leader in the automation solution business in Korea.

LSIS-GE Signing MOU in Grid Solutions & Smart Energy Business



LSIS and GE signed a Memorandum of Understanding (MOU) to intensify co-work in a broad spectrum of the power and energy fields, including green power materials/equipment, power transmission and substation solutions, smart energy, IoT technology-powered smart factory. We expect the cooperation will speed up the development of eco-friendly switches utilizing G3 (Green Gas for Grid) technology.

October

Joint Social Contribution Activities with Suppliers



LSIS held "Sharing a Meal" event at a local welfare facility with ACE Club, which is a gathering of employees from LSIS's key suppliers. Believing in growing together with suppliers and local communities is one of the essential elements of sustainable growth, LSIS will continue to expand its social contribution activities going forward.

June

R&D Campus Winning First APIGBA Gold Award



From the 1st Asia Pacific Intelligent Green Building Alliance (APIGBA) Excellent Intelligent Green Building Awards, LSIS's R&D Campus came in 2nd place (Gold Award) among 30 companies. It drew attention for the significant energy consumption reduction enabled by BEMS through optimized energy production (PV), storage (ESS) and management (EMS), demonstrating the technologies used and actual energy saving effect.

November

Microgrid Project for Montgomery College in the US



LSIS has signed a project contract with Montgomery College in Maryland, the US, to build an energy-independent smart campus by installing PV power facilities and an ESS. Under the deal, LSIS will cooperate with the Korea Electric Power Corp. (KEPCO) to establish BEMS, PV power facilities, ESS and smart meters on six buildings on the Germantown campus.

Korea's Best Company Award for Nine Consecutive Years



LSIS has been selected as Korea's Best Company for nine consecutive years in recognition of its contribution to securing the nation's new growth engines, through continuous R&D investment, not only into its core business areas of electric power systems and automation but also new energy industry areas, and strategic advance into overseas markets.

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Dear esteemed stakeholders of LSIS,

LSIS has published the sustainable report every year since the first publication in 2015, aiming to facilitate continuous communication with everyone. Concerted efforts were made for this year's report, which is the third to be published, to duly reflect the interests and demands derived from the outcome of the materiality test.

With the recent increasing concerns on safety issues, customers' interest towards product safety and quality is higher than ever. With LSIS being one of Korea's top providers of electric power systems/automations that compose the fabric of our SOC, even the smallest problem can have tremendous impact over and across the industry. In order to secure product safety, we have systemized the development reliability process to ensure the quality of its products and services from the initial planning stage. As a result of such effort, our products such as the PLC and inverter ranked first place in the KS-QEI (Korean Standard-Quality Excellence Index) for four consecutive years. Furthermore, LSIS was named among the Top 100 Global Innovators for six years in a row, acclaimed for acquiring technology that is the foundation of the fourth industrial revolution, and developing products that meet market demand.

Environmental problems such as fine dust pollution and global warming are being recognized as significant national challenges. In this regard, LSIS is focusing efforts to help resolve such challenges by utilizing smart energy, with a heavy sense of responsibility. Apart from the development of green products, we are promoting an eco-friendly and safe process for the entire product lifecycle, from the purchase of raw materials, production, service provision, and disposal, as well as refraining from using harmful substances.

We are also placing great importance on communication, shared growth, and mutual development with its diverse stakeholders. While duly responding to customer needs through various communication channels such as customer satisfaction surveys or seminars, LSIS is taking the lead in establishing a fair business relationship with subcontractors, providing various support as a genuine partner for business. In addition, concerted efforts are being made to recruit talent with global competitiveness and to build a healthy organizational culture where everyone treats each other with respect. LSIS is at the forefront of supporting the marginalized and the future generations of local communities adjacent to the sites where we operate.

Dear valued stakeholders of LSIS,

The objective of LSIS's sustainable management is for it to become a respected company built upon strong trust from its stakeholders. To this end, LSIS is determined to drive the following three priorities.

First, we will improve business competitiveness through smart and simple management that focuses on the essence.

Second, we will boost the quality of life for everyone and maximize our business value by actively driving eco-friendly and safe products/services as new business areas.

Third, we will conduct management that caters to the needs of various stakeholders including customers, employees, suppliers, shareholders & investors, environmental activist groups, and local communities.

Under the Management Philosophy of LSPartnership where we create more value by working together, LSIS is committed to opening the future for smart energy that can improve the value of our lives and our society, and would like to ask for your continued support and interest.

LSIS will be at your side at all times as a genuine partner and friend.

Thank you.

Chairman & CEO **Ja-Kyun Koo**

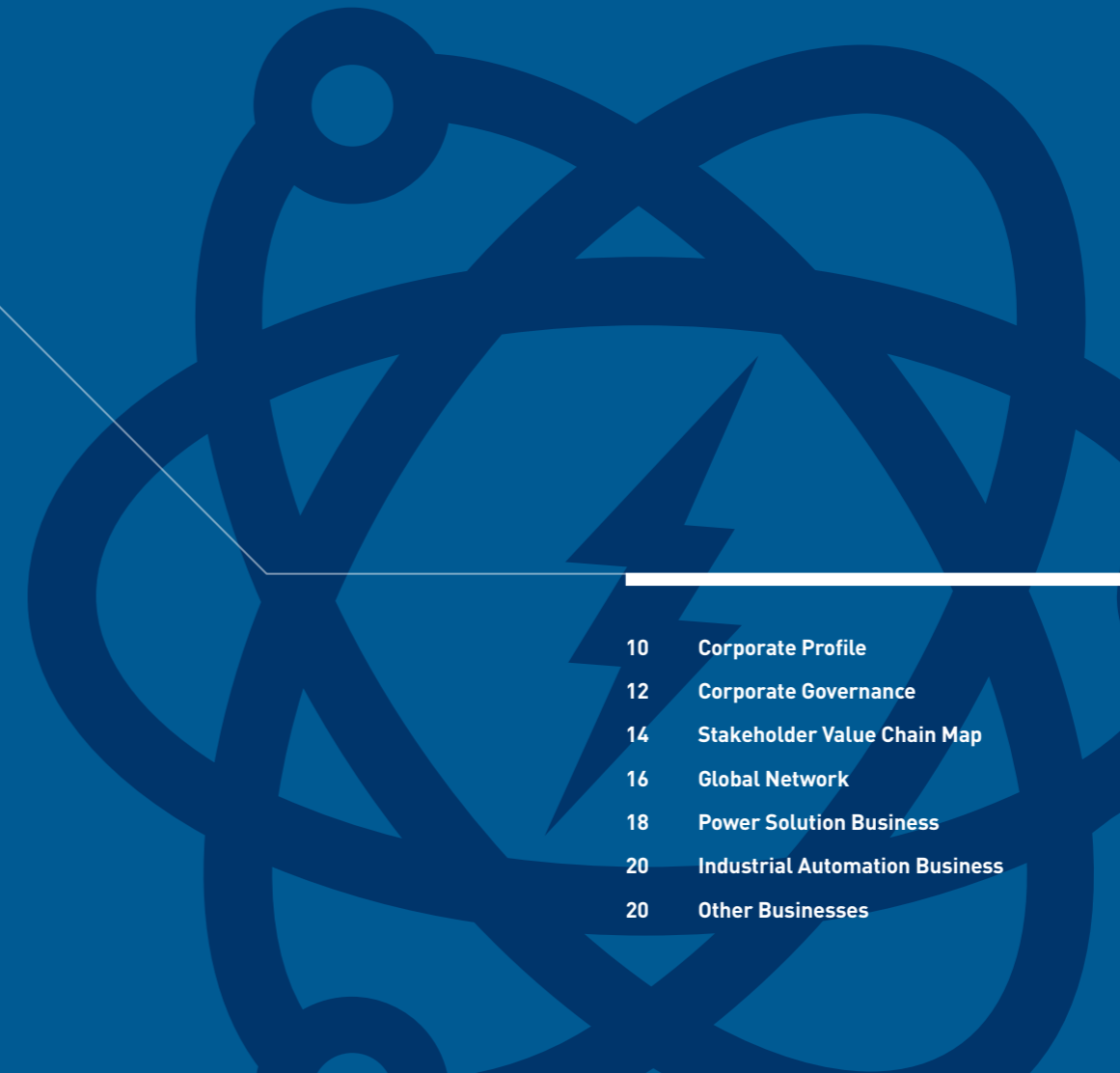
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About LSIS

Since its establishment in 1974, LSIS has grown into the leader of the industrial electric power and automation solution business in Korea. We are committed to offering impressive customer experience based on top-tier technology and product quality and, at the same time, ushering in the transition to the new smart energy future based on LSpartnership for greater values for all.



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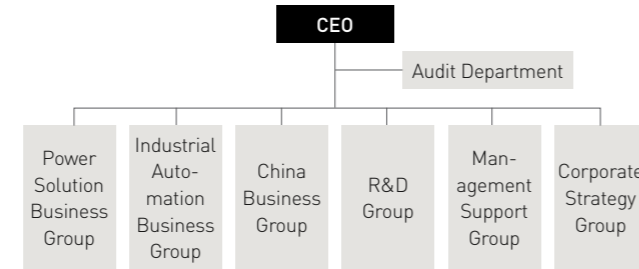
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Corporate Profile

Since the establishment in 1974, LSIS has been spearheading the domestic industrial electric power and automation solution business. 7 plants, 5 R&D centers, 7 local subsidiaries and 12 overseas branches are in operation worldwide, and our management activities to offer impressive customer experience based on top-tier technology and quality are highly trusted and hailed by stakeholders at home and abroad. LSIS was separated from LG Group and re-launched itself as the LS Group in 2003 to pursue a second leap, and, in 2005, it was renamed to LSIS. With the declaration of the value-focused management principle in 2015 for yet another new chapter, we are moving forward to achieve our mission of "Futuring Smart Energy."

Company Name	LSIS Co., Ltd
Founded	July 24, 1974
CEO	Chairman) Ja-Kyun Koo, Vice President) Yong-sang Park
Head Office	LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-Do, Korea
No. of Employees	3,555 persons
Credit Rating	AA- (Korea Investors Service)

Organization Chart



Vision and Strategy

Management Philosophy

Greater value together!

Strategy

- 1 Boosting Our Market Position as a Power Solutions Provider
- 2 Leading New Markets through Convergence and Combination
- 3 Expanding Global Markets
- 4 Securing Operational Excellence

Mission

Opening the Future of Smart Energy

Core Value

Collaboration

Execution

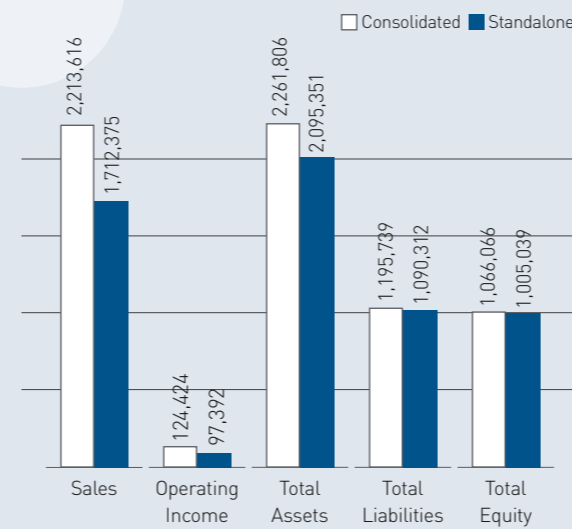
Creativity

Integrity

Vision

Global • Green • Great

Financial Data Summary [KRW in millions]



Company History

Challenge toward the future

1974-1994

- Jul 1974 Established Lucky Packing
- Mar 1987 Renamed to Goldstar Industrial Systems
- Jul 1994 Held its initial public offering (IPO)

1995-1999

- Feb 1995 Renamed to LG Industrial Systems
- Sep 1995 Merged with Goldstar Instrument & Electric and Goldstar Electric Machinery
- Apr 1999 Merged with LG Metal

2000-2007

- Jun 2000 Opened a factory in Dalian, China
- Sep 2000 Opened Power Testing & Technology Institute Construction
- Dec 2003 Separated from LG Group
- Mar 2005 Renamed to LSIS
- Sep 2005 Opened a factory to produce electric power & automation equipment in Wuxi, China
- Feb 2007 Established LSIS (ME) FZE in Dubai, UAE

2008-2012

Paradigm shift to growth

- Apr 2008 Moved headquarters (LS Tower in Anyang, Korea)
- Oct 2008 Opened Shanghai R&D Center in China
- Mar 2009 Announced Green Business
- Oct 2009 Incorporated LS Mecapion as a subsidiary
- Feb 2010 Established LS Sauter
- Mar 2010 Opened Busan plant
- Apr 2010 Obtained the 1st Green Technology certification and demonstrated the largest certifications
- Oct 2011 Opened Busan HVDC factory
- Nov 2011 Selected as one of the top 500 fastest growing companies by the Fortune Korea
- May 2012 Opened Cheongju EV Relay factory
- Nov 2012 Won the Education, Science and Technology Minister's Prize (EV Relay)
- Dec 2012 Acquired a US and China patent for smart meter technology

2013~2016

- Ushering in a new era of smart energy
- May 2013 Signed a contract for technology transfer and manufacturing with KAPES and Alstom
- Nov 2013 Won the grand prize in quality sector at the 39th National Quality Management Competition
- Dec 2013 Won the USD 500 Million Export Tower
- May 2014 Won the Gold Tower Order of Industrial Service Merit at the 49th Invention Day
- Oct 2013 Became the first Korean company to obtain the SIL4 certification (KRCS Ground & Onboard System)
- Jan 2015 Declared value-focused management principle
- Mar 2015 First surpassed 2 million units sales with a single drive product in Korea (iG5A)
- Mar 2015 Completed Anyang R&D Campus
- Mar 2016 Earned Korea's first BEMS certification for R&D Campus building
- Jun 2016 Selected as Korea's best company for nine consecutive years
- Sep 2016 Awarded presidential citation for outstanding achievement for FTA

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Corporate Governance

Composition and Operation of the BOD

LSIS ensures a transparent and reasonable decision making process at the corporate level through an independent Board of Directors (BOD). The BOD is composed of two inside and three outside directors and has two subcommittees of Outside Director Candidate Recommendation Committee and Audit Committee, in accordance with relevant regulations and the articles of association, regulations and the articles of association.

Governance Structure

(Date BOD was formed: 17 March 2017)

Classification	Name	Position	Profile	Start of Term
Inside directors (2 persons)	Ja-Kyun Koo	Chairman of the board, Chairman & CEO	• Current Chairman & CEO, LSIS • Professor of Graduate School of International and Public Affairs, Korea University	17 March 2017 (reappointed)
	Yong-Sang Park	Vice President & CEO	• Current Director of Management Group, LSIS and Vice President of China Business Group, LSIS	17 March 2017 (reappointed)
Outside directors (3 persons)	Byung-Kook Lee	Outside Director / Audit Committee chairperson	• Current Chairman of e-Chon Tax Accounting Corp.	17 March 2017 (reappointed)
	Seong-Il Moon	Outside Director / Audit Committee member	• Current Professor in Electrical Engineering, Seoul National University • Director, Korea Smart Grid Institute	17 March 2017 (appointed)
	Ho-Won Kim	Outside Director / Audit Committee member	• Current Chair Professor, Institute for Researcy & Industry Cooperation at Pusan National University • Member, Presidential Council on Intellectual Property	17 March 2017 (appointed)

Subcommittees

Audit Committee Comprised of three outside directors, the Audit Committee supervises management decision-makings through check and balance. It reviews operating results and financial statements on a quarterly basis and retains the authority to inspect accounting works and financial status if necessary.

Outside Director Candidate Recommendation Committee (ODCRC) The committee ensures a fair, transparent appointment of outside directors, who with expertise in our businesses su-

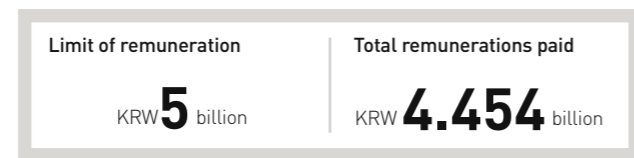
pervise the management and offer professional consultation for transparent decisions.

Operation of the BOD and Subcommittees in 2016

	Meetings Convened	Attendance Rate (%)	Items for resolution	Items to Report
BOD	6	100	19	14
Audit Committee	5	100	6	8
ODCRC	1	67	1	-

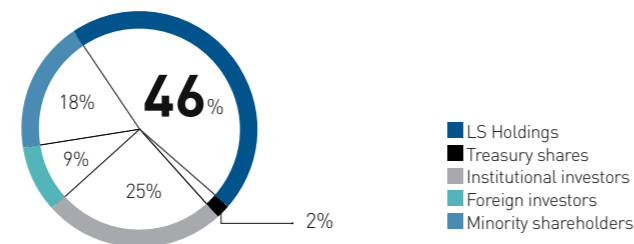
※ See our website for detailed information on major BOD agenda.

The BOD Remunerations in 2016



Shareholder/Investor Status

Share Ownership (as of 31 December 2016)



Classification	Relations	Share Type	No. of Shares Held	Percentage(%)
LS Holdings	Largest shareholder	Common	13,800,000	46
Treasury shares	-	Common	674,972	2
Institutional investors	NPS	Common	3,467,417	12
	Others	Common	3,977,062	13
Foreign investors	-	Common	2,782,320	9
Minority shareholders	-	Common	5,298,229	18
Total		Common	30,000,000	100

As of December 31, 2016, the number of floating shares is 29,325,028 (98% of total) excluding about 2% treasury shares. LS Holdings and the National Pension Service (NPS) are the largest and second largest shareholders with 46% and 11.56% ownership, respectively. By investor group, institutional investors own the largest share, except for LS Holdings, with 24.81%, followed by minority shareholders with 17.66%, and foreign investors with 9.27%.

Shareholder Returns (Dividend)

LSIS pays shareholders dividends higher than the market average. Ever since the dividend payout ratio was adjusted upwardly to approximately 40 percent in the financial year of 2014, we have maintained a high dividend payout ratio that almost doubles the

KOSPI average (24.20% in 2016) for three consecutive years in accordance with our commitment to higher investor returns despite the global economic trend toward lower interest rate and slower growth. Going forward, we will continue to make efforts to enhance shareholder values.

(Non-consolidated Basis)

Classification	2014		2015		2016	
	LSIS	Average of KOSPI-Listed Firms	LSIS	Average of KOSPI-Listed Firms	LSIS	Average of KOSPI-Listed Firms
Total dividends (KRW in hundred million)	381.23	-	293.25	-	234.60	-
Dividend per share (KRW)	1,300	-	1,000	-	800	-
Dividend payout ratio*(%)	40.60	27.31	42.22	22.70	40.53	24.20
Dividend yield**(%)	2.17	1.19	2.17	1.33	2.01	1.52

* Dividend payout ratio : Total dividends/net profit ** Dividend yield : Dividend per share/year-end closing price(based on KRX data)
※Dividends on common shares were counted, excluding class shares

Communication with Shareholders and Investors

Sharing corporate information in a timely and transparent manner is essential to build a trust-based relationship with shareholders and investors. To this end, we proactively provide with them not just our operating performances and financial information, but

also mid- to long-term management strategy and promotion of new businesses through various IR meetings and events. We plan to organize more diverse IR events, including our regular earnings release meetings and overseas conferences, in our continued effort to communicate with our investors at home and abroad.

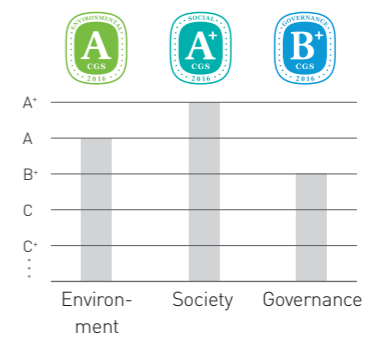
Classification		1	2	3	4	5	6	7	8	9	10	11	12	Remarks
Regular	2015 Q4 earnings release NDR	•												3-4 Feb (hosted by Kiwoom)
	2016 Q1 earnings release NDR				•	•								28 Apr - 2 May (hosted by Shinhan and Hyundai)
	2016 Q2 earnings release NDR							•						27 - 28 July (hosted by NH)
	2016 Q3 earnings release NDR											•		3 Nov (hosted by Kiwoom)
Adhoc	Smart Energy Presentation		•											Smart Energy Presentation, 25 Feb (hosted by Kiwoom)
	Analyst Day (Smart Energy Presentation)			•										Analyst Day, 10 Mar
	Hana Financial Investment Corporate Day				•									Hana Financial Corporate Day, 18 Apr
	Samsung Global Conference					•								Samsung Global Conference, 19 May
	Hana Financial Investment Corporate Day							•						Hana Financial Corporate Day, 1 Jun
	Analyst Day (Smart Factory Presentation)											•		Analyst Day, 8 Sep
Overseas	Factory Tour											•		Factory tour for institutional investors, 22 Sep (hosted by Hyundai)
	Macquarie London IR Conference							•						6-7 Jun
	Macquarie Singapore IR Conference											•		14-15 Jun
	Hong Kong/Singapore NDR												•	26-30 Sep (hosted by Hyundai)

KCGS Evaluation

LSIS has received A grade in Korea Corporate Governance Service (KCGS)'s annual evaluation. KCGS is an independent organization that evaluates and analyzes the corporate governance and social responsibility of all stock-listed companies, and then discloses corporate governance evaluation ratings of those companies for investors starting 2002. Our KCGS evaluation results have been improved every year since we published sustainability management. LSIS will make continued efforts to enhance the corporate governance and evaluation result.



Consolidated grade



About LSIS

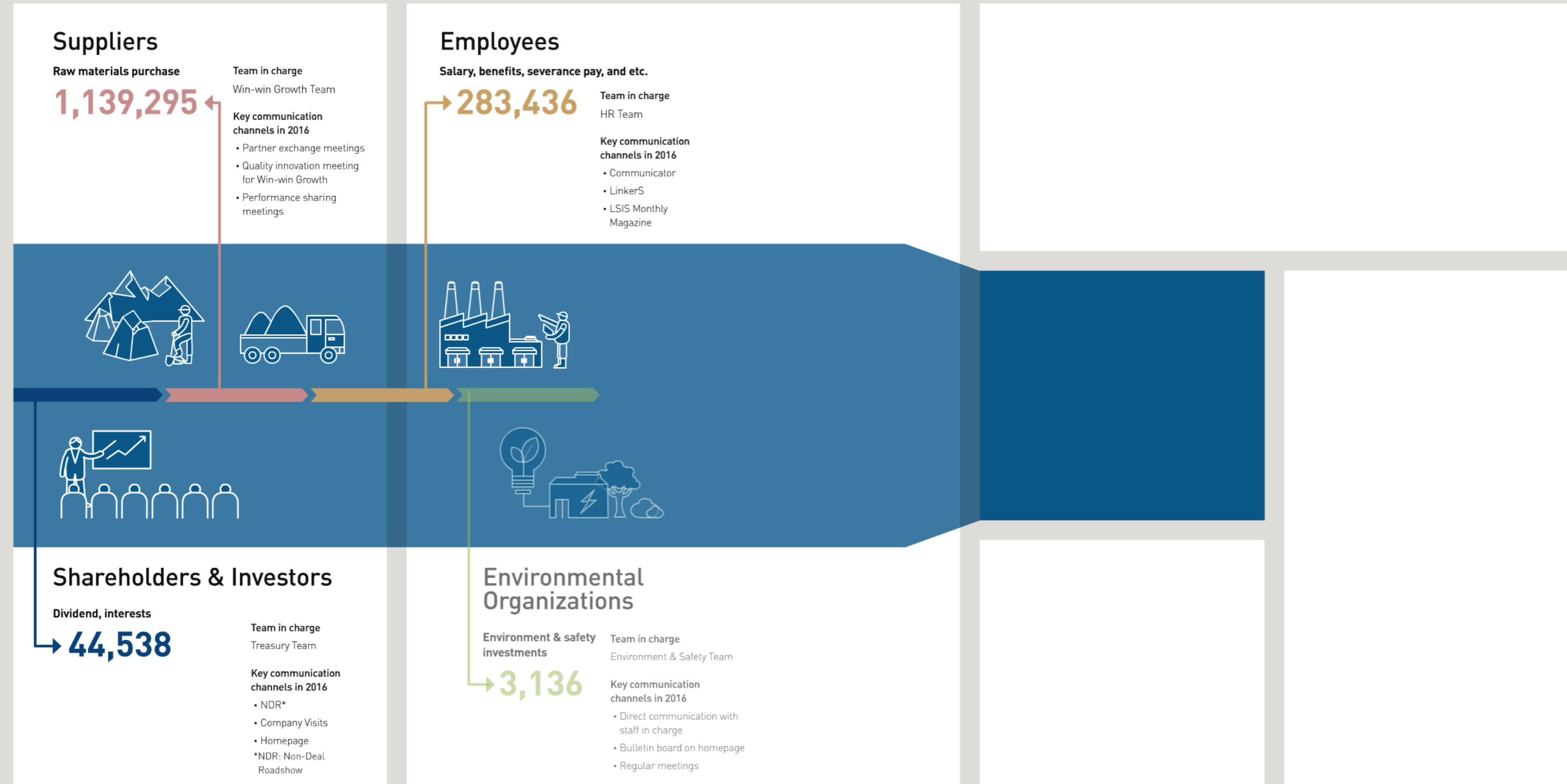
Core Issues of Sustainability Management

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Stakeholder Value Chain Map

Listening to stakeholders' opinions is a privilege that enables us to incorporate them into all management activities and share added values created along the way with our stakeholders so that we can grow responsibly with them.

(Non-consolidated basis, unit: KRW in million)



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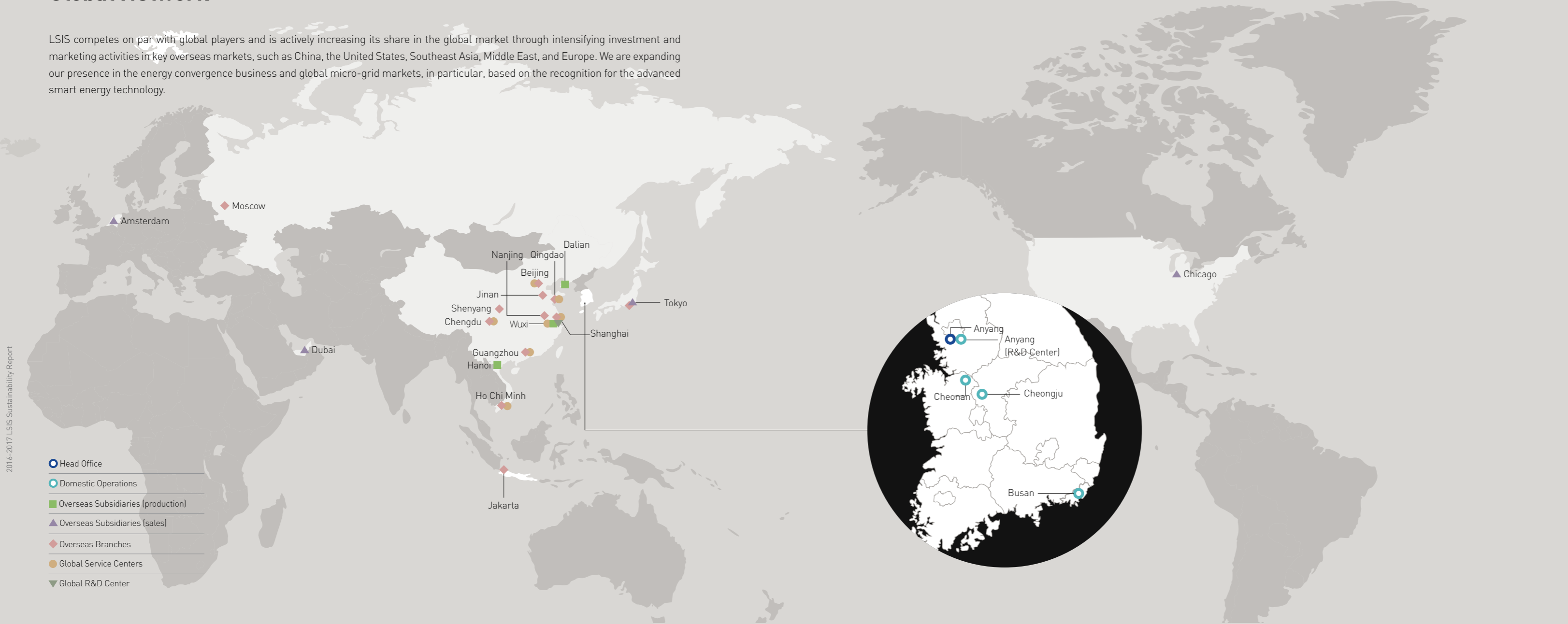
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Global Network

LSIS competes on par with global players and is actively increasing its share in the global market through intensifying investment and marketing activities in key overseas markets, such as China, the United States, Southeast Asia, Middle East, and Europe. We are expanding our presence in the energy convergence business and global micro-grid markets, in particular, based on the recognition for the advanced smart energy technology.



2016-2017 LSIS Sustainability Report

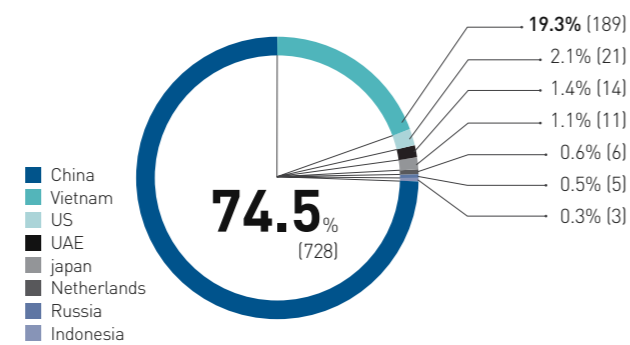
About LSIS

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Status of Global Talents

As of the end of 2016, around 1,000 employees work at seven production/sales subsidiaries in the United States, Europe, China, Vietnam, and Japan, as well as 12 overseas branches in Russia, Indonesia, and more. In order to make inroads into global markets and boost global sales, LSIS strives to reinforce human resources' competitive edge with a mid- to long-term perspective under Global Talent Map. Further, we are gradually expanding our global talent hiring program in North America, China, and Europe to secure and nurture global talents.

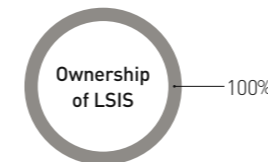
Overseas-based Staff by Country (persons)



Major Subsidiaries

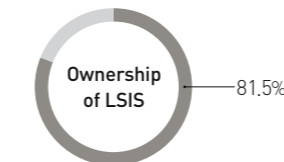
LS Metal

Address Trade Tower, 511, Yeongdong-daero, Gangnam-gu, Seoul, Korea
Core Biz Manufacturing of copper tube and STS tube



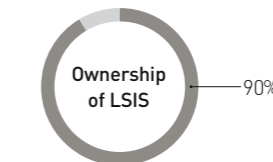
LS Mecapion

Address Hosandong-ro, Dalseo-gu, Daegu, Korea
Core Biz Manufacturing of industrial electronic equipment



LS-Sauter

Address Digital-ro, Geumcheon-gu, Seoul, Korea
Core Biz Sales of electrical equipment including BAS & IBS



Appendix

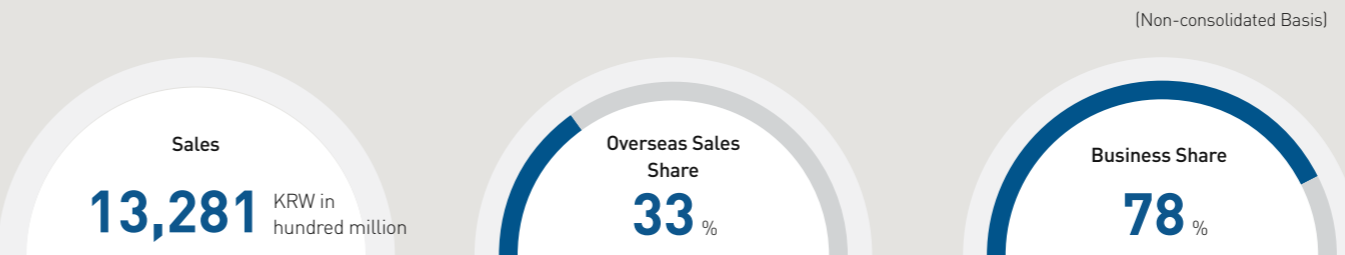
Power Solution Business

LSIS offers a total solution that enables a safe and efficient management of the end-to-end process from power generation to consumption. Electric power systems are mainly divided into two groups: 'Transformers' used in electrical power system for adjusting the system voltage to a safe value and 'Circuit Breakers' designed to prevent overcurrent and ensure adequate electric supply and protection. Our product portfolio has recently become diversified with the launch of High Voltage Direct Current (HVDC) System, Energy Storage System (ESS), and Energy Management System (EMS). Intended to minimize power transmission loss and maximize efficiency, these systems deliver to households and companies a eco-friendlier and smarter way of consuming energy at a lower cost.

Plans for 2016	Major Performances in 2016	Plans for 2017
<ul style="list-style-type: none"> Lay the foundation for the Smart Power Solution business Enhance business performance by focusing on the target markets Strengthen dominance in the domestic market through product differentiation Build a foundation for growth through securing footholds in Indonesia 	<ul style="list-style-type: none"> Increased participation in large-scale independent power projects Built foundation for green solution market preemption with G3 T/A Set up a sales outpost through establishing Indonesian office Boosted the market share through targeting semiconductor/display market 	<ul style="list-style-type: none"> Explore overseas target countries Expand business areas by making inroads into new markets Build presence in new renewable energy markets through securing products and solutions

Smart Energy

LSIS offers smart energy services based on its smart grid solution that supports two-way information exchange. It allows power suppliers and consumers to exchange real-time information, thereby optimizing energy consumption control and facilitating free energy sharing and transactions among consumers. We also provide a smart energy platform that is built on the existing power systems and combines more advanced concepts such as ESS in our endeavor to implement an efficient and green system to address the impending energy deficiency issue.



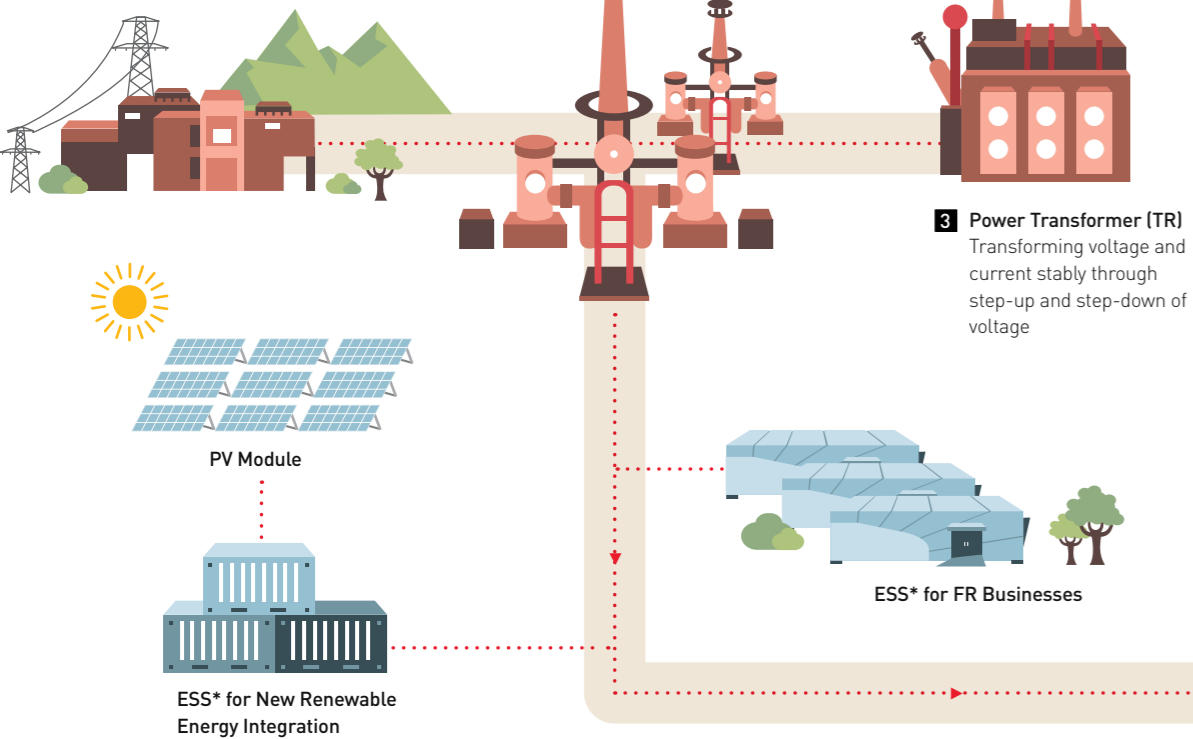
Main Power Products

Electric Power Transmission

1 High Voltage Direct Current (HVDC)
Transmitting electricity by converting alternating current into direct current

2 Gas Insulated Switchgear (GIS)
Protecting power plants and substations from accidents caused by overload, grounding, and shorted wire

3 Power Transformer (TR)
Transforming voltage and current stably through step-up and step-down of voltage



Electric Power Distribution

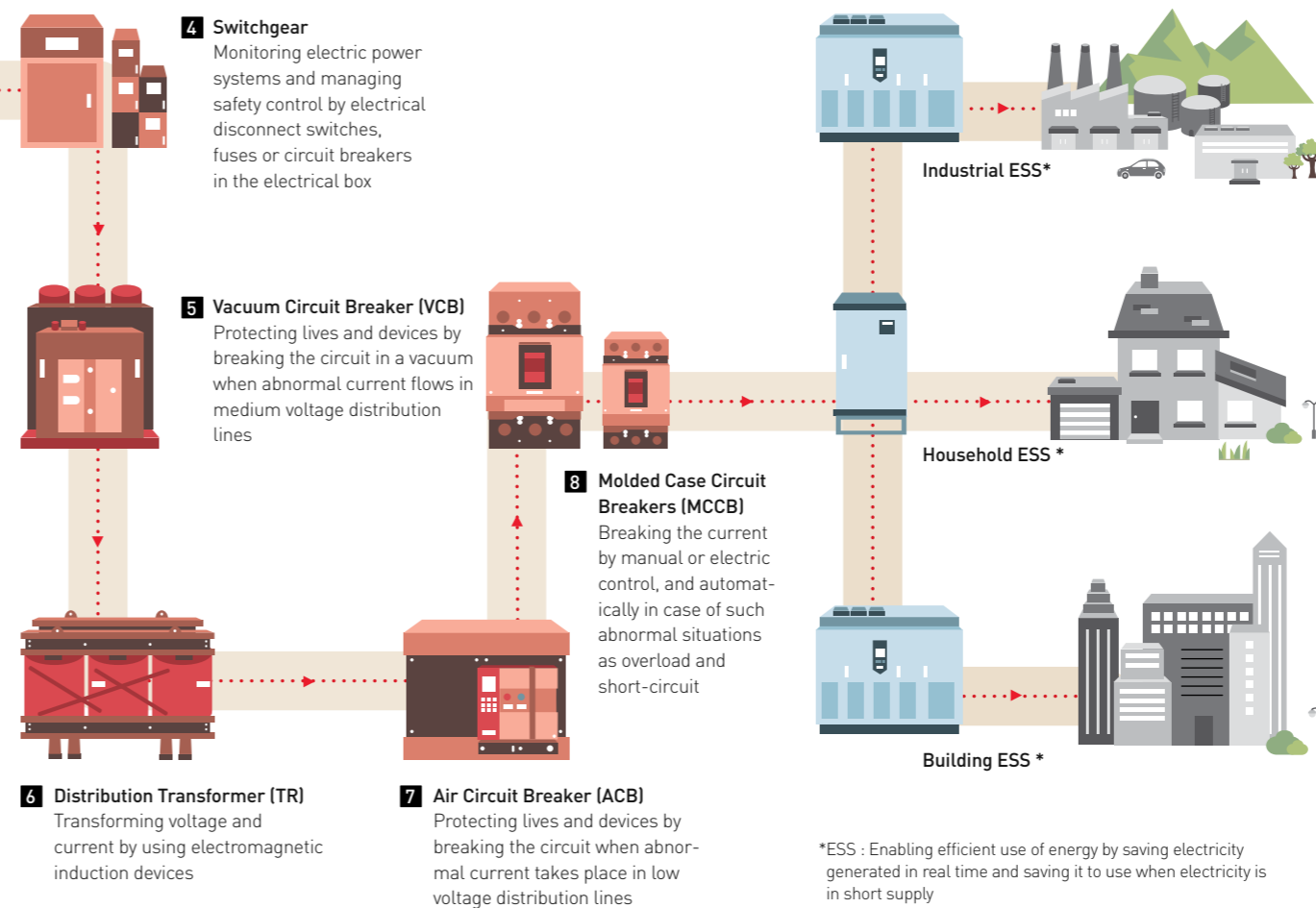
4 Switchgear
Monitoring electric power systems and managing safety control by electrical disconnect switches, fuses or circuit breakers in the electrical box

5 Vacuum Circuit Breaker (VCB)
Protecting lives and devices by breaking the circuit in a vacuum when abnormal current flows in medium voltage distribution lines

6 Distribution Transformer (TR)
Transforming voltage and current by using electromagnetic induction devices

7 Air Circuit Breaker (ACB)
Protecting lives and devices by breaking the circuit when abnormal current takes place in low voltage distribution lines

8 Molded Case Circuit Breakers (MCCB)
Breaking the current by manual or electric control, and automatically in case of such abnormal situations as overload and short-circuit



*ESS : Enabling efficient use of energy by saving electricity generated in real time and saving it to use when electricity is in short supply

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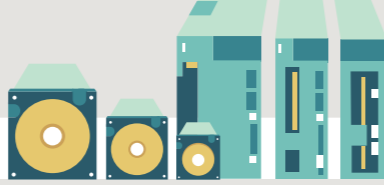
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Industrial Automation Business

LSIS provides a wide range of automation solutions for efficient operation of industrial facilities. Main product portfolio includes PLC for equipment control, AC Drive for motor speed adjustment, and HMI for real-time equipment monitoring. More recently we are promoting the Smart Factory Solution business that delivers integrated information gathered from various automation systems in order to help our clients achieve better energy efficiency in their overall business, not just in factory operation. Client companies, as a result, can not only create a highly efficient worksite with maximum productivity with lower cost but also implement environmentally friendly systems that utilize resources in a way more efficient manner.

Plans for 2016	Major Performances in 2016	Plans for 2017
<ul style="list-style-type: none"> Boost large-scale OEM business Foster HMI and Servo businesses Expand the Smart Factory Solution business Grow overseas branches 	<ul style="list-style-type: none"> Created direct transaction channels with large companies Merged Servo overseas subsidiaries Implemented Government-sponsored Smart Factory initiatives 	<ul style="list-style-type: none"> Give impetus to GME business Augment direct sales in domestic market Make strong inroads into overseas target countries Expand Smart Factory solution portfolio

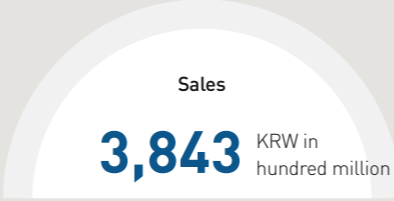
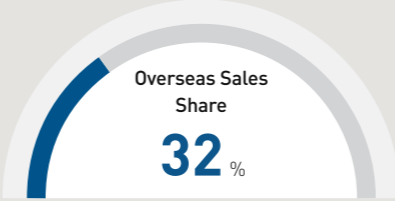
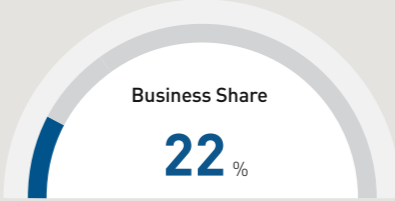

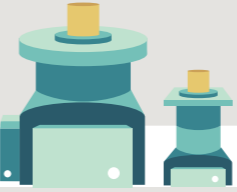

Main automation products

 <p>Programmable Logic Controller (PLC) A universal controller that is programmed to operate machinery in a set sequence and conditions which has a wide range of applications from large-scale automation equipment at factories and plants to car-wash machines, golf ranges and general usages</p>	 <p>Human Machine Interface (HMI) A device that allows users to easily check the status of various production equipment through the touch screen and to take necessary measures immediately</p>	 <p>Motion/Servo A device that enables precise feedback control when equipment is moved to a location or operated at a certain speed/torque that the system requests (Motion Controller/Servo Drive/Servo Motor)</p>
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Smart Factory

LSIS's smart factory solutions support efficient business operation through optimization of various information services tapping into factory automation solutions. In 2010 LSIS proved the tangible benefits a smart factory solution has to offer—60% productivity increase, 60% energy savings, 93% failure rate reduction—by setting up Smart Factory in its Cheongju Plant, which integrates ICT with automation solution. With a sense of responsibility as a leader of the Korean government-led 'Manufacturing Industry Innovation 3.0' as well as its proven know-how and advanced technologies, LSIS will spare no efforts to make valuable contribution to attaining the two objectives the country is pursuing, industrial productivity enhancement and energy saving, with the aim to help all plants across the country catch up with the level of optimization of our plants.

(Non-consolidated basis)

 <p>Sales 3,843 KRW in hundred million</p>	 <p>Overseas Sales Share 32 %</p>	 <p>Business Share 22 %</p>
 <p>AC Drive (Inverter) A control device that saves energy consumption by controlling motor through power supply frequency variation</p>	 <p>Decelerator Connected to the motor shaft, the device transmits speed decrease and torque increase to the load. It has wide applications in semiconductor, display, beverage, and logistics machinery industries</p>	 <p>CPS Solution A platform that connects the reality and virtuality and enables efficient factory operation by monitoring data generated by field devices and collected by automation devices and providing accumulated information to Business Information System</p>

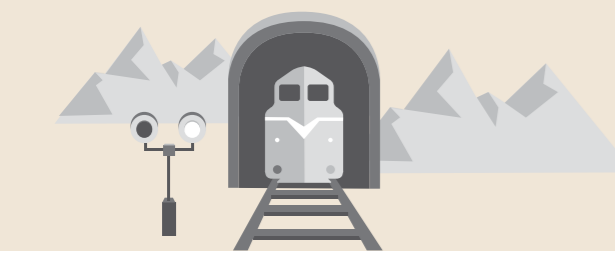
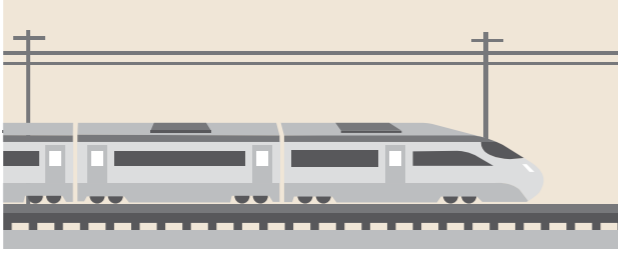
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Other Businesses

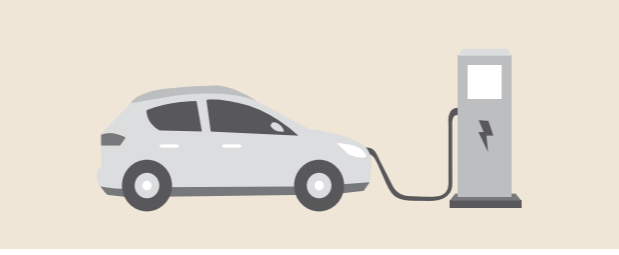
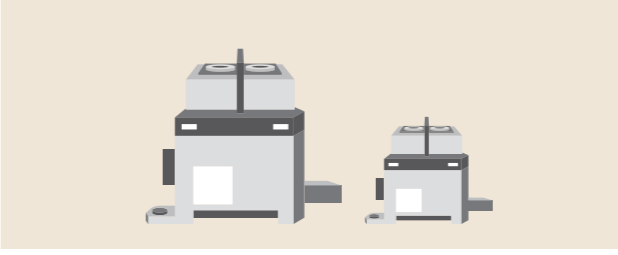
Railway Infrastructure

The railway infrastructure business is composed of various systems for signaling, power supply, equipment control, operation & maintenance, railways and vehicles. As a leading provider of the railway infrastructure systems with a special focus on signaling and power supply solutions, LSIS is expanding the business to overseas markets based on proven track records from numerous projects.

 <p>Railway Signaling System The railway signaling system equipped with engineering technologies controls diverse signals and communications stably, enabling effective service intervals, train operations, security, and IT equipment management</p>	 <p>Railway Power System Technology to implement electric car lines and power supply facilities that are built on the railways as permanent facilities to supply electric energy from railway system to cars</p>
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DC-Relay

A device that ensures stable supply and isolation of direct current power. Also known as EV-Relay when mounted on green cars, It supports the vehicle for stable power supply. LSIS has evolved into the second largest player in the global EV-Relay market and plans to make a foray into the industrial Relay(EP-Relay) market in the future.

 <p>Relay for Electric Vehicles (EV-Relay) A device installed in between the battery and load of EVs to ensure stable power supply and isolation</p>	 <p>Industrial Relay (EP-Relay) A device installed in between the battery and load of EVs to ensure stable power supply and isolation</p>
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Appendix

Core Issues of Sustainability Management

The objective of sustainability management at LSIS is to become a respected company built upon strong trust from its stakeholders. To this end, we endeavor to grow together with our stakeholders and take environmental responsibility to be a good steward of the earth for the next generation. We will strive to abide by laws and do business in a transparent manner to fulfill our duties as a respected corporate citizen.



24	Integrated Sustainability Management	36	Reinforcement of Product Competitiveness
26	Interview with Heads of Stakeholder Communication Departments	42	Environment and Safety Management
28	Materiality Test	50	Customer Communication
30	Ethical Management	56	Shared Growth with Suppliers
33	Compliance	64	Securing and Cultivating Global Talents
34	Integrated Risk Management	68	Local Community Contribution

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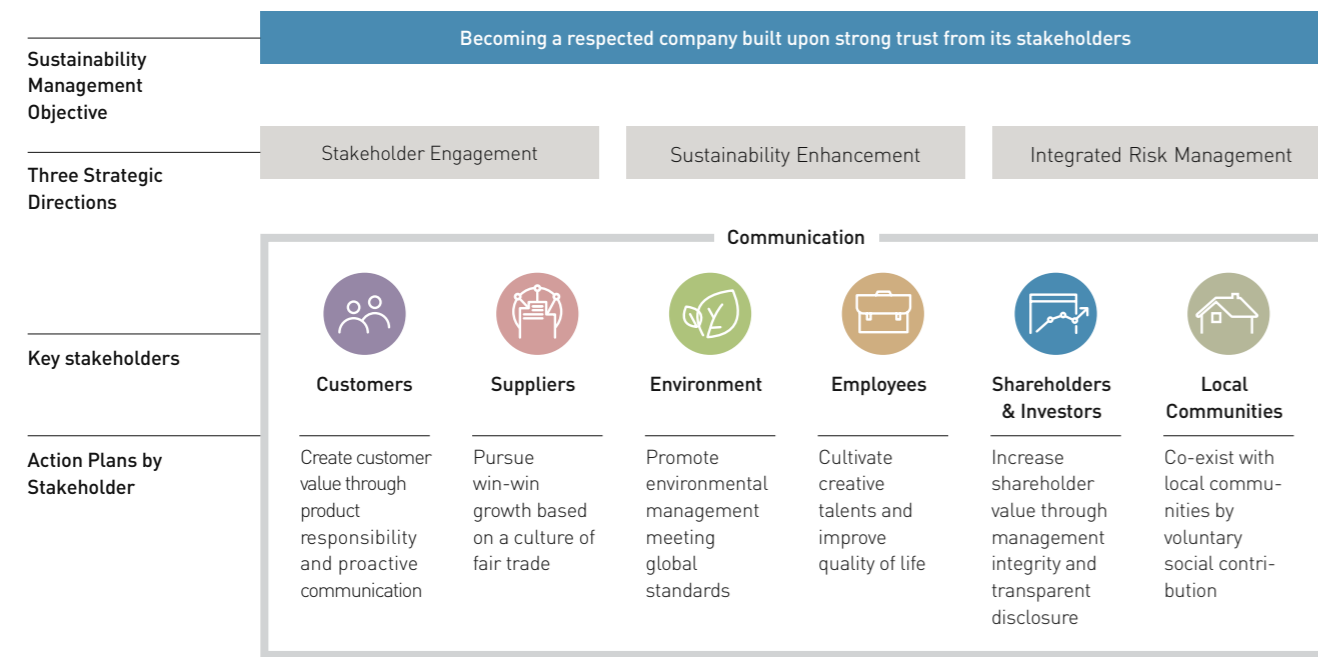
Appendix

Integrated Sustainability Management

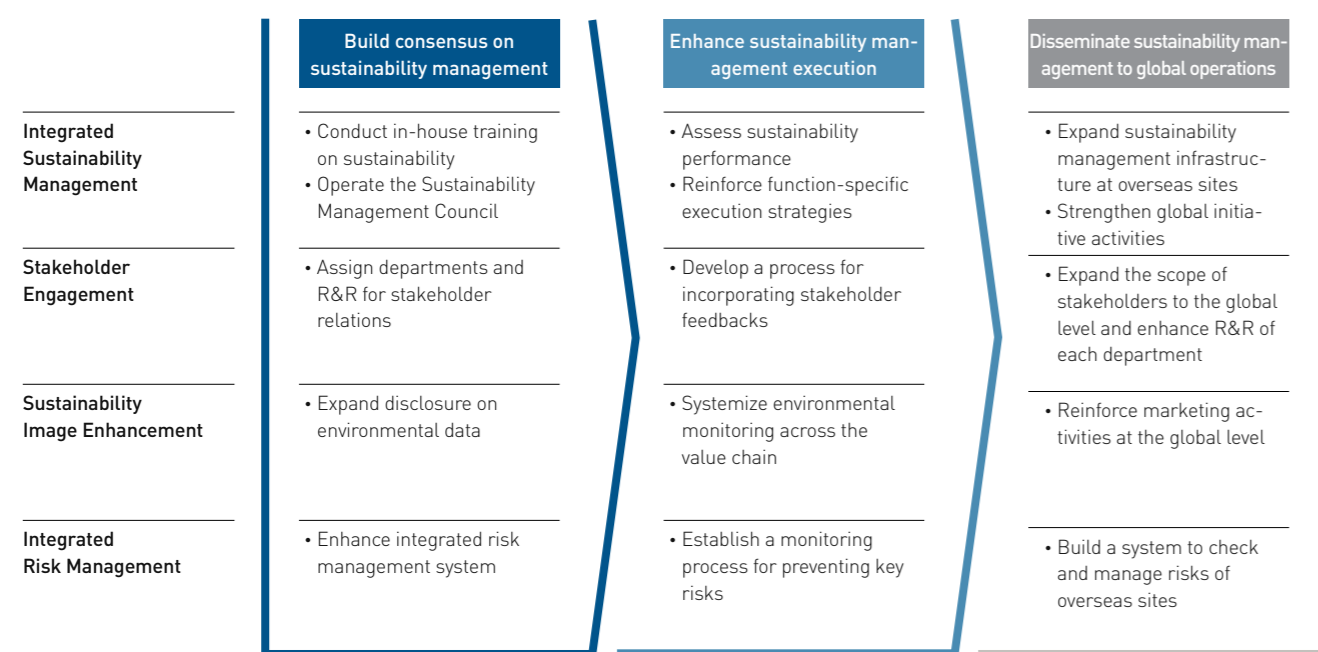
Under the primary objective of sustainability management to become a respected company built upon strong trust from its stakeholders, LSIS has set up three strategic directions of "stakeholder engagement," "sustainability image enhancement," and

"integrated risk management" as well as stakeholder-specific action plans for continuous stakeholder engagement in its pursuit of shared growth.

Sustainability Management Framework



Roadmap for Sustainability Management

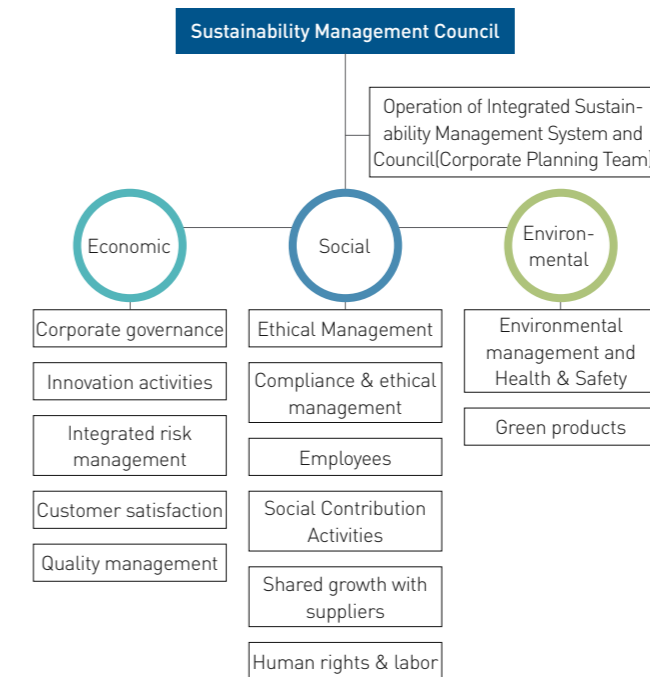


At LSIS we operate the sustainability management system to raise visibility of sustainability issues and stakeholder voices to the Board of Directors for efficient decision-makings. The Sustainability Management Council is participated by staff members of all core teams including Stakeholder Engagement Team. In 2016, the Council met relevant staff from core teams, checked progress made in each area, and discussed detailed implementation plans to further sustainability management execution.

Sustainability Management Implementation System



Sustainability Management Council at LSIS



UN SDGs

LSIS is committed to supporting the UN Sustainable Development Goals (SDGs) and always strives to explore what it can do about them.



Platinum Award from LACP 2016 Impact Awards

Our 2015-2016 LSIS Sustainability Report published in 2016 received the Platinum Award at the 2016 Impact Awards hosted by the US-based League of American Communications Professionals (LACP), a global marketing research organization that evaluates the competitiveness of public relations materials and communication materials of major companies including Fortune 500 companies. The award came after the Gold Award granted for LSIS's Sustainability Report published in 2015.



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Interview with Heads of Stakeholder Communication Departments

Stakeholder Communication Departments are one of the most reliable communication channels, through which we identify the needs of our stakeholders and feed them back to our management activities.

Shareholders & Investors

Transparent disclosure of information is the single-most important demand of shareholders and investors. With this understanding, LSIS makes concerted efforts to effectively distribute information on existing business divisions as well as new business areas. LSIS is also actively responding to the recent requests of information on not only business but also on sustainable management, including issues on environment and society. Along with regular corporate performance reporting and IR meetings to facilitate communication with shareholders, various activities are developed and implemented to boost investor relationship. LSIS will continue to consistently satisfy investor demand on information disclosure.



Treasury Team
Jae-Hyun Park

Environment/Safety

Environmental problems such as global warming or fine dust pollution are becoming severe by the day. Feeling a heavy sense of responsibility to protect the environment, LSIS is strongly pursuing green business based on smart energy. In addition, the recent line of accidents in Korea illustrates the growing importance of safety-first management. Against this backdrop, LSIS is exerting efforts to establish a safe and eco-friendly process throughout the entire value chain, including not only its own products and services, but also manufacturing operations and partner firms' businesses.



Environment Safety Team
Ki-Sun Kim

Local Community

LSIS is determined to realize its philosophy of social contribution, which is to 'provide sincere and consistent support based on solidarity towards social conflicts and the vulnerable'. In particular, a CSR TFT was organized among the public relations team and supporting departments of each branch office, to offer consistent and systemic social contribution programs to the vulnerable class in society. Plans for social contribution activities are established at the end of each year, while the department in charge of execution is selected early next year. The department is notified of the specific plans two weeks prior to the actual event to prepare for implementation. Also, monthly meetings are held to share social contribution outcomes and discuss how to deliver the next activity. Such discussions and progress can be found in the sustainable management report.



Public Relations Team
Young-Dal Oh

Customer



Marketing Team
Sang-Won Hwang

As increasing importance was placed on customer satisfaction surveys after the introduction of the sustainable management regime, LSIS expanded the scope of the survey under the instructions of the Executive Vice President. The customer satisfaction survey consists of BSI survey which records the Economic Sentiment Index of companies. And CSI survey is on the level of satisfaction on LSIS products. These survey outcomes are valuable indicators for improving customer satisfaction. Furthermore, LSIS regularly participates in seminars held abroad in a bid to attract foreign customers. LSIS will continue to exert efforts to facilitate communication with customers and prevent complaints from occurring in the first place.

Employees

LSIS focuses efforts on acquiring talents through internship, regular recruitment, and special recruitment, and provides various training programs tailored to each position, department, and business area, in order to ensure that every employee attains global competitiveness and professional expertise. Diverse communication channels are in place to enhance employee satisfaction and improve existing systems, including the executive-to-employee discussion committee (LinkerS, Smart Board, ACE Board) and Hi-Card, where employees can receive feedback on personal concerns or requests. Some examples of welfare for enhancing employees' happiness and satisfaction include events that invite family members of those who have been promoted to managerial positions, or Leisure Weeks designed to achieve work-life balance and family-friendly management. Based on such effort, LSIS was certified as a family friendly company by the Ministry of Gender Equality and Family in December 2014, and is maintaining the status as of early 2017.



HR Team
Sang-Tae Park

Suppliers

LSIS believes that communication is the most important factor for promoting shared growth with suppliers. In this regards, LSIS actively collects opinions from suppliers through continuous interaction and reflects them in business activities in a timely manner. As effective communication requires not only formal exchange of views but also casual discourse, LSIS hosts a dinner gathering once every quarter to invite employees from the LSIS, as well as from first- and second-tier suppliers. At the end of each year, a satisfaction survey is conducted to gather opinions from various entities to reflect them into next year's activities with regards to communication with suppliers.



Global Sourcing Team
Ki-Bok Kim

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Materiality Test

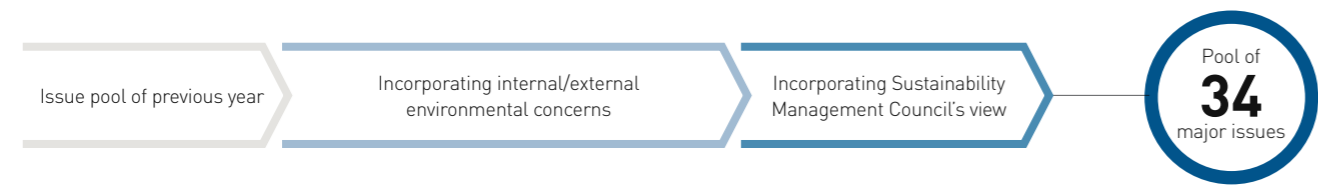
Materiality Test Overview

LSIS carries out the materiality test every year to derive core issues that we face, incorporate them to our business strategies, and prepare this report centered on stakeholder interests. In 2016, we derived 16 key issues from the materiality test that was conducted by 1) creating a pool of major issues, 2) prioritizing major issues, and 3) deriving key issues.

1 Creating a Pool of Major Issues

A pool of 34 major issues was formed by reviewing internal and external documents including agendas of key discussion bodies at LSIS based on the previous year's pool of issues and reflecting views from the Sustainability Management Council.

2 Prioritizing Major Issues

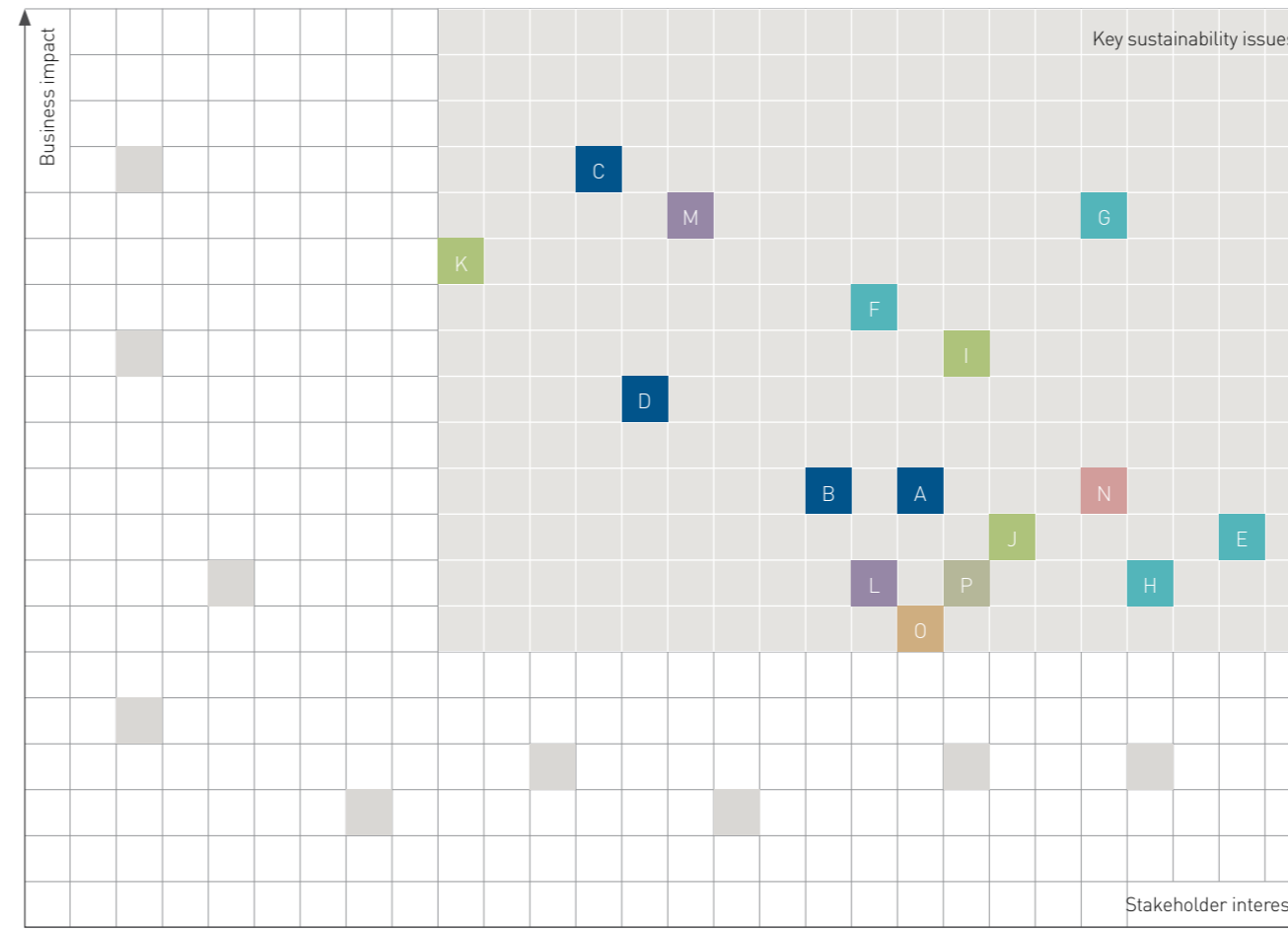


STEP 1	STEP 2	STEP 3
Stakeholder survey	Media & web analysis	Diagnosis on CSR level
<p>September to October 2016</p> <p>On-/off-line survey</p> <p>Respondents 857 persons Internal & external stakeholders including customers, employees, suppliers, environmental organizations, local communities, shareholders & investors</p>	<p>October 2016</p> <p>Big Data analytics</p> <p>Source Major broadcasting companies, daily newspapers, economic dailies, etc.</p>	<p>December 2016</p> <p>Using an external consulting institute tool</p> <p>Participating Teams 18 departments Sustainability Management TF involvement</p>

3 Identifying Key Issues

Key sustainability issues derived from the issue prioritization process are then featured on the Materiality Matrix depending on stakeholder interest and business impact. Each of the 16 key issues is presented in this Report in detail along with LSIS's efforts to address them.

Materiality Test Matrix



Category	Core issue	Page	Category	Core issue	Page	
Ethics & risk	A. Ethical management	30	Environment and safety management	I. Energy saving and response to climate change	44	
	B. Establishing a culture that promotes fair sales activities	32		J. Worksite environment management	46	
	C. Compliance management	33		K. Eco-friendly products and services	48	
	D. Integrated risk management	34		L. Intensifying customer satisfaction activities	51	
Enhancement of product competitiveness	E. Securing product quality competitiveness	37	Customer communication	M. Expand activities to win overseas project orders	52	
	F. Building a system to ensure product reliability	39		Shared growth with suppliers	N. Fair trade compliance	57
	G. Securing technological competitiveness	40			Securing and nurturing global talents	O. Building employee competence
	H. IP management	41		Local community contribution		P. Spreading a culture of giving

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Core Issues of Sustainability Management

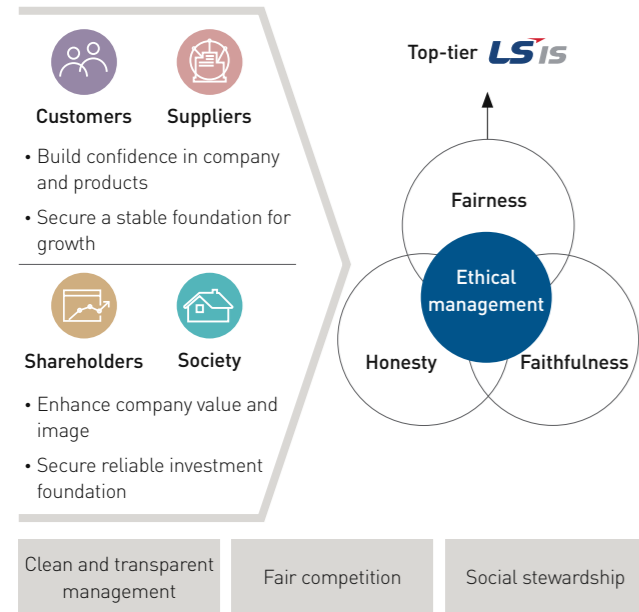
Appendix

Ethical Management

Objective of Ethical Management

LSIS aims to grow into a top-tier company that fulfills its responsibility for customers, suppliers, shareholders, and the society by conducting transparent management on the basis of the principles of fairness, honesty, and faithfulness.

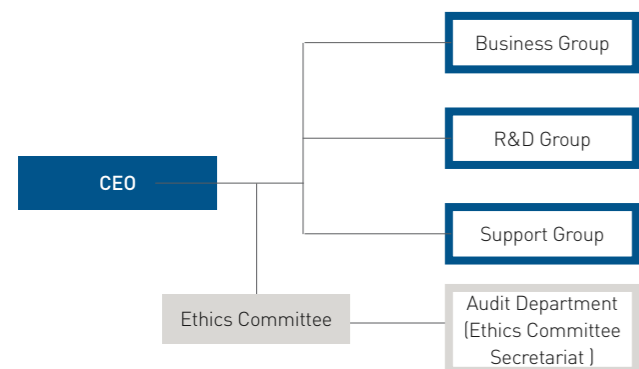
Ethical Management Goal



Ethical Management System

Ethical Management Implementation Organization

The Ethics Committee comprised of the HR Committee members is the supreme decision-making body for our ethical management. We are operating the Ethics Committee Secretariat to undertake regular ethical management practices and the Audit Department serves as the secretariat.



Roles of the Ethics Committee Secretariat

- Develop, train, and disseminate systems necessary for complying with the code of ethics
- Establish and operate regulations and processes to report unethical cases or potential risks
- Make authoritative interpretation in ethical practices and submit critical issues to the Ethics Committee

Code of Ethics and Conduct

LSIS has established the Code of Ethics and Conduct as a standard for employees' ethical behavior and decision-making. It is applied to all affiliates and subsidiaries, while overseas local subsidiaries comply with this in consideration of local laws and regulations at the same time. We take regular inspections on the implementation of the Code of Ethics and Conduct to keep it up to date and strive to raise employees' awareness of the standard.

Code of Ethics Summary

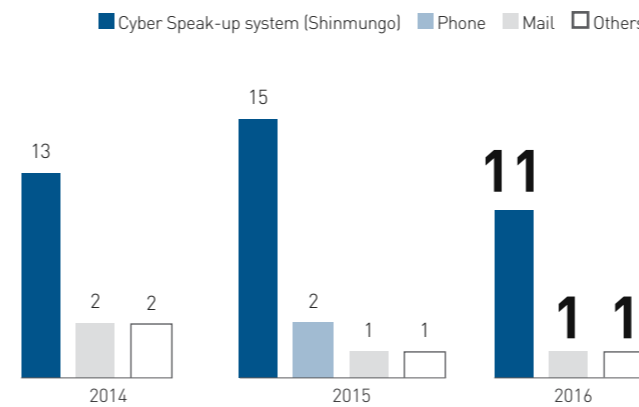
Chapter	Summary
Chapter 1. Responsibilities and Duties toward Customers	Faithful information disclosure / response to customers / protection of customer interest
Chapter 2. Fair Competition	Fair competition / respect for related laws and business customs
Chapter 3. Fair Transactions	Fair selection of suppliers / fair trade and evaluation / clean trade culture / support for suppliers
Chapter 4. Basic Ethics of Officers and Employees	Maintenance of dignity as LSIS employees / honest and fair reporting / protection of company assets / avoidance of interest conflict with the Company / prevention of sexual harassment
Chapter 5. Responsibility toward Officers and Employees	Cultivation of talents / fair treatment / health and safety / respect for individual thinking
Chapter 6. Responsibility toward the Nation and Society	Rational business operations / protection of shareholder benefits and rights / environmental protection / contribution to national and social development

Policies and Systems in Operation

Ethical Management Hotlines

In a bid to eradicate unethical behaviors, LSIS operates diverse communication channels all year round, such as phone, mail, e-mail and cyber Speak-up system, to receive reports from suppliers, employees, customers, and other stakeholders on employee corruption and unfair business practices and deal with them 100%. Reports related to product quality, services, or product inquiries are handled by a separate Customer Service Center.

Receipt and Handling of Reports (by channel) (cases)



Report type	2014	2015	2016
Unfair trade	3	7	1
Suggestion on business improvement	2	-	-
Corruption and unlawful act	2	1	3
Unfair practices	2	-	1
Claim	3	6	-
Others	5	5	8
Total	17	19	13

* Reporting types above are classified by informant opinion, and may differ from investigation results.

Self-reporting Program

To eliminate unethical behaviors between employees or with stakeholders (customers, suppliers, shareholders, etc.) and build a transparent and sound corporate culture, LSIS has in place a system for employees to voluntarily report their unethical practices such as bribery and entertainment. In addition, we hold special sessions to promote self-reporting by guaranteeing anonymity and providing immunity for past misconducts. Such sessions were held in 2007, 2010 and 2014.

Informant Protection Policy

LSIS does not leak any reporting contents and privacy of informants without prior consent. If the informant receives any disadvantage due to a miscarriage of this policy, the Company takes all responsibilities to repair or compensate for damages.

- Reporting contents and privacy of informants are treated as confidential and the reporting system is operated under a safe security system.
- Self-reporting on corruption or unlawful acts in which he or she is involved is taken into consideration for rational resolution of the issue.
- Privacy of the informants and stakeholders is strictly protected and reporting contents are fairly investigated for rational resolution.
- If informants experience disadvantages or impacts from information leaks, reparations or corresponding rewards are taken.

Response Procedure to Unethical Behaviors

Based on the Code of Ethics and Conduct, LSIS carries out thorough fact-finding investigations on unethical behaviors and takes disciplinary action through the Disciplinary Committee. The severity of disciplinary action is decided through deliberation and resolution of the Committee.

Offline Channel

Cyber Speak-up System (Shinmungo) Cyber Speak-up System is in place for stakeholders to report corruption or unfair actions of our employees at any time. Anyone can access the system and the identity of informants is strictly protected according to our informant protection policy.

Audit Follow-up System With the aim of tracking the implementation progress of internal audit results by each group and department, we have been operating the Audit Follow-up System since June 2014, which gives employees drives and prevent recurrence of the same issue.

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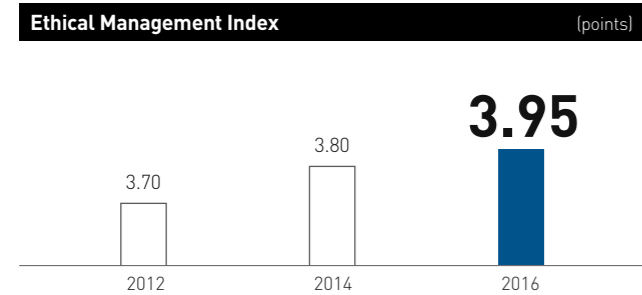
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Enhancement of Ethical Management Execution
Activities to Accelerate Ethical Management Execution

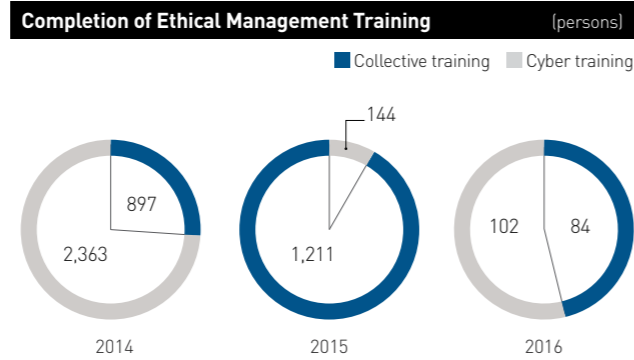
Pledge on Ethical Management Practice Employees at LSIS submit a written pledge on committing to ethical management every other year, raising the awareness of business ethics and entrenching a transparent business process. Since 2013, it has been extended to all employees including subsidiaries. The participation rate in the pledge reached 100% except for employees who were dispatched to overseas worksites or took a leave for a long time.

Survey on Ethical Management LSIS conducts a biennial survey to evaluate the satisfaction level of employees in terms of the company's ethical management (ethical management index) and to check for unfair actions that go unnoticed. The survey is designed to monitor changes in employee satisfaction level or ethical management index, and collect feedback and views so that they can be adopted to the development of ethical management directions and improvement items.

In 2016, the ethical management index was 3.95 (on a scale of 5.0), up from 3.80 in 2014. Through the survey, the awareness on the Code of Ethics and Conduct was identified as an improvement area, for which LSIS has scheduled awareness raising events and training in 2017.



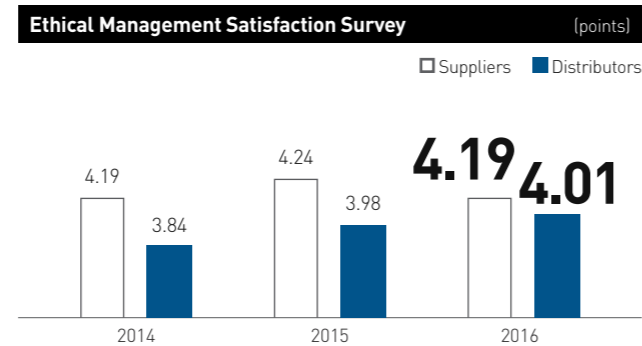
Ethical Management Practice Training Training on ethical management is mainly offered through induction training for new and experienced employees. Since 2013, we have been conducting such training at the LS Group level with the aim of further promoting ethical management. In 2014, in particular, the GVT (Greater Value Together) program was implemented to foster a compliance culture, internalize LSpaartnership, and give impetus to organizational and individual change at the LS Group level. We also provided employees with online training about compliance. From 2015, ethical management has been included in the training course for newly promoted managers, raising awareness of ethics and compliance and cultivating competence to respond to ethical dilemmas. Starting 2017, ethics training materials are made available on the online bulletin board, helping employees understand the importance of ethics management.



Strengthening Partnership with Suppliers and Distributors
Official Notice about Ethics to Suppliers and Distributors during National Holidays An official notice from the CEO is sent to suppliers and distributors before the Korean Thanksgiving and New Year holidays, informing that giving and receiving any gift, entertainment, and money is forbidden. Our employees are notified of this as well and encouraged to report violations to help eradicate unethical conducts and take part in the LS Group Management Philosophy 'LSpaartnership.'

Survey on Ethical Management LSIS conducts an annual survey to evaluate the satisfaction level of suppliers and distributors in terms of the company's ethical management. Through the survey we monitor changes in their satisfaction level and gather suggestions and opinions so that they can be further used for setting ethical management directions and identifying improvement items.

The satisfaction level of suppliers has been stable since 2014, with 4.19 in 2016 (out of a possible 5 points), while that of distributors was 4.01 continuing a steady upward trend.



Ethical Management Training for Suppliers The CPO Group holds performance sharing meetings and lectures on ethics by external experts, contributing to disseminating LS Group's philosophy "LSpaartnership" as well as consensus on ethical management throughout the supply chain.

Compliance

Since the introduction of the compliance officer system in 2012, LSIS declared the compliance management in 2014 and has supported all employees to observe compliance practices in daily work through the voluntary transaction system and inspection activities. Our compliance management involves categorizing legal risks, self-assessment, and compliance education under the direction of the Compliance Office who is also head of Legal Affairs Division.

Compliance Officer System

The Compliance Officer is appointed by the BOD in accordance with Article 542-13 of the Commercial Act. We have since 2012 appointed a Compliance Officer, and a unit responsible for compliance is formed under Legal Affairs Division to support compliance activities and report their activities to the BOD every year.

Main compliance officer activities

- 1 Categorizing potential legal risks in business operations
- 2 Creating a checklist to help prevent and manage risks
- 3 Supporting self-assessments through the checklist
- 4 Conducting compliance training

Self-initiated Inspection Activities

The compliance unit at LSIS prepares and provides a checklist that helps employees categorize legal risks associated with our business activities while conducting self-initiated assessment and check.

The checklist specifies legal compliance matters, consisting of Yes/No questions on categorized legal risks. For noncompliance areas identified through the questions, employees can review the background and correctional measures themselves. The checklist is updated on a yearly basis in the process of the legal risk categorization.

The Compliance Officer ensures that employees voluntarily abide by regulations based on the checklist on a yearly basis. The Officer also monitors the outcome of employee self-assessment to further investigate compliance if necessary.

Compliance Training

The Compliance Officer ensures compliance training programs are offered on a selection of key compliance themes to raise compliance awareness of employees. In 2016, LSIS conducted training and investigation on 20 occasions with a special focus on the topics of Fair Trade Act and Fair Subcontract Transactions Act. In the second half of the year, we carried out nine training sessions for staff of LSIS and subsidiaries on domestic and overseas anti corruption laws and regulations, including the Improper Solicitation and Graft Act (also known as "Kim Young-ran Act") and Foreign Corrupt Practices Act (FCPA). We have posted the key parts of the Kim Young-ran Act and provide information in a Q&A format on the company cyber bulletin board (WeLS) for employees to remind themselves of the act and refer to the information whenever needed during their day-to-day work.



Improper Solicitation and Graft Act (Kim Young-ran Act) Training (30 August 2016)



"Knowing about Kim Young-ran Act" posted on Company Bulletin Board (WeLS)

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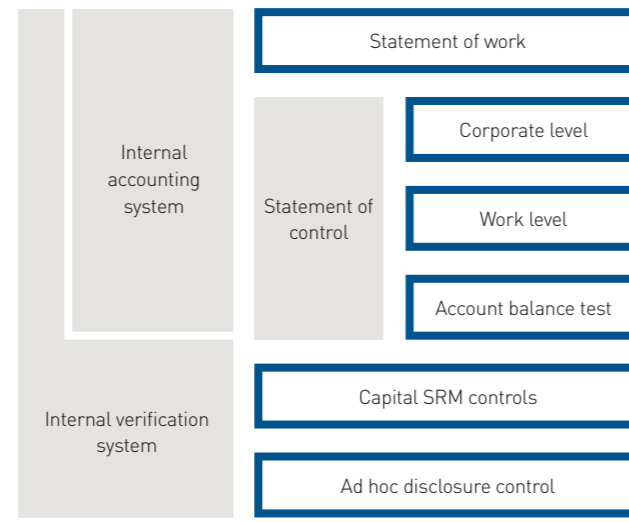
Core Issues of Sustainability Management

Appendix

Integrated Risk Management

Internal Control of Financial Reporting

To maintain efficient control over all the processes relating to the calculation of our financial statements, we built the internal control system based on the COSO Framework* in 2005 and began operating it starting 2006. The internal accounting manager reports the operation status to the BOD and the Audit Committee, and the Audit Committee reports its evaluation results to the BOD.



* COSO : Committee of Sponsoring Organizations of the Treadway Commission

Risk Management Categories

We have defined a total of 104 risks that are then categorized into three-layer classes - general, medium and minor. After risk categorization we prioritized risks based on evaluation of risk management status and opinions of responsible teams to identify 26 key risk items.

Corporate Risk Pool

General	External Environment Risk	Strategy Risk	Finance Risk	Compliance Risk	Operation Risk
Medium	<ul style="list-style-type: none"> Economy Country/politics/society/environment Market Accident/disaster 	<ul style="list-style-type: none"> Business plans Growth PR/communication 	<ul style="list-style-type: none"> Market Capital balance Assets impairment Financial statements 	<ul style="list-style-type: none"> Contract/lawsuit/trade Laws/regulations Ethics/misconduct 	<ul style="list-style-type: none"> Project Support process Core process
Minor	<ul style="list-style-type: none"> Economy Country Politics Competitors Customers Procurement/suppliers External stakeholders Natural disaster 	<ul style="list-style-type: none"> Business plans M&A Business portfolio Social contribution Development & investment in new businesses Brand/reputation Public relations Communication Investor relations 	<ul style="list-style-type: none"> Credit rating Raw materials prices Exchange rate Liquidity Trade receivables Intangible assets Tangible assets Investment assets Assets in stock Assets impairment (common) Tax Financial statements Accounting fraud 	<ul style="list-style-type: none"> Contract Fair trade (anti-trust policy) Other laws HR/labor IP/privacy protection Overseas/export Environment/safety Corruption Ethics & compliance 	<ul style="list-style-type: none"> Project costs Purchasing/procurement Design/manufacturing Bidding/project Project management IT Corporation management HR Environment/safety R&D Purchasing/procurement Logistics Production/quality Sales/marketing
No. of risk items	13	16	22	19	34

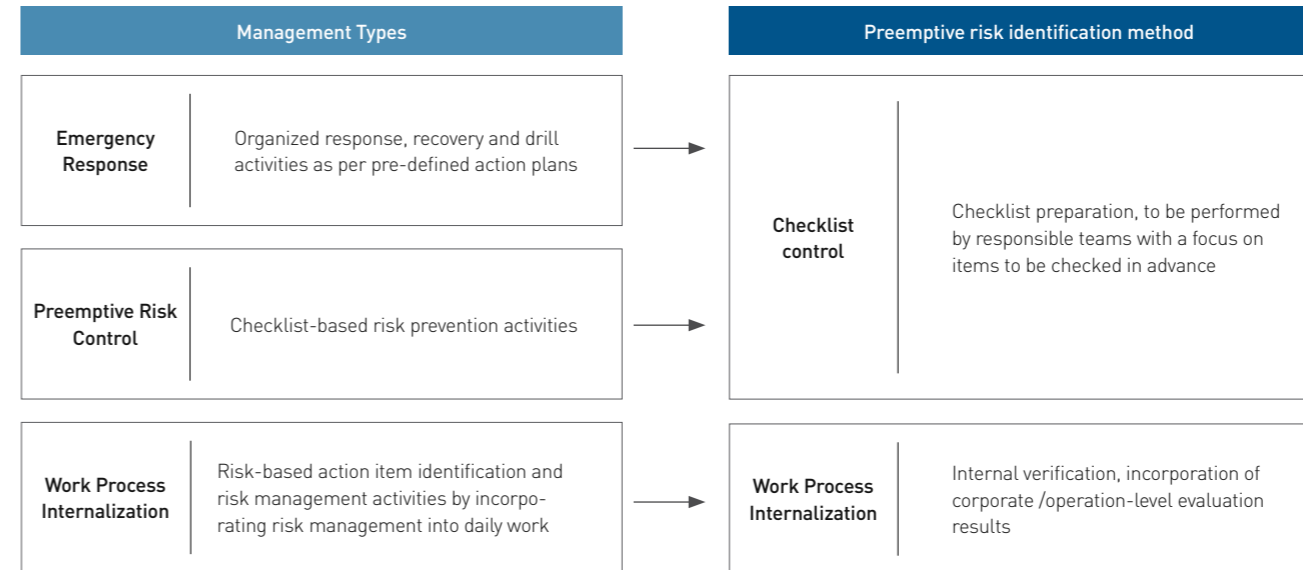
26 Key Risk Items Derived



Introduction of Preliminary Risk Identification Approach

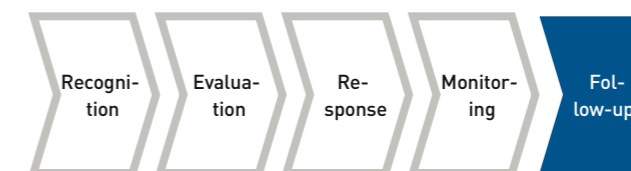
Corporate risks are categorized by management types into emergency response, preliminary risk control and work process internalization. In 2016, we adopted the preliminary risk management approach with the aim to identify and manage risks in a timely

manner, and rolled it out to key risks as the first step for efficient response. We plan to expand the scope to all 104 risk types identified for LSIS and establish a detailed guideline. In addition, we will monitor areas requiring management improvement as well as risk grade through a checklist-based effort to avert risks and risk quantification for risk volatility measurement.



Risk Management Process

Risks identified through the preemptive risk management process are quantified and limit controlled through the risk evaluation process. When a risk exceeds the limit, the Emergency Response Committee is convened for company-wide response and tracking. The risk management process ensures that risks are reviewed and improvement made as part of thorough follow-up actions.



01 Reinforcement of Product Competitiveness



LSIS always strives to strengthen R&D capabilities and improve the quality and reliability of our products in a firm belief that product competitiveness is the very foundation for any business to thrive on. In 2016, we not only stayed committed to improving the quality of the products being developed but also systemized the reliability process so that our customers could use our products more safely.



Plans for 2016

- Ensure development quality
- Operate the development reliability process

Achievements in 2016

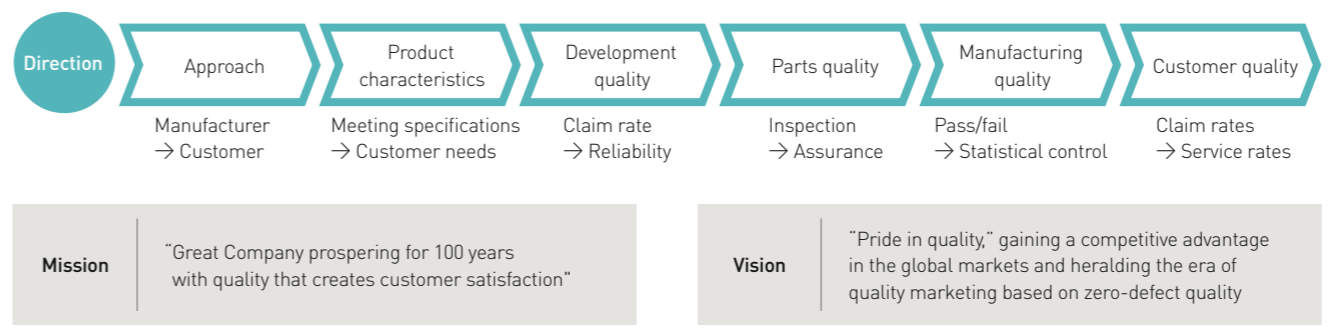
- Engaged in quality assurance activities for products in design phase
- Established standard manual for reliability management system
- Systemized the operation of the development reliability process → derived BP through pilot projects

KPI in 2016

<p>KS-QEI score</p> <p>PLC 795.54 points</p> <p>Inverter 807.49 points</p>	<p>R&D investment</p> <p>KRW 107,495 million</p> <p>[Non-consolidated basis]</p>	<p>No. of intellectual properties</p> <p>Korea 3,728 cases</p> <p>Overseas 4,743 cases</p>
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Quality Management

We are committed to providing the highest quality of products and services as part of our mission to become a Great Company prospering for 100 years with quality that creates customer satisfaction.

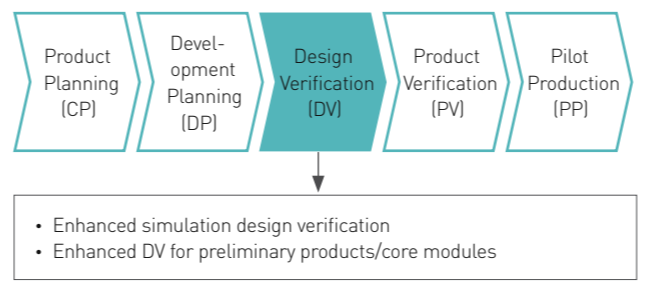


Mission "Great Company prospering for 100 years with quality that creates customer satisfaction"

Vision "Pride in quality," gaining a competitive advantage in the global markets and heralding the era of quality marketing based on zero-defect quality

Product Quality Management

LSIS has strengthened design verification of its new product R&D process so as to ensure product quality prior to launch. We provide our customers with highly reliable products with guaranteed quality through evaluating the completeness of each development phase, addressing any issues that may arise in the process, and engaging in tests that take into account the actual setting a user would experience while using our products.



Plans for 2017

- Shift the paradigm to focus on quality prevention/management
- Optimize development reliability process
- Strengthen the reliability check system and SQA functionality
- Develop ALT to verify product life cycle
- Enhance R&D quality through Q, D index management during the development phase

Operation of PT&T Center

LSIS Power Testing & Technology (PT&T) Center is the first private institute in Korea equipped with 2,000 MVA capacity short circuit, high voltage, and reliability test equipment. Focusing on developing technologies to improve product performance and strengthen reliability, LSIS PT&T has since its establishment in 2000 contributed to reducing test time by about 30% and saving KRW 4.5 billion annually in testing costs. Above all, it allows us to control testing schedules and ensure high quality and reliability in early stage.



PT&T Center (EMC Lab)

About LSIS

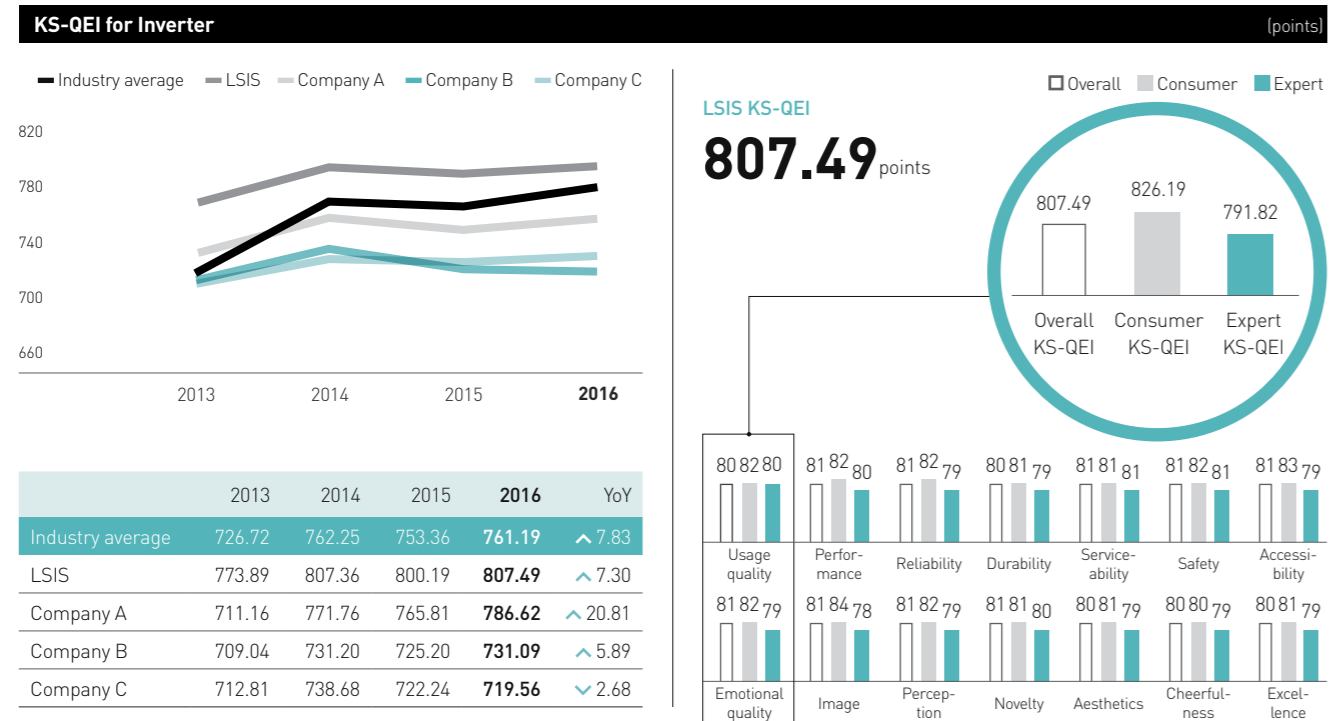
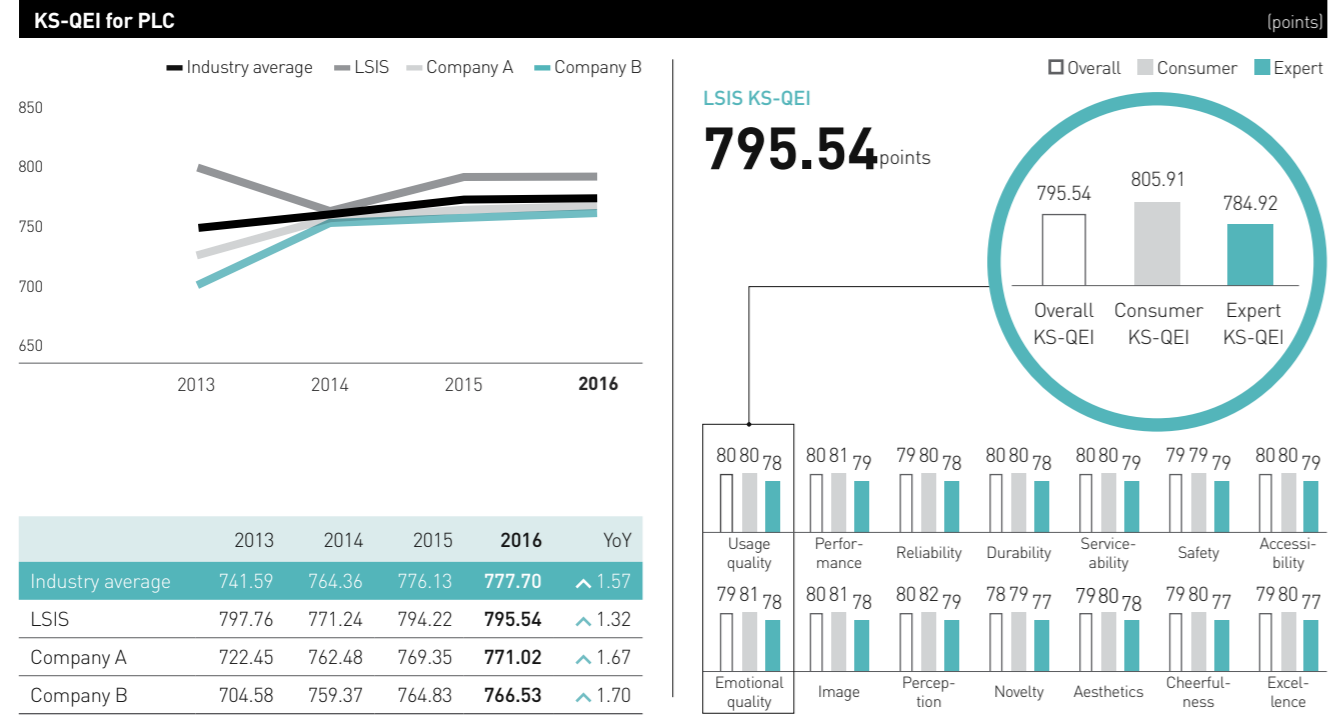
Core Issues of Sustainability Management

Appendix

Ranked Top in KS-QEI for Four Consecutive Years

LSIS was ranked No. 1 manufacturer of PLC and inverter in Korean Standard - Quality Excellence Index (KS-QEI) for four consecutive years. On the quality satisfaction score, which rates both 'Use Quality' that measures user satisfaction based on functionality, performance, design relative to customers' purpose of using the

product and 'Emotional Quality' that measures subjective emotions that customers sense from a product, such as the image, awareness, novelty, etc., our PLC received 795.54 in 2016, which is a 4th consecutive score improvement since 2013, and the inverter received 807.49, a 7.83-point increase from the year before.

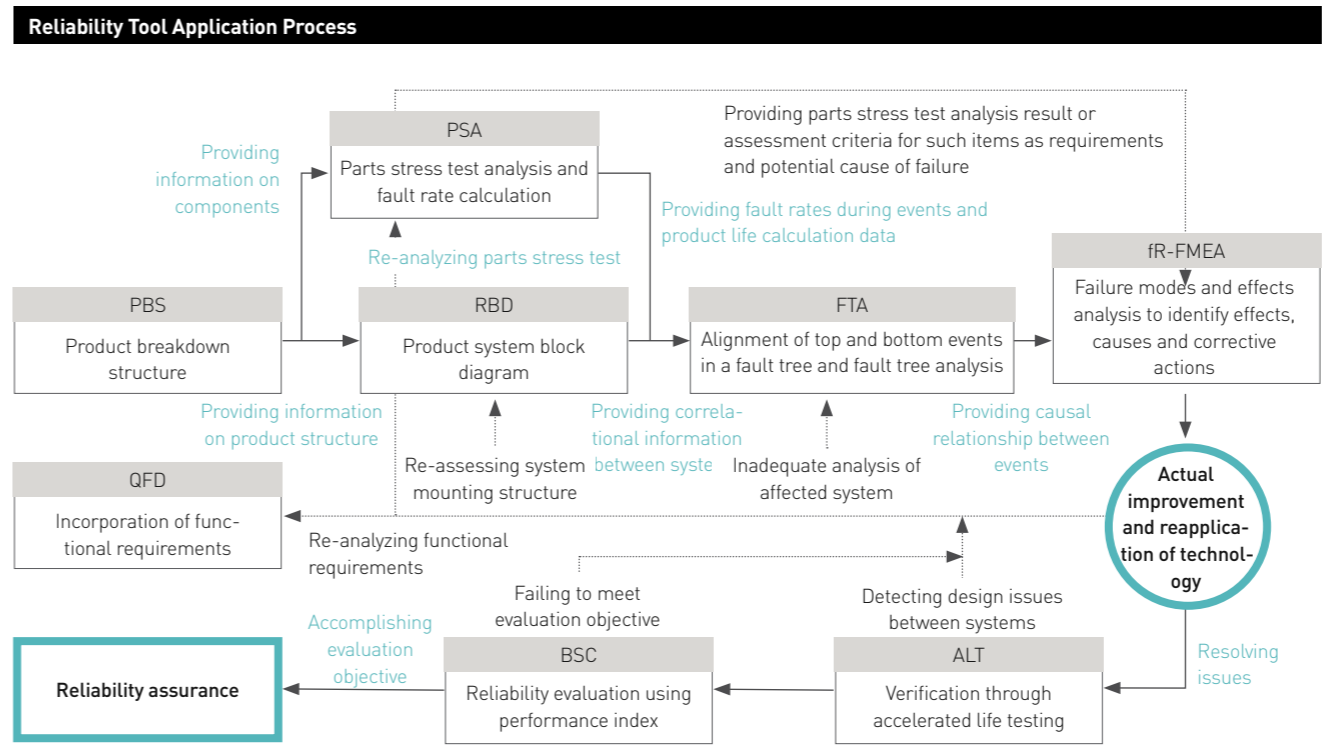


Product Reliability

Strengthening Product Reliability

We have designated IEC 6-0300-based reliability management system manual as the corporate standard for systematic management of reliability tools and analytics at the corporate level. The reliability management system manual ensures that systematic reliability tools are applied to products to be developed from 2017

onward and that consideration is given to product quality and reliability early on from the design phase. We have also divided reliability/quality training curriculum into five steps and been offering well-thought-out training courses with the aim of nurturing experts who are equipped with reliability and statistical quality management capability. Such efforts have contributed greatly to the systematic operation and control of reliability tests (environment, function, life cycle), and in turn to enhancing product reliability and brand value of LSIS.



Reliability / Quality Training Curriculum

Training Category Step	1 Step	2 Step	3 Step	4 Step	5 Step	
Reliability	Development	Reliability Basics	QFD/FTA	Reliability Statistics and Failure Modes	Life Estimation, DFR	DR & Reliability Methods
	Quality	Reliability Test Design/Method	Reliability Statistics and Failure Modes	Acceleration Test, Life Estimation		
Taguchi, Robust, DOE, rF-FMEA						
SPC	SPC Basics	SPC Intermediate	SPC Advanced	Engineer Quality Management I-IV		
Management System	QMS Certification Registrar			EMS		
				OHSMS		

About LSIS

Core Issues of Sustainability Management

Appendix

Research & Development

R&D Activities

LSIS strives to vitalize its main business areas, secure growth engines in the next-generation sectors in advance, and improve R&D productivity and efficiency, contributing to solidifying the presence of LSIS as a total solution provider in the smart power and automation markets. In particular, we are working to preemptively respond to the fast evolving digital transformation and focusing R&D capacity on the smart energy and smart factory businesses. We operate purpose-built R&D centers in 3 domestic locations (Anyang, Cheonan, and Cheongju) and a R&D Center in Wuxi Plant for closer support to production sites and synergy creation with design functions. We are also operating the first independent power testing and technology institute among private companies to elevate our R&D competitiveness.

Domestic	Anyang	advanced and fundamental technologies and automation solutions
	Cheonan	automation solutions
	Cheongju	power solutions (PT&T Center)
Overseas	Wuxi, China	

R&D Investment

In order to maintain our competitive advantage and prepare for the future, LSIS has been investing around six percent of sales in research and development. The R&D budget is heavily invested for the development of next-generation products, products and technologies for new businesses, and core future technologies.

[Non-consolidated basis]

Category	2014	2015	2016
R&D investment (KRW in million)	109,755	112,449	107,495
R&D investment/Sales ratio (%)	6.0	6.4	6.3

Securing R&D Capabilities

Researcher Compensation Program LSIS operates "6P" program to compensate researchers with outstanding R&D activities in six categories each year to boost researchers' motivation and promote performance-oriented corporate culture. We evaluate R&D activities based on an objective set of standards including Paper, Patent, Passion, Partnership & Presentation, Product, and Project.

Building R&D Infrastructure

LSIS R&D Campus boasts top class infrastructure designed to accommodate researchers' needs. The building is equipped with changeable seat reservation system, wireless-based network and

intracompany telephony system, Creative Zone, and an in-house cafe that together provide a creative environment for R&D activities.



Open Innovation Activities LSIS drives open innovation, by teaming up for open R&D with various domestic and foreign research institutes. We secure technologies for R&D activities by forging collaborative relationships with GE, Korea Electro-technology Research Institute, and Seoul National University, and operate a joint research center with the Korea Electro-technology Research Institute to jointly develop core technologies that would help early marketization of our products and services. In addition, we strives to identify and support strategic alliance partners and create the Open R&D Pool of partners and experts to promote more systematic and efficient technology collaboration with them.

Key R&D Performances in 2016

Development of DC-Specific Product and Technology LSIS is accelerating development of new and renewable energy facilities such as DC power products, including photovoltaics, and DC circuit breakers that protect the DC distribution networks. We now have solar, wind, and ESS-type DC 1000V MCCBs in our product line and are planning to build a full line-up of DC MCCB, MCB, and ACB, starting with the solar-specific DC 1500V MCCB, after which we will set our sights on the global LVDC market. We will also be executing a global-scale site project in the field of DC distribution networks, globally in the initial stage of development, with the low-voltage DC distribution network project (DC Island) we were awarded in Seogeocho, Jindo. We will continue our R&D activities through the project to secure global product competitiveness and the first-mover advantage in the respective global market.

Continued Reinforcement of Company-Wide Tech Infrastructure to Strengthen Business Competitiveness Just as we did in 2015, LSIS continued our activities aimed at improving the six common platform technologies (communications, S/W, Safety, EMC, analysis, materials) and expanding them throughout the company. Main achievements in 2016 include securing a connectivity standard that could connect all our company products from an IoT perspective and clearly establishing the platform strategy and action plan for embedded S/W. Furthermore, a system for improving the reliability of LSIS products has been firmly established, and we are witnessing visible progress in acceleration of R&D that capitalizes on improved C2 (CAD, CAE) capabilities.

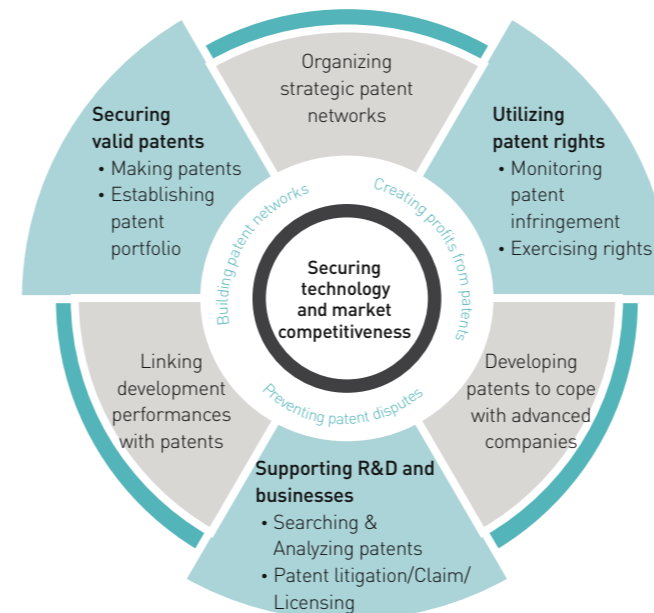
Digital Transformation Establishment and Execution of Digital Transformation Strategy

In 2016, a company-wide Digital Transformation strategy and implementation system were established to strengthen the competitiveness of our digital solution/service business. At the same time, digital elementary technologies, including ICBM (IoT, Cloud, Big Data, Machine Learning), were utilized to improve operational excellence of our business sites (energy efficiency, productivity and quality improvement) and buildings (improvement of energy efficiency and energy cost reduction) to deliver tangible results. These efforts allowed us to clearly define our business models such as Smart Energy and Smart Factory while improving business competitiveness.

Intellectual Property

Intellectual Property (IP) Strategy

LSIS creates visible and invisible profits from intellectual property by building a strong portfolio, boosting global competitiveness and proactively exercising the rights. In an effort to sharpen our technological competitiveness in the face of the fourth industrial revolution, we have set R&D directions and strategies and been securing differentiated technologies in the fields of IoT, big data, and ICT fusion technology. Further, cross-functional IP analysis is carried out in a structured way between R&D and IP teams, is preventing potential disputes with competitors. Noticeably, in 2016, LSIS was named for the first time on the 100 Patent Applicant Companies Ranking by the European Patent Office, which was a result of our effort to reinforce the overseas IP portfolio in alignment with our global business strategies. Moreover, we not only seek ways to exercise our IP rights by periodically evaluating IPs but transfer IPs



to SMEs free of charge as part of shared growth. Various education programs are offered to cultivate IP experts and LS-IP Forum, a council of LS affiliates' IP departments, is running to enhance the competitiveness in IP at the corporate level.

IP Portfolio

We hold 3,728 domestic and 4,743 overseas patents and design rights. We face an increasing number of IP disputes and product counterfeiting by latecomers, as our technologies and products are highly recognized in the global market. In response, we are focusing our capacities on intensifying our global market competitiveness and strategic IP activities to protect world-class products and technologies that will become our future growth engines. Our IP portfolio played a central role in preventing IP dispute by signing a cross-license with a global competitor.

[as of the end of 2016]

IP Rights (cases)	Registration	Application	Total
Domestic			
Patent	1,936	1,608	3,544
Design	180	4	184
Total	2,116	1,612	3,728
Overseas			
Patent	2,275	2,256	4,531
Design	209	3	212
Total	2,484	2,259	4,743

Named on Top 100 Global Innovators List for Six Consecutive Years

In recognition of outstanding competence in IP management and commitment to corporate innovation, LSIS was ranked as top 100 global innovators by Clarivate Analytics, former IP & Science Division of Thomson Reuters, a renowned international data provider, for six consecutive years. The list is compiled based on an index comprised of the number of patent applications and registration success rate over the past 5 years, global applicability and patent influence. Being on the list for six years and one of the only five petrochemical/energy companies selected demonstrates LSIS's global competitiveness in IP. We will continue to hold IP as a main indicator of technological competitiveness and innovation and expand our IP portfolio across all business groups.

Technology Sharing Program for SMEs

LSIS has been an active participant of the Technology Sharing Program, designed to provide SMEs with technologies for free to help improve technological competitiveness and commercialize transferred technologies. In 2016, LSIS opened 271 electricity IPs provided 15 SMEs with 48 patents free of charge. We will remain devoted to cultivating a healthy corporate ecosystem for shared growth.

About LSIS

Core Issues of Sustainability Management

Appendix

02 Environment and Safety Management



LSIS provides a green business solution based on smart energy. From product design to procurement of raw materials, production, service, and disposal, we strive to make all processes related to management activities eco-friendly and safe. In 2016, we began management of installation sites of awarded projects in addition to safety management at our business sites, and we plan on continuing to expand our safety management scope.

Plans for 2016

- Build an integrated disaster control center
- Promote a culture of safety management

Achievements in 2016

- Strengthened monitoring of fire prone areas
 - Replaced automated fire detection equipment
 - Conducted experience-based safety training
 - Engaged in pre-work TBM* activities
- * TBM : Tool Box Meeting

KPI in 2016

Number of industrial accidents

0

Environment & safety investment

KRW 3,136 million

Number of green technology graded products

1,252

[based on LSIS's standard Grade 2]

Environment and Safety Management

Environment, Safety, and Health Management Strategy and Vision

LSIS is committed to becoming a "G3 (Green, Great, Global) ESH Company" that realizes a workplace free from accidents and pollutants through enhancing environment and safety management competency while operating the environment and safety management system, thereby preemptively responding to domestic and overseas regulations.



*G3 ESH Company : Green,Great,Global ESH Company

Plans for 2017

- Identify safety risk factors and conduct thematic inspections
- Promote safety management on project sites
- Reinforce the handling and control of harmful substances / dangerous equipment

Declaration on Environment, Safety, and Health Management

In fulfilling our management philosophy, "going together for a greater value," we acknowledge the activities for environment, safety, and health management as basic tasks to be done. We promise to put the activities below into practice in order to build a clean and safe society.

Building Eco-friendly Workplace

- Primarily prevent contamination by minimizing environmental impacts throughout the process from product design to disposal
- Minimize the usage of resources and energy by adopting clean production technology
- Comply with international agreements, laws, corporate standards, and other requirements
- Conduct periodic environmental assessment to analyze the performance and constantly improve environment management system
- Provide training programs for a better environmental awareness among employees and encourage them to engage in activities for environment conservation

Operating a safe and healthy workplace

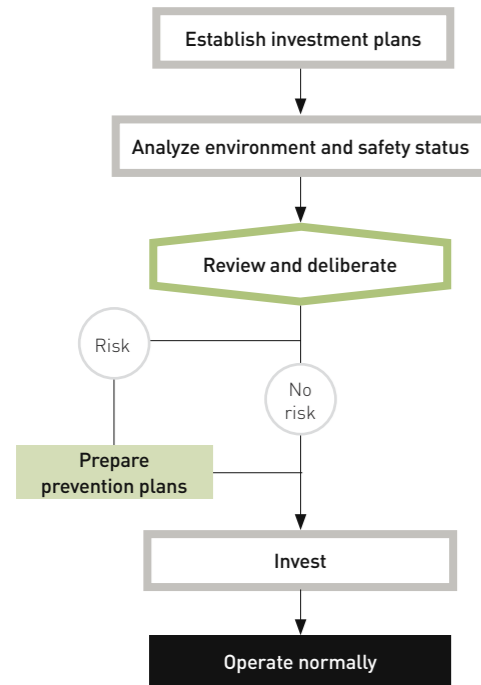
- Put highest priority on safety and health impact when applying new products, work areas, equipments, processes and technologies
- Set LSIS's safety and health management criteria above the level required by international agreements, laws and regulations, and continuously improve the management levels through performance enhancement
- Offer resources for safety and health improvement and attract employees' positive participation through trainings and educations
- Prevent possible accidents and improve safety and health condition by setting and implementing action plans for detecting potential risk factors and minimizing safety and health risks
- Improve productivity by engaging in activities for improving health and preventing diseases and accidents

Environment and Safety Monitoring Activities

We continuously inspect environment and safety management so as to provide our employees a safe and pleasant workplace. Any risk factors identified during inspection are addressed immediately, and in cases where immediate remediation is impossible, we make sure that a mid- to long-term plan is developed and followed up and progress checked.

Preliminary ESH Inspection

We utilize the preliminary ESH inspection system during investment planning so as to develop the best possible prevention plans and abide by environment and safety laws through environment and safety impact analysis.



Green Purchasing

In response to RoHS, LSIS declared the "Green Purchasing Guidelines" and does not engage in production and transaction activities involving raw and subsidiary materials that contain the six hazardous substances. Moreover, we support the government's Green Purchasing Policy and purchase materials and office supplies with the Green Mark where possible.

Investment in Environment and Safety

LSIS endeavors to minimize impacts on environment, safety, and health over the entire product life cycle from production to disposal through developing green products and enhancing processes. To this end, we continue to make investments to save energy and reduce environment and safety risks.

Response to Climate Change

Climate Change Strategy

In an effort to deal with issues such as global warming and the destruction of the ozone layer that cause climate changes, we voluntarily signed an agreement for saving energy and reducing

GHG emissions to join the government-led climate change policy. Moreover, we monitor and control GHG emissions from our businesses in a systematic way through the standardization of the company rules and guidelines of measuring emissions. We participated in the CDP in 2011 and have since submitted our commitment to GHG management, emission reduction plans, and risks & opportunities, disclosing our GHG management strategy to the public. The Cheongju Plant has strived to set and accomplish GHG emissions reduction goals since 2014 when it was designated as a worksite subject to GHG & Energy Target Management System.

Verification of GHG Emissions

We monitor the source and amount of GHG emissions in real time by establishing guidelines and inventories of GHGs. Since 2010 we have commissioned a third party to verify our GHG inventory to ensure the reliability on our GHG management, while using relevant data as basis for green product designs and energy saving planning. The emission of SF6 gas during the manufacturing process of GIS (Gas Insulated Switchgear) is the source of almost 90% of our GHG emissions and the rest 10% comes from the usage of electric power and LNG (for heating).

Category	Unit	2014	2015	2016
GHG Emissions (by source)	Scope 1 tCO ₂ eq	201,620.3	226,974.6	186,792.0
	Scope 2 tCO ₂ eq	25,110.7	25,705.9	26,646.0
	Total tCO ₂ eq	226,731.0	252,680.6	213,438.0

Energy Usage

The GHG Inventory and Energy Management System enabled a real-time monitoring of the energy consumption. We mainly use electric power and LNG at our worksites, for manufacturing process and HVAC facilities, and heating and cooking, respectively. Although energy consumption reduction appears to be challenging with the increasing energy demand due to the expansion of business, establishment of new research facilities, and expansion of plant buildings, we will endeavor to minimize our energy footprint through setting and executing mid and long-term energy saving plans and managing energy intensity.

Category	Unit	2014	2015	2016
Energy	Electricity MWh	47,863.7	55,251.7	57,149.8
	MWh/KRW in hundred million (generation cost)	2.62	3.09	3.30
LNG	km ³	2,079.3	2,188.7	2,135.7
	km ³ /KRW in hundred million (generation cost)	0.11	0.12	0.12

Energy Saving and GHG Reduction Activities

We are implementing mid- to long-term investment plans for reducing GHG emissions and saving energy. Our aim is to contribute to the global effort to address global warming and other issues faced by climate change.

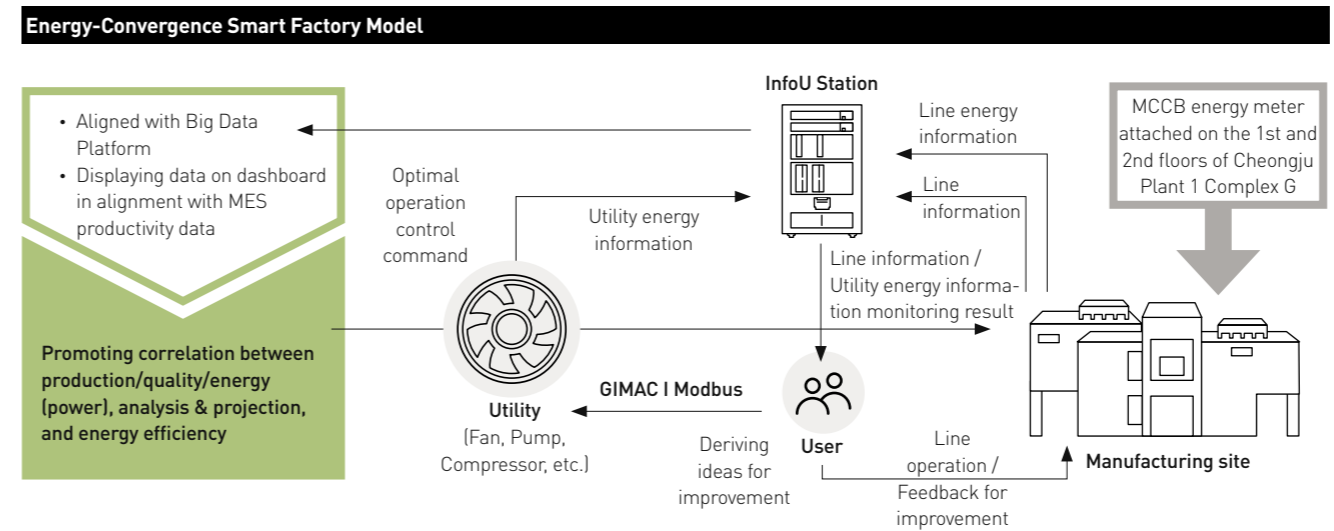
Establishment of Energy-Convergence Smart Factory Model

LSIS aims to expand energy efficiency management to the factory production line by displaying energy consumption from production line and utility real time on the dashboard. We will begin by installing LSIS-developed GIMAC & Module at Cheongju 1 to realize real-time monitoring of energy consumption, after which

energy efficiency and productivity will be increased through connection with the existing platform.

Installation of Energy Storage System (ESS) for Emergency Power

The diesel emergency generator equipped for emergency use at Anyang R&D Campus was replaced by an ESS. This is the first 1MWh ESS used for emergency power in the private sector, allowing up to 2 hours and 20 minutes of evacuation and fire fighting while not emitting any green house gases or creating noise or vibration. It also provides immediate power supply at the time of a power outage.



Pollutants Management

Air Pollutant Control

LSIS has in place an optimized treatment facilities for air pollutants generated from the production process. We have introduced rigorous thresholds for pollutant emissions set at below 50 percent of the legal limit, are working to increase the pollutant control facilities' treatment efficiency by having air pollutant density measured by a third party accredited by the Ministry of Environment.

Water Consumption and Wastewater Recycling

Wastewater from our worksites is treated by external professional firms in legitimate ways. In particular, our Cheonan Plant recycles treated wastewater generated from the process of power semiconductor, reducing wastewater by up to 80%. We will continuously monitor the water quality of neighboring streams and rivers in our effort to minimize the impacts of wastewater from our worksites on the environment.

Waste Management

The waste discharged from manufacturing process is legally managed based on different treatment methods, and over 80 percent of the waste generated is recycled, including byproduct metals. In addition, we have in place a systematic evaluation and examination process for waste treatment firm selection that starts even before concluding contracts to make sure waste discharged from plants is treated in an appropriate manner.

Management of Chemical Substances

Our Environment and Safety Team manages chemical substances handled in our worksite through reviewing Material Safety Data Sheet (MSDS) and Letter of Confirmation (LOC) beforehand for new chemical substances to check their usability. We are working to refrain from using hazardous chemical substances through continuous process improvement, while strengthening safety training for workers to ensure prompt response in case of emergency.

About LSIS

Core Issues of Sustainability Management

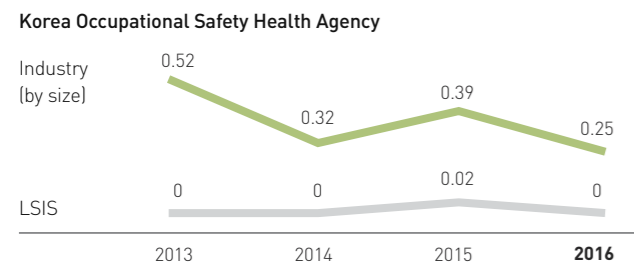
Appendix

Safety Management in Workplace

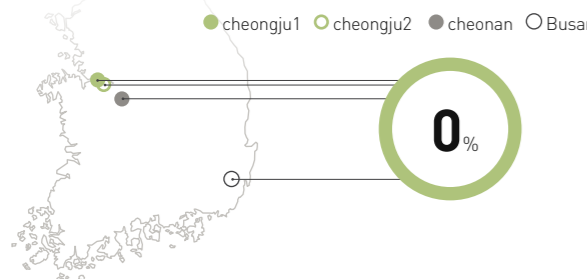
Creating Accident-free Workplace

Since 2008 when we implemented the safety and health management system with the aim of building accident-free workplace, we have redefined roles and responsibilities and continued risk evaluation and working environment improvement activities. As a result, the accident rate at LSIS has been maintained at the lowest level in the industry since 2012. Furthermore, monthly regular safety inspection is conducted on jobs with high risk in construction sites and trainings and technical supports are offered to ensure safety management.

Company Average Industrial Accident Rate (%)



Worksite-specific Safety Accident Rate (%)



Safety Awareness Activities

All of our employees are engaged in establishing safe site conditions, with outside specialists invited to conduct training, company-wide safety & health signage inspections held, and quarterly joint safety inspections held with the labor union. Moreover, safety rules and manuals are regularly distributed on the intranet bulletin board more than once a month, and business divisions run their own zero-injury bulletin boards, motivating the employees to commit to safety & health management.

Safety Management Implementation Plan

Safety management is essential to survival of a business and is recognized as a representative quality when it comes to corporate competitiveness. As such, LSIS engages in safety management activities that LSIS family and all partner companies' employees can participate in.

Category	Major Activities
Safety Ground Rule	<ul style="list-style-type: none"> Practice "3R 5S" Technique before/during/after work at office and production line Comply with safety rules on hazardous, dangerous machines, tools, and works
Thematic Safety Inspection	<ul style="list-style-type: none"> Accident-prone areas and dangerous works are categorized for monthly thematic safety inspections Joint safety inspections are held with subcontractors to eliminate potential risk factors
Reinforce Safety Training	<ul style="list-style-type: none"> Conduct safety management 'Mind Set Up' training, in partnership with a safety management company, in addition to legally required safety & health trainings E-learning and group trainings are provided to improve safety managers' work performance

* 3 Rights: Right product, Right quantity, Right place
 ** 5S: SEIRI (arrangement), SEITON (being in order), SEISOH (cleaning), SEIKET-SU (cleanliness), SHITSUKE (discipline)

Support for Strengthening Suppliers' Competency in Safety and Health

We recognize suppliers as our key partners and, in an effort to promote a shared safety culture, dispatch our staff responsible for environment, safety and fire protection to the worksites of partners to provide consulting service on environment and safety and support safety inspection of rental equipment and devices that are hazardous or dangerous to handle with.

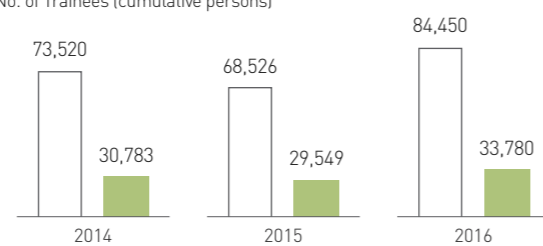
Safety and Health Training

E-Learning and audiovisual group safety trainings are conducted to raise safety awareness among employees and remove risk factors in advance. In addition, special, tailored safety trainings for different business divisions are held. Safety & health managers are required to receive specialized outside trainings to establish independent safety management for each division.

Safety and Health Training System

Category	Details	Frequency
Legally-required training	Induction training	Monthly
	regular training	
	Supervisor/manager training	Half-yearly
Special training	Job training (environment, safety, health, and disaster prevention)	Year-round
	E-learning training	

□ Training Hours (cumulative hours)
 ■ No. of Trainees (cumulative persons)

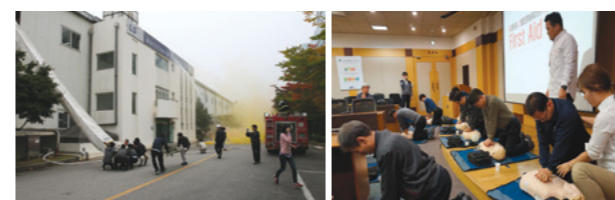


Fire Safety Management

Operation of Fire Prevention System We have created a map of fire and explosion prone zones for more systematic management of fire and explosion risks in all our work sites and been working to meet fire safety level in the view of insurers based on National Fire Prevention Association (NFPA). Furthermore, we have implemented the Smart Management System in order to effectively manage fire prevention facilities in case of emergencies in workplace.

Emergency Response Procedure In an effort to further emergency preparedness in all our work sites, we conduct regular fire drills based on detailed scenarios by accident type and ensure rapid and safe evacuation of employees in the event of an accident. Emergency first response training is also provided to secure rapid initial response in the occurrence of an emergency patient to prevent or minimize loss of life.

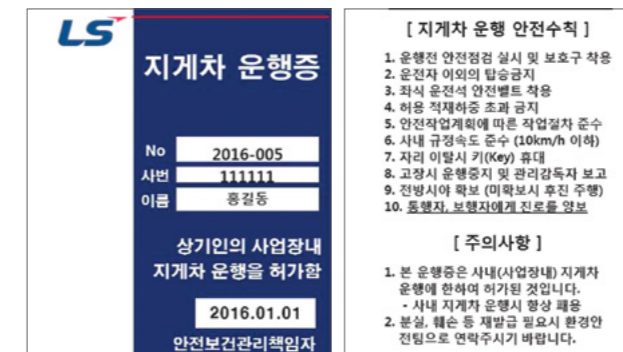
1	Accident occurs	<ul style="list-style-type: none"> Information cascade Accident type identification and crisis stage analysis
2	Emergency actions	<ul style="list-style-type: none"> Crisis Management Council convened Emergency evacuation/actions
3	Accident investigation	<ul style="list-style-type: none"> Cause analysis based on accident investigation Secondary accident prevention activities
4	Recovery activities	<ul style="list-style-type: none"> Recovery plan establishment and implementation Business continuity plan implementation
5	Recurrence prevention activities	<ul style="list-style-type: none"> Recurrence prevention plan establishment Accident response system effectiveness review



Fire Drill Emergency First Response Training

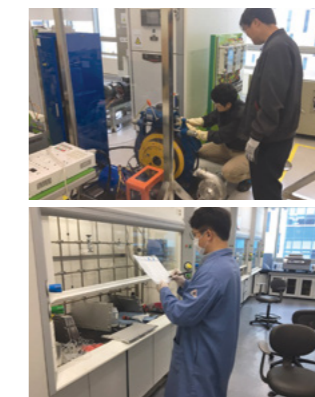
Electric Forklift Safety

For electric forklift operators at our business sites, internal forklift driving tests are given before issuing operating permits, and regular safety trainings on safe forklift operation are provided. In addition, safe electric forklift operation inspections and instructions are performed in accordance with company rules, and all electric forklifts receive maintenance and inspection services by a specializing company in order to prevent safety accidents.



Safety Management at Company Research Center

Safety activities are performed at the company research center to create a safe and comfortable research environment where high-quality research deliverables can be produced. In addition to its daily safety inspections, the research center receives regular inspections and safety diagnosis by an institution specializing in safety diagnosis and identifies and removes potential risk factors in advance. In particular, a risk assessment is conducted to identify electrical, chemical, and mechanical risks present in each laboratory and systematically analyze them to remove and replace the risks, in an effort to protect our researchers.



Safety Management for Awarded Projects

Our safety management is executed to meet the needs of our customers, or more specifically to provide our combined power solutions, such as the high-voltage power facilities and switch-gears that we manufacture and install, safely to our customers. To secure safety at installation sites, Tool Box Meetings (TBMs) and other site safety management activities are performed with the leadership of Project Manager (PM). Construction safety managers are also tasked with managing sites dispersed across country by districts, identifying and removing any risk for site accident or code violation. Safety readiness is also assessed by unannounced inspections.



About LSIS

Core Issues of Sustainability Management

Appendix

Enhancement of Employee Health

Work Environment Improvement

In order to create a pleasant working environment and improve employees' health, we regularly commission external specialized institutions to conduct inspection on hazardous factors in working environment. We respond to issues derived from the inspection through developing an optimized improvement plan.



Health Improvement Program

For the purpose of creating a healthy working environment by improving employees' personal health, we have implemented an obesity program in connection with the metabolic syndrome. A body composition analyzer is used to precisely analyze the body type and a blood test is performed, to prescribe personalized exercise and meal plans.

If an employee is found to be more susceptible to a metabolic syndrome, a doctor is to be consulted for further treatment. To prevent smoking-related diseases and to create a clean, smoking-free workplace, employees who attempt to quit smoking are provided with professional counseling and activities to fight withdrawal symptoms.

Musculoskeletal Disorder (MSD) Risk Factor Management

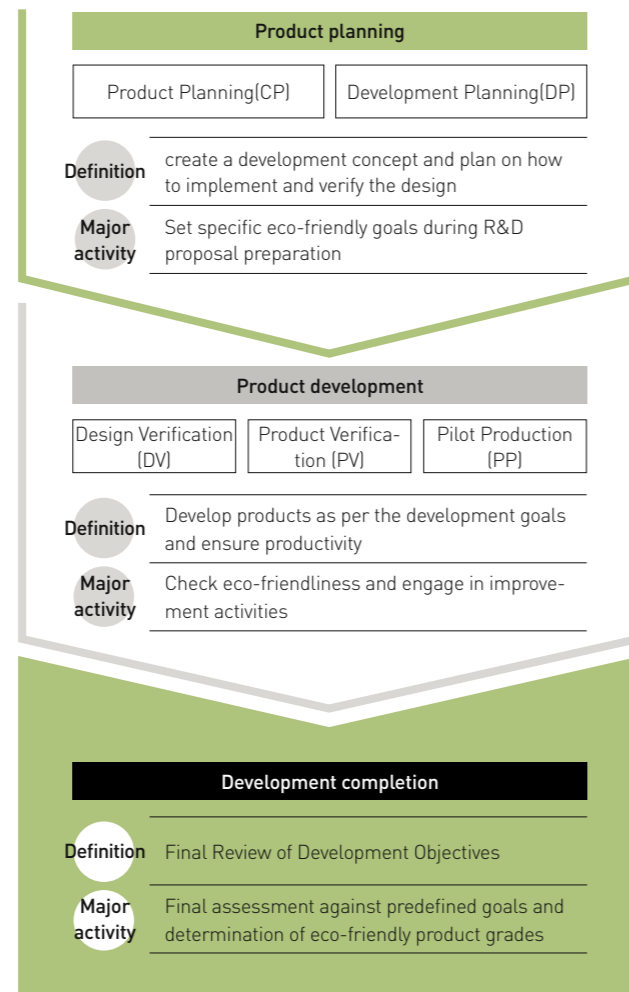
To prevent and manage MSDs, which are nationally on the rise, periodic and constant MSD risk factor checks are performed. The results provide the basis for improving our work environment and heavy object handling process, and MSD prevention training is provided to the workers.

Eco-Friendly Product Management

Eco-Friendly Product Development Process

LSIS operates an R&D process for eco-friendly product development. At the product-planning phase, eco-friendly R&D plan must be established, and new components as well as the existing components are to be tested for environmentally harmful substances through our harmful substance management system so that parts that fail the test are not used in the products that are being developed.

At the product development phase, the Design Review, comprised of heads of department and working-level employees, reviews the qualitative and quantitative outcome of the eco-friendliness plan per each development stage. When the final completion report is made, we make the final determination on whether the developed product qualifies for our eco-friendly product classification by looking at if it meets the technical standards of RoHS and green certification and whether it received the green certification.

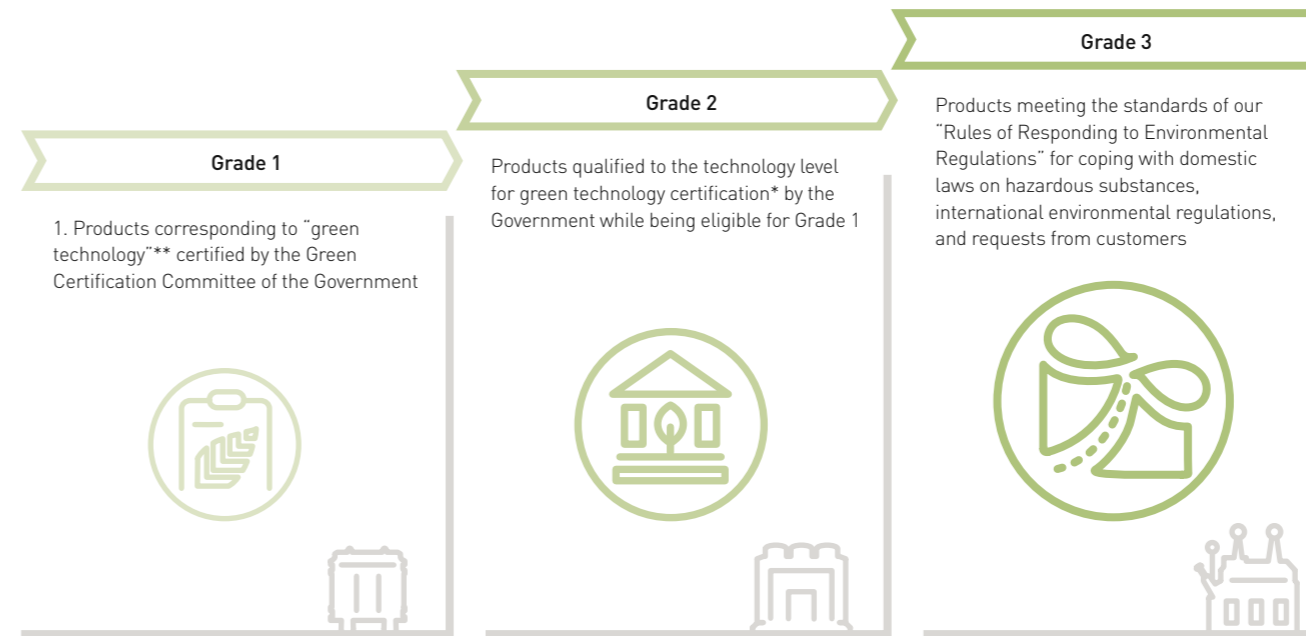


※ CP : Concept Planning, DP : Design Planning, DV : Design Verification, PV : Product Validation, PP : Pre-Production

Green Product Standards

Under our vision "Futuring Smart Energy," we stay committed to improving LSIS's profile as a green energy business and reinforcing sustainability management through dealing with eco-friendly products in a coordinated manner in accordance with "Green

Product Grade Model." All models of our products are given grades from 1 to 3 based on the level of eco-friendliness according to the "Green Product Grade Model." In dealing with products based on their grade, we are promoting development of customer-oriented green products.

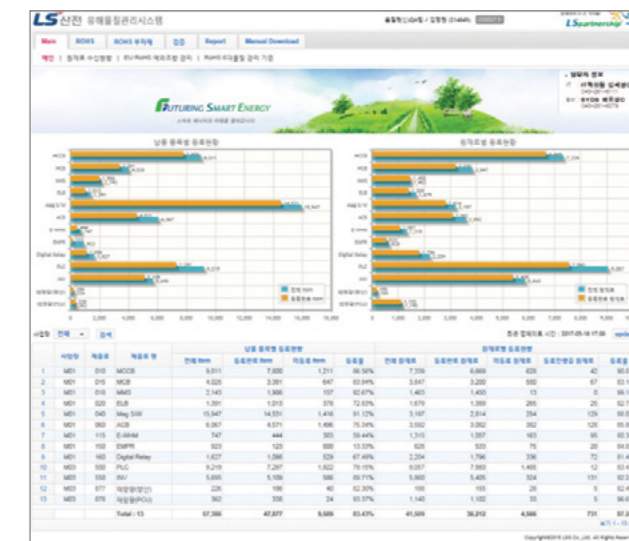


* Technologies for GHG mitigations, effective energy consumption, clean manufacturing, clean energy, resource recycling, and eco-friendliness that are used all the way through social and economic activities

** A governmental accreditation system to specify green technologies and businesses according to the Framework Act on Low Carbon Green Growth in order to expand private sectors' participation in the green industry and lead the growth of the technology market and industry

Hazardous Substance Management

Since its declaration of Environmental Management in 2006, LSIS has restricted the use of 6 RoHS: lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr6+), polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE). Additionally, we established A hazardous substance management system, enabling a tight management and verification to ensure that no parts and materials contain hazardous substances. Through this system, we thoroughly monitor the use of hazardous substances.



Hazardous Substance Management System

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03 Customer Communication

LSIS would not exist without its customers. Despite unstable business management environment at home and abroad, we regularly communicate with our customers to provide more benefits and always strive to find areas where we can provide more support. We are the first in our industry to build a design center to satisfy customers' emotional quality needs, despite being a B2B company. Customer satisfaction survey and seminar activities are regularly carried out as a way for us to reach out to our customers first. We will always do our best to do our business in partnership with our customers.



Plans for 2016

- Expand customer communication activities such as satisfaction survey
- Improve customer seminar activities
- Conduct company-wide information protection training

Achievements in 2016

- Analyzed market trend and customer needs through customer face-to-face survey
- Reinforced customer communication through exhibitions and seminars
- Conducted information protection training for all employees (79%)

KPI in 2016

Customer Satisfaction Survey Results for Power Board & Switchgear

71.5 points

No. of Customer Seminars Held

61

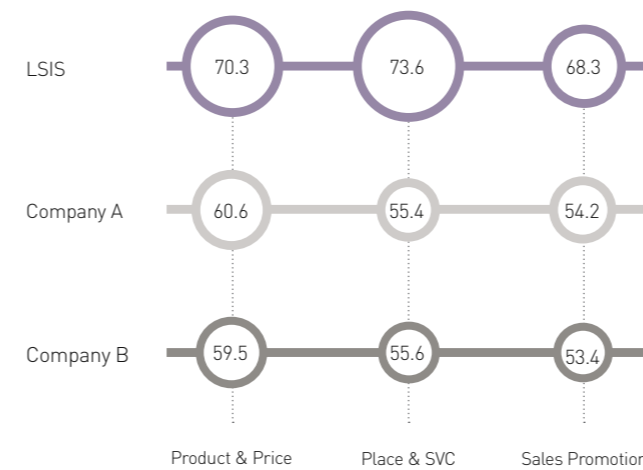
Company-wide Security Training Participation Rate

79 %

Customer Satisfaction Survey

Every year, LSIS conducts a customer satisfaction survey among our major customers at home and abroad. In 2016, the survey was conducted for major customers of each product, and a survey of 220 clients for our switchgear resulted in an average score of 71.5, which is higher than our competitors. The product received higher scores in all categories, with 70.3 on Product & Price, 73.6 on Place & SVC, and 68.3 on Promotion.

Customer Satisfaction Survey Results for Power Board & Switchgear (points)



Plans for 2017

- Execute a deep-dive customer satisfaction survey for new/existing products
- Continue to hold seminars at home and abroad
- Publish targeted PR materials
- Conduct information protection training for all employees of LSIS and partners (over 90%)

Automation / We carried out a face-to-face survey on LV Drive to hear from customers regarding their experience with LSIS products. We gathered 57 customer requirements and incorporated them into our product development process.

Automation / Customer Requirements by LV Drive Function (No. of Requirements)

Automation	No. of Requirements
PLC Controller	16
Servo System	5
HMI	3
Smart I/O	3
Others	10
Total	37

LV Drive	No. of Requirements
H/W	10
S/W	10
Total	20

Product Development and Functional Enhancement

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Seminars

Each year, LSIS participates in exhibitions for various business areas at home and abroad to introduce our main businesses and capabilities while utilizing the opportunity as a communication channel with our customers.



Int'l Smart Grid EXPO (March, Tokyo, Japan)

We participated in the International Smart Grid EXPO, one of the 9 exhibition halls at Asia's biggest energy exhibition event 'World Smart Energy Week 2016,' introducing our total solution from energy production to energy consumption through exhibiting our energy-independent island.

CIGRE (August, Paris, France)

At the CIGRE conference, comprised of meetings and forums on technology, we introduced our technical capabilities that enable us to provide total solutions in the power sector.



Automation world (March, at Seoul COEX, Korea)

By establishing the system unit that enables networking between products, we demonstrated our capabilities as a total solution provider. And as a leader in factory automation (FA) market and the adoption and expansion of the smart factory. Also we were able to firmly establish ourselves as a prominent leader in government-led manufacturing sector innovation.



Korea Smart Grid Week (October, at Seoul COEX, Korea)

At Korea Smart Grid Week, which is Korea's only exposition where guests can see the current status and future of government-led new energy industry, LSIS introduced a customer value-centric business model, promoting ourselves as an energy leader that is Futuring Smart Energy.

2016-2017 LSIS Sustainability Report



Hannover Messe (April, Hannover, Germany)

We introduced a hands-on solution that integrates all businesses at Hannover Messe held under the main theme of 'Experience Smart Integrated Solutions', firmly establishing our image as a world-class business.

Seoul International Electric Fair (October, at Seoul COEX, Korea)

At Korea's biggest electric power industry fair 'SIEF, we introduced full line-up of Susol/Metasol electric equipment solution and promoted ourselves as a leading business in the DC era.



IEEE PES (May, Dallas, the US)

At the IEEE Transmission and Distribution Conference and Exposition, the biggest of its kind in North America, LSIS not only introduced our up-to-date, eco-friendly technical capabilities and HV business capabilities but also promoted the customer-tailored total solution we can provide.



SPS IPC DRIVES (November, Nuremberg, Germany)

We introduced new major products and applications to new customers and distributors at the world's largest automation exhibition 'SPS IPC Drives.'

About LSIS

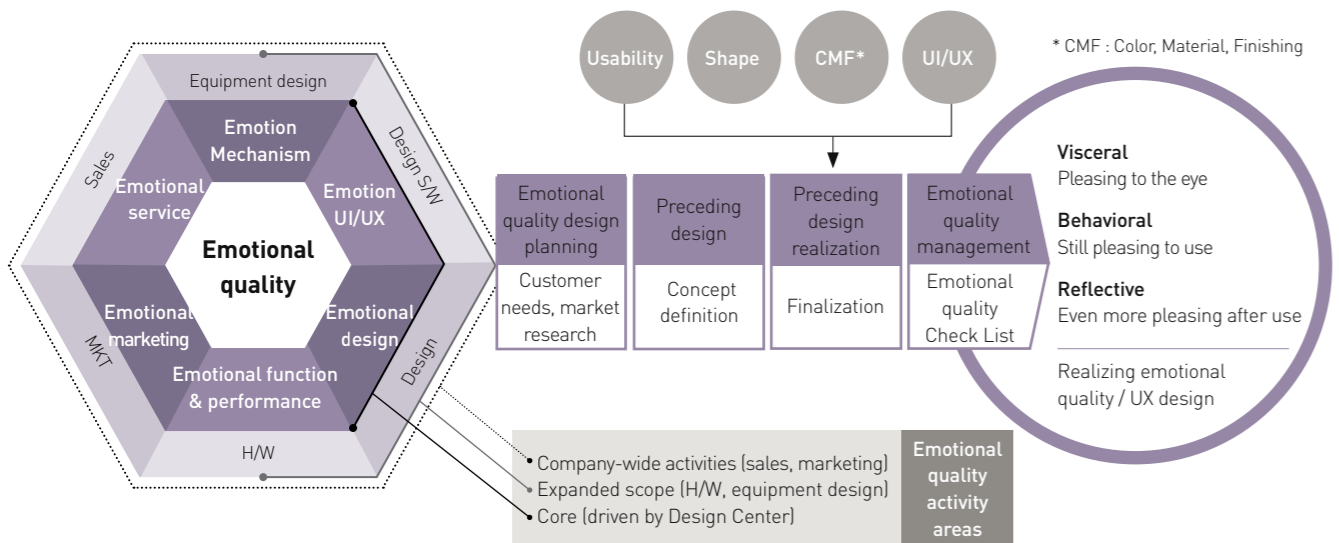
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Design Management Activities

In the industrial equipment business with traditional producer-centric nature, responding to customer requirements in a timely manner can especially be challenging. Established for the first time in the industry in 2005, LSIS Design Center is a specialized organization under the CTO to rapidly respond to customer

needs for specialization and sophistication. The Design Center plays an essential role in enhancing our design quality, securing product competitiveness and boosting corporate image by introducing customer-focused designs that can highlight our technical expertise. Moreover, we strive for sustainable design management to harness customer sensitivity and user experience (UX). We will continue to deliver differentiated customer value through exceptional quality and UX designs that touch customers.



2016-2017 LSIS Sustainability Report



Susol LV Switchgear & MCC
 Susol LV Switchgear & MCC is a distribution solution that allows stable power supply and facility protection and control, equipped with easy draw-out, compact breaker unit. Highly recognized for its design uniformity of the draw position indicator, handle, and lamp board as well as the improved usability, it was selected as a GD product in industrial equipment category.



UI/UX Design for GridSol Cloud System
 GridSol Cloud System allows general users and experts to conveniently monitor and manage the amount of energy generated by the solar power generating system as well as the amount consumed, and a cloud service is provided so that it can be used anytime, anywhere on any connected smartphones, tablet PCs, and desktop PCs. N Screen is supported for displaying the same content on various devices, and custom UX is provided so that the users may change the UI structure to their preference, earning it the GD product title in Apps/Software category.



Customer Information Protection

LSIS has introduced and been operating devices designed to protect customer information and confidential internal data. In particular, we have deployed DB encryption and DB access control systems in an attempt to prevent personal information leakage,

and arranged 24/7 monitoring service from an external security firm to detect and deter external security threat. Internally, we collect a written security pledge from employees of LSIS and partners on a periodic basis, and conduct security awareness training. In 2017, we plan to further strengthen our security posture through a LS Group-wide security audit into the security level and initiative implementation status.

Information Protection Process

Legend: Investment initiative (Light purple) Short-term (Medium purple) Mid-term (Dark purple) Long-term (Very dark purple) Standalone (Grey)

Step	Short-term		Mid-term		Long-term	
	2016	2017	2018	2019	2020	2021
Security management system enhancement	Form organization	Develop policies	Identify assets		Expand organization	
Technological security reinforcement	Establish physical security plans	Technological security architecture	Implement security surveillance system	Implement integrated log system	Enhance surveillance system	
Improve internal & external reliability	Personal information management system	Audit	Audit	Audit	Audit	Audit
		ISO [Step 1]	ISO [Step 2] PIPL	ISO [Step 3]		
			Leakage prevention [Step 1]	Leakage prevention [Step 2]	Integrated monitoring	Leakage prevention [Step 3]
			Conduct security training and change management activities			

Security Training

We operate security training programs and our training in 2016 was targeted at all employees in the design and R&D Functions. Conducted for two weeks, the training covered latest security issues including illegal S/W compliance and ransomware prevention and highlighted practices that staff can apply. The training participation rate was 79% as 830 out of a total of 1,050 staff members in the training scope took part in the training, for which security training instructors made a visit to all seven worksites as well as sub-branches. We will conduct follow-up training in the first half of 2017 for absentees and staff in the rest Functions such as sales and business support. We will continue to provide security training at the corporate level every year so as to heighten the awareness of information protection.



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04 Shared Growth with Suppliers



LSIS is actively implementing shared growth business initiatives such as technological/financial support and ACE Club operation, based on the belief that the competitiveness of suppliers is closely intertwined with the LSIS's performance. In particular, concerted efforts were made in 2016 to build a fair business culture for subcontractors by systemically promoting legal compliance and non-violation. Furthermore, LSIS helped establish an FTA country of origin system to ensure that the competitiveness of its suppliers meet global standards.

Plans for 2016

- Disseminate the culture of fair trade and shared growth
- Stiffen global competence of suppliers
- Invigorate communication channels

Achievements in 2016

- Systemized activities to avoid violations of legal regulations and improve compliance
- Supported suppliers in implementing FTA country of origin system (48 suppliers)
- Expanded the scope of communication and promoted effective communication

KPI in 2016



Purchasing Amount of ACE CLUB Members

KRW **222.5** billion



Financial Support for Suppliers

KRW **14.4** billion



No. of 1st and 2nd-tier Suppliers Using the Mutual Growth Payment System

642

Establish Fair Trade Culture

Fairness of Contract

We pursue fairness of contract to comply with the Fair Trade Act and Subcontracting Act. To this end, we signed the "Subcontracting Basic Agreement" with about 511 suppliers in 2016. The contract was built on "Standard Subcontracting Agreement" recommended by the Korea Fair Trade Commission (KFTC), and was updated last year with articles stipulating promotion of subcontractor rights and standards for subcontracting payment (windows and means of payment) as per recommendations of the KFTC, for establishing fair and transparent trading relationships with suppliers. The pledge to ethical management practice has also been concluded with all current suppliers. In 2016, we signed the subcontracting fair trade agreement with 350 suppliers reaffirming our commitment to fostering mutually beneficial fair trade and growth.

Activities to Avoid Violations of Legal Regulations and Improve Compliance

Four Action Plans for Shared Growth The four action plans consist of : ▲ sound signing of contract, ▲ fair selection(registration) of partners, ▲ organization and operation of an internal audit committee for subcontractors, and ▲ sound issuance and maintenance of documents. LSIS has illustrated strong commitment for the shared-growth initiative by integrating these plans into its code of business conduct (rules on domestic purchase management, rules on partner management) and posting them on the TOPS website (shared-growth internet portal). Led by the CPO, monthly audit committee convenes to monitor risks of delayed payment for each subcontractor. The committee also reviews the business process of the subcontractors which generated revenue of more than 1% among the gross amount of all of LSIS's subcontracting firms

Plans for 2017

- Engage in systemized fair trade and compliance activities
- Assist suppliers in securing global competitiveness
- Facilitate communication channels and information exchange
- Build a system for handling conflict minerals

during the last business year, to prevent unfair business practices. Other roles of the committee include the reviewing of registration process of new suppliers and deregistration process of firms subject to evaluation, with an aim to prevent violation of subcontracting laws and protect sound business.



Subcontracting Internal Deliberation Committee

Unfair Subcontracting Business Prevention Monthly review of delayed payment is conducted to ensure that payments are securely made within the legal payment requirement period (60 days), while mail notification service(notice sent when more than 50 days have passed after receipt of product or in the case of non-registration of payment account, etc.) for matters of importance is provided to mitigate risk of delayed payment. LSIS is also duly responding to the government's SME protection policy that imposes strict restrictions against large companies stealing from SMEs' technologies, and the trend of stronger IP protection. For example, relevant departments are made sure to receive instructions on subcontracting laws or review guidance regarding request for information on technology. Similar initiatives are underway, such as the standardization of information request forms for technology (electronic contract), and distribution of relevant guidelines.

Training on Subcontracting Act In 2016, we conducted fair trade training for both our employees and suppliers to disseminate the compliance with Subcontracting Act and the culture of fair trade. In June, fair trade education was offered in June to procurement managers who work in close partnership with suppliers, and an education session on the Subcontracting Act and fair trade was organized in October for the CEOs and employees of around 130 1st and 2nd-tier suppliers under the support from the Shared Growth Committee. In addition, the monthly procurement operation meeting increases the visibility of key compliance/ethical management issues and provides guidance and coaching to bring about a positive change to the compliance mindset of staff in charge of procurement. We will keep on running those programs for employees of LSIS and suppliers to help them cultivate basic knowledge on fair trade and prevent any dispute and unfair trade in advance.

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Training on the Subcontracting Law and Fair Trade (October 2016)

Establishment of Dispute Resolution Mechanism A dispute resolution mechanism has been established for swift problem solving. Disputes include non-payment or delayed payment, non-payment of fees from alternative payment to bills, unfair refusal to receive products, unfair returns and unfair decision of sales price or reduction of price. All disputes that have occurred within 3 years after the completion of the said business are subject to resolution. LSIS also collects complaints on a quarterly basis, receives requests for dispute resolution on the shared growth portal, and operates a joint communication channel and a website for filing petitions, in order to eradicate the source of dispute and prevent conflict.

Post-hoc analysis of the legality of subcontracting deals Bi-annual monitoring is carried out on the business relations between LSIS and the first-tier suppliers which have signed the fair trade treaty (350 companies in 2016). The monitoring focuses on the compliance of important requirements and non-violation under the Subcontracting Act, to ensure that LSIS staff in charge of trading with suppliers duly observe all important legal requirements. The monitoring conducted in the first and latter half of 2016 revealed that LSIS has signed the basic trading agreement with all 350 firms subject to the legality analysis for subcontractors, did not make unfair decisions on the sales price, or unjustly included special provisions. The analysis also found that in unexpected circumstances of layout changes or price fluctuation of raw materials, LSIS willingly adjusted prices as appropriate, and issued request forms for technological information only when deemed reasonable and always with prior consent from partners. Apart from always honoring the payment period of 60 days upon receipt, LSIS set the expiration date of the alternative payment to bills as within 60 days upon receipt and fully abided by it for all trades.

Support for Supplier's Growth & Development

ACE Club
Selection of and Support for ACE Club Members ACE Club is a program to select suppliers equipped with competencies in three aspects; taking a swift action (Activity), taking up challenges to break through boundaries (Challenge), and making the best performance as excellent partners (Excellent). Members are able to take our guidance on quality, production, and comprehensive cor-

porate management know-how, and are qualified as a partner for shared growth. We have annually chosen ACE Club members based on a comprehensive evaluation on product quality, on-time delivery performances, cost competitiveness, process management, and resolution on shared growth since 2008. ACE Club members benefit from preferential payment conditions, guidance on process management, assistance for establishing manufacturing system, and training opportunities for benchmarking at home and abroad. Moreover, our shared growth programs help them acquire global competitiveness and establish a self-reliance management system.

ACE Club Status	2012	2013	2014	2015	2016
Total No. of ACE CLUB members (unit: firms)	19	20	29	19	20
Purchasing amount (KRW in hundred million)	2,510	2,294	2,474	2,144	2,225
Purchasing amount per member (KRW in hundred million)	132	115	85	112	111
No. of ACE CLUB members with over KRW 10 billion in purchasing (unit: firms)	12	11	10	9	9

Seminars for Supplier CEOs LSIS has held an annual seminar for CEOs of ACE Club members to share know-how regarding business strategy, finance, marketing, leadership, and economy. In a seminar held in September 2016, an introductory lecture on labor law was provided to give SME owners much-needed information on employment contract and labor hour management. Moreover, current issues that may have implications for suppliers were covered, including the strengthened labor supervision by the Ministry of Employment and Labor and minimum wages.



Seminar for Supplier CEOs in 2016

ACE Club Innovation Competition In December 2016 we organized Innovation Competition to encourage best practice sharing and innovation-oriented mindset and enhance the competitiveness of ACE Club members. ACE Club holds various innovation activities every year, including Innovation on the Front Lines and Leadership Innovation Program for CEOs, with an aim of cultivating a self-driven growth environment among suppliers.

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In 2016, supplier innovation activities were themed around productivity and quality enhancement, and LSIS provided support to ensure a systematic implementation of the activities, providing channels to make the most of professional consulting agencies and government-driven projects. We will encourage suppliers to voluntarily plan and organize various innovative activities, through which suppliers can build up global competencies.



2016 ACE Club Innovation Competition

Benchmarking of Domestic and Overseas Advanced Companies In order for suppliers to build innovation mindsets and global competitiveness, we provide chances to visit advanced manufacturing facilities at home and abroad every year. A total of 268 employees of suppliers have visited 22 advanced companies in 7 foreign nations, 3 overseas exhibitions and 5 domestic companies between 2008 and 2015, experiencing rapidly changing market environment and learn the quality and production know-hows.

In April 2016, a group of supplier staff visited global companies and SMEs in Germany, Austria and Switzerland, which allowed them to explore potential benchmarking areas and their applicability, and LSIS to accelerate efforts to expand its pool of global suppliers. In particular, our benchmarking training was catered to the needs of suppliers by putting a special focus on SMEs that operate in the fields of equipment automation, processing, molding, and injection molding technologies, allowing them to benchmark global companies with advanced technologies so as to read the future industry trend and sharpen their managerial insight. LSIS will continue to offer this program to suppliers as we sail through the global market with them.



2016 ACE Club Overseas Benchmarking

Social Contribution Activities Conducted Hand-in-hand Over 30 executives and employees from LSIS and representatives from the ACE Club joined together at the Yesim House (vocational facility for the disabled located in Cheong-ju, Chung-buk province) in October 2016 for community volunteer work. Participants worked together with the disabled persons on toll processing, and made *jeons* and rice cakes to share together. Also, the participants purchased seaweed products such as *gim* or *gimjaban* produced and sold by the Yesim House, and delivered them to the marginalized families living nearby as donation gifts. LSIS and ACE Club have jointly carried out volunteering work every year since 2015, which is evaluated to have contributed to local communities, promoted the value of sustainable business, and achieved mutual growth and shared-culture between the two groups. LSIS is committed to pursuing mutual growth with the community, and plans to continuously expand social contribution activities.

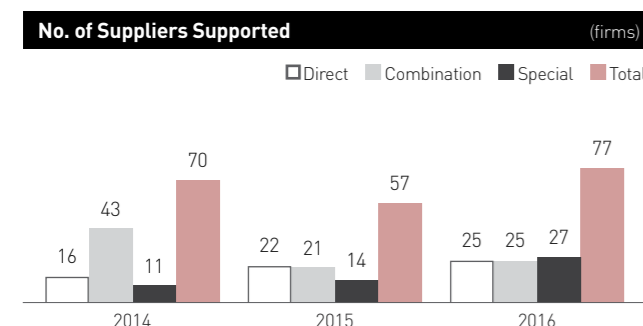
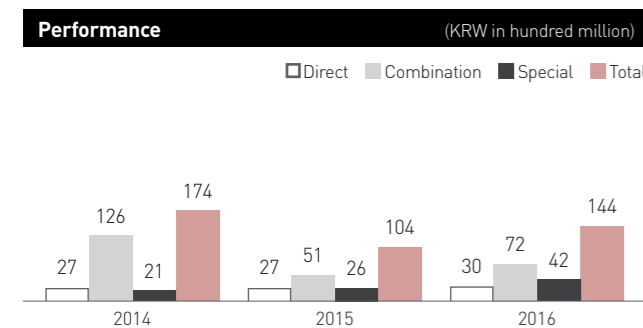
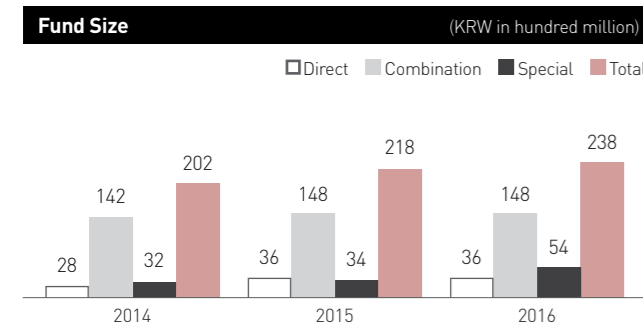


Social Contribution Programs Activities Conducted Hand-in-hand in 2016_ 1 Delivering Donations 2 Toll Processing 3 Sharing a Meal

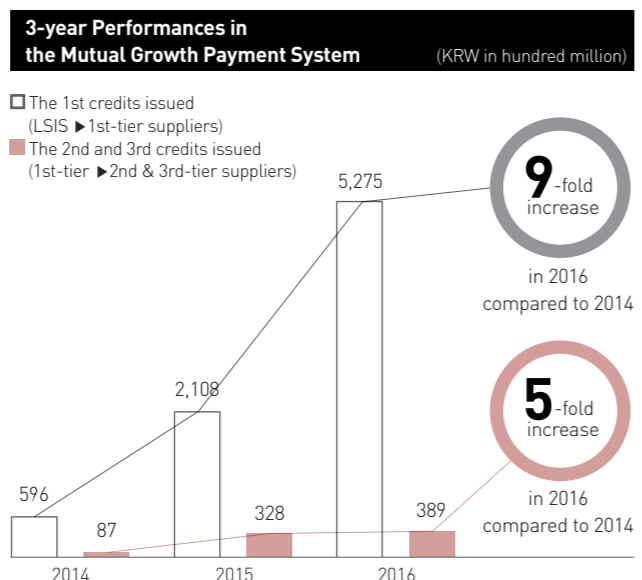
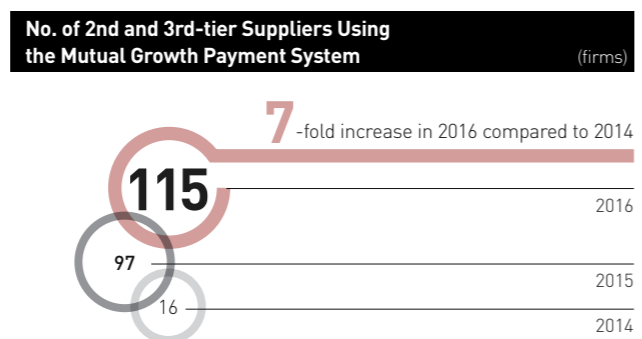
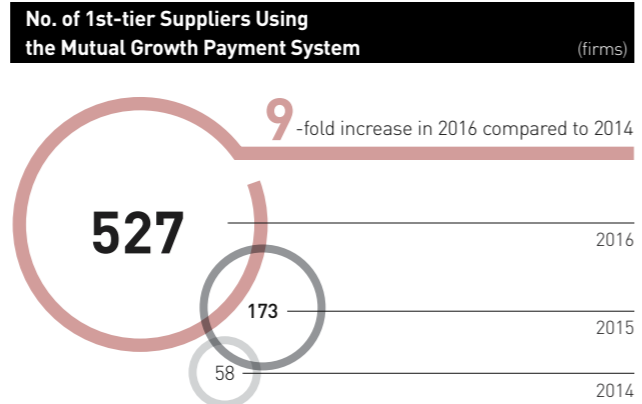
Intensifying Supports for Shared Growth
Financial Support and Mutual Growth Payment System
Financial Support LSIS raises funds in various ways and lets suppliers use them at a low interest rate for investing in equipment and extending manufacturing facilities for improving their product quality, turnaround time and productivity. In 2016, we raised a total amount of KRW 23.8 billion – KRW 3.6 in direct support, KRW 14.8 in combination support and KRW 5.4 billion in special support – and offered KRW 14.4 billion to 77 1st and 2nd –tier suppliers for helping them boost the cash flow and stabilize management. Considering the overall competitiveness enhancement within the supply chain, we are providing financial support not only to 1st-tier suppliers but also to 2nd-tier suppliers. In 2017, we plan to make sure suppliers in need of financial assistance have access to the program.

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Also we have been improving the payment condition for subcontractors every year. We have risen the share of cash out of a total payment every year in order to improve the capital liquidity of suppliers. In April 2016, we increased the maximum amount of cash out of a total payment from KRW 60 million up to KRW 100 million, and settled payment in advance before the national holiday *Chuseok*.



Mutual Growth Payment We operate the mutual growth payment system to ensure that 1st, 2nd and 3rd-tier suppliers get trade receivables-secured loans. As a result, in 2016, a total of 642 1st, 2nd, and 3rd-tier suppliers benefited from the mutual growth payment worth KRW 566.4 billion. The number of 1st-tier suppliers and 2nd and 3rd-tier suppliers banking on the mutual growth payment system has increased nine-fold and seven-fold, respectively, since 2014.



Support for the establishment of an FTA country of origin system With the exporting environment transitioning rapidly to fit the FTA regime, LSIS and suppliers alike felt the need to secure the legality of the certificates of origin and minimize the risk of post hoc analysis. Against this backdrop, LSIS evaluated the status of its suppliers' management of the FTA country of origin, and identified the urgent need to develop a computerized system. Significant investment was made to accomplish five priorities, which were designated to support

the country of origin management of 48 suppliers in a consistent and systematic manner. As a result, suppliers were able to enhance competitiveness of FTA exports and save KRW 3 billion in tariff saving, while LSIS strengthened its FTA country of origin management capacity. Acknowledged for accomplishing shared growth, LSIS received the Presidential Citation at the Joint Growth Committee ceremony held in November 2016, which was the most honorable award to be given to a group for special contribution to FTA promotion.



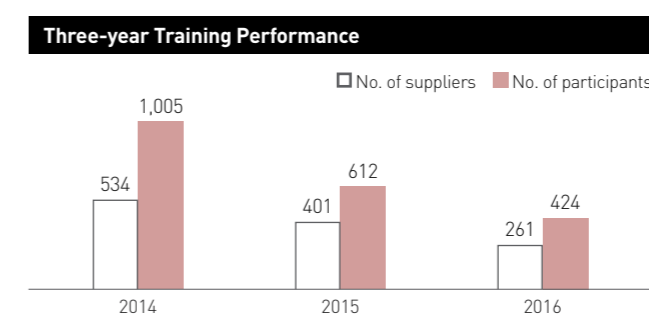
Presidential Citation for Special Contribution to FTA Promotion

Supports provided		Quantitative benefit	Quantitative benefit
• Country of origin management system implementation and operation	• Designation of a full-time staff member in charge of FTA at supplier	• KRW 0.4 billion in export, KRW 2.6 billion in import (customs facilities)	• Increased voluntary participation
• Categorization, country of origin certificate issuance, professional consulting service regarding country of origin management process	• FTA country of origin management training	• 30 cases of pre-confirmation of tariff error	• Enhanced awareness of shared growth and mutual reliability
	• Simulation on country of origin verification		• Accelerated two-way communication

Supports for Productivity Enhancement
Establishment of Production Management System (NAMOS ERP System) LSIS has provided suppliers a production management system (NAMOS ERP System) linked with its ordering information system free of charge in order to enable an effective production and inventory control and support the establishment of self-reliance management system. A total of 34 suppliers have completed the system in 2015 and 2016, and we plan to expand the system implementation to other suppliers in 2017. We also dispatch professional resources who help suppliers assess/diagnose their utilization of NAMOS ERP system and address vulnerable areas identified from the assessment. We will continuously support suppliers in managing production in a systematic manner by providing well-thought-out training.

Supports for Training and Education LSIS has been operating diverse training and education programs for suppliers to help them enhance competitiveness since 2007. Those programs focus on essential business items such as quality, production, and FTA in association with specialized training institutions outside such as the Chungbuk branch office of the KSA. In 2016, a total of 424 employees from 261 suppliers have attended the training and education programs on quality, production, design, finance and FTA (18 rounds, 14 courses), which contributed to enhancing the component quality and productivity of suppliers.

Introduction of the TQRDCM system The TQRDCM system was introduced in 2016, in order to effectively secure global suppliers. The existing merit-based evaluation of QDC (quality, delivery, cost) or the performance-based evaluation of process quality had their limits in sufficiently measuring the suppliers' capabilities. The TQRDCM tool was adopted as a complementary method to the existing scheme in order to secure global suppliers armed with robust capabilities. TQRDCM appraises such fundamental business capacity as Technology, Quality, Responsiveness, Delivery/production, Cost, and Management, with an aim to promote suppliers' sustainable growth and performance. LSIS will continue to implement the TQRDCM tool in 2017 in order to balance the evaluation factors between performance and capabilities, and provide full support for the suppliers as they take a leap forward as global suppliers.



Supplier Training in 2016 on FTA Country of Origin Determination Criteria

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Technological Support (Technology Transfer, Development, and Protection)

Technology transfer A technology sharing system that facilitates transfers of unutilized technologies of large corporations has been in operation since 2014, in order to create cooperative partnerships between large and small companies, and contribute to the technological competitiveness of SMEs and venture firms. 40 patents were shared with nine SMEs in 2014, while in 2016, 48 were shared with 15 SMEs thanks to the disclosure of 271 electrical technologies for power devices, for free of charge. LSIS will continue supporting SMEs in collaboration with the government, to ensure that they effectively utilize the transferred technologies to enhance their R&D capacity and commercialization.



1 2016 LSIS Technology Sharing and Contributed Acceptance Technology Transfer Ceremony
 2 2016 LSIS Technology Sharing Presentation
 3 2016 LSIS Technology Sharing Presentation (One-on-one Coaching Program)

Technology Development

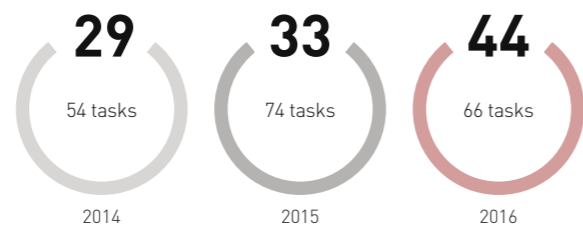
New Product Development with Conditional Purchase Option

LSIS has since 2012 worked closely with supplier for this government-led project to enhance their technology development and sales revenue. In 2016, we jointly undertook one project with UDMTEK to develop smart SCADA software for panel PCs. It was a representative joint R&D project for shared growth, motivating suppliers to develop components and intensifying localization. We plan to expand such joint projects with suppliers going forward.

Technology Cooperation Tasks

We promote Open R&D activities by implementing technology cooperation tasks that promise to create synergies by combining our technologies and suppliers' manufacturing capabilities. We conducted a total of 66 collaborative tasks worth KRW 4.4 billion in 2016, maintaining the increasing trend every year in terms of the number of tasks and the investment. We will continue to expand these tasks so as to encourage suppliers to enhance technology development and deepen cooperative relations.

Technical Cooperation Task Performance (KRW in hundred million)



Technology Protection LSIS has been using "System and Method on Certification of Trade Secret" since 2015 with the intention of protecting technologies and trade secrets of suppliers. Run by the Korea Institute of Patent Information, System and Method on Certification of Trade Secret certifies proprietary technologies and the ownership of business information SMEs, and helps suppliers prepare against theft and drain of proprietary technologies and business information. We supported 13 suppliers in protecting 39 technologies and trade secrets at their request in 2015. In 2016, the number increased to 15 suppliers with 44 technologies and trade secrets. Going forward, we plan to intensely carry out the activity by conducting demand survey.

Purchasing(investment) support When suppliers need investment for their facilities (IT equipment, measurement tools, transporting device, others), LSIS provides support by exercising its purchasing capacity. By engaging in the entire process from the selection of business counterparty to price analysis, LSIS helps suppliers land a good purchasing deal with competitive conditions. LSIS has provided support to three suppliers (Seunglim Electric co., MyungIn Industry, GS Tech) in 2016, allowing them to make the purchase at about KRW 6 million lower than what would have been independent pricings (average 6% of cost reduction for the three firms).

Communication and Information Sharing with Suppliers

Performance Sharing We hold the Performance Sharing Meeting every quarter in order to share our business and innovation performances with suppliers and form a consensus on improvement. In 2016, a total of 470 1st and 2nd-tier suppliers participated in the dialogue with plant managers, lectures on management insight, and shared best shared growth practices. We plan to expand the scope of this meeting to 2nd-tier suppliers in the future.



1 Performance Sharing in 2016
 2 Performance Sharing in 2016 (Fair trade agreement signing)

CLO Talk Concert (We Suda) A CLO-led Talk Concert was held twice in 2016, providing venue for employees to share suppliers' crisis resolution cases or training plans of successors, exchange views on various business trends such as visions for shared-growth, innovation, or organizational management, and listen to complaints or requests from suppliers, in order to bolster mutual collaboration. Devised as a new approach from the existing 'executive partner forum', aiming to transition from the rigid one-way communication into an interactive and horizontal discussion, these events were a valuable opportunity to strengthen LSpartnership.



CLO Talk Concert (We Suda)

CLO Talk Concert (Partnership) The executive communication event, which was actively held for issues on mass production, was expanded to cover issues on contracts as well, with the goal of enlarging the scope of LSpartnership. The program for the 'CLO-led Talk Concert (Partnership)' consists of 'Biz. Solution Talk' for listening to the complaints-requests of suppliers and finding solutions together, 'Wrap up' for the CLO to summarize the discussions, and 'Dinner' for all the participants to engage in networking. The Talk Concert will be continued to be held as an interactive channel for sharing important business issues, understanding the suppliers' challenges, and discussing ways to strengthen partnership.



CLO Talk Concert (Partnership)

Dinner between LSIS, first-tier and second-tier suppliers Regular interactions between LSIS employees and representatives from first- and second-tier suppliers have taken place since

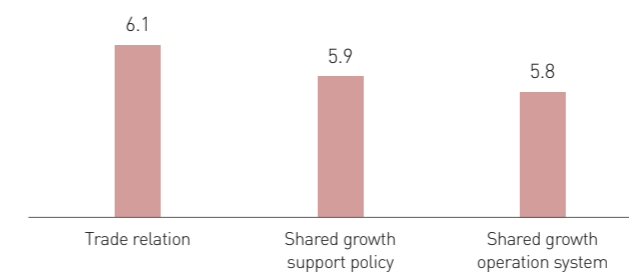
2013, amid the increasing importance of a horizontal organizational culture of shared growth. In particular, these interactive meetings took the form of dinner gatherings in 2016, aiming to promote casual communication and refrain from a rigid and formal relationship. Four first-tier partners and eight second-tier partners were invited to dinners hosted in 2016, which were meaningful occasions to engage in frank discussions and understand each other better. LSIS will continue to strengthen communication with suppliers, thereby establishing a fair and transparent partnership while fostering cooperation for shared-growth.



Dinner between LSIS, first-tier and second-tier suppliers

Satisfaction Survey Results on Shared Growth We started a survey to check the level of satisfaction of suppliers for shared growth in 2015. Specifically, we ask about how satisfied our suppliers are in terms of trade relation, shared growth support policy, and shared growth operation system, and the results are adopted to setting the activity direction for shared growth. In the survey of 30 major suppliers conducted in 2016, respondents suggested 6.1 for trade relations, 5.9 for policies of supporting shared growth, and 5.8 for shared growth operation system on a scale of 7.0. The results indicated that suppliers were most satisfied with fair trade presented by due payment and ethical management, and shared growth support policy presented by training and financial support. On the other hand, they indicated that the suppliers' satisfaction level was quite low in terms of payment adjustment for delivered goods, and supplier diagnosis and guidance. We plan to annually carry out the survey to collect VOCs from diverse suppliers to reflect the results in setting the policy direction for shared growth.

Supplier Satisfaction for LSIS's Shared Growth (On a 7.0-point scale)



About LSIS

Core Issues of Sustainability Management

Appendix

05 Securing and Cultivating Global Talents



Based on the belief that executives and employees are the central pillars of the organization, LSIS is committed to providing an environment where everyone can fully realize their potential. In 2016, LSIS designated 'Imagineer for Futuring Smart Energy' as the ideal image that employees should emulate, and established a fair recruitment process designed to identify competent talent for the company. Meanwhile, various training programs were introduced to provide full support to those who have been employed. In order to become a 'company you want to work for', LSIS is exerting efforts to promote quality welfare and create a healthy labor management culture.

Plans for 2016

- Nurture capabilities to implement global core businesses
- Implement organization development programs

Achievements in 2016

- Recruited core resources equipped with capabilities to implement global businesses
- Implemented organization development programs including organization diagnosis/design

KPI in 2016

No. of newly hired employees in 2016

101

Training expense per employee

KRW 2,109 K

Union membership rate

30.5 %

Securing and Nurturing Talents

HR Philosophy

The ideal employee we are seeking for is an "Imagineer for Futuring Smart Energy." We proclaimed the new HR philosophy in 2016 with the purpose of hiring and nurturing talents who can proactively respond to the paradigm changes in the electric power industry and make the vision "G365" come true. Coined by combining "Imagine" and "Engineer," the "Imagineer" refers to a person who takes pride in their work and company, dreams of the future of smart energy on the basis of the understanding on technology and global competency, and leads to better outcomes based on partnership. The Imagineers of LSIS commit themselves to achieving corporate mission and vision.



Plans for 2017

- Intensify global competencies of human resources
- Build Great Work Place
- Create a reasonable labor-management partnership

Diverse Talent Recruitment Channels and Processes

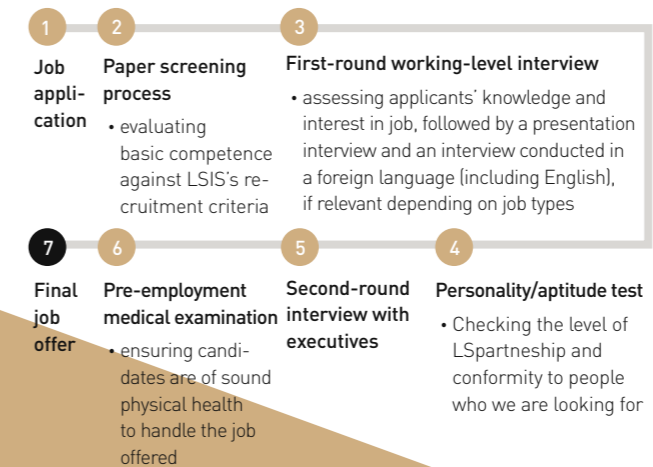
We strive to enhance our competitive edge by strategically assigning resources with global competencies to core businesses through biannual open recruitment of new and experienced workers and a global recruitment program targeting college graduates in North America, China, or foreign intellectuals in the R&D field. Moreover, a year-round recruitment program is running to attract excellent researchers for new core businesses and talented workers with extensive experience. Diverse talent recruitment channels such as on-campus recruitment, employee recommendation, and search firms help place right resources in the right positions efficiently.

Career Development Programs for Prospective Employees

Program	Description
Corporate funded scholarships	providing constant support to Master's and PhD candidates, and giving them the opportunity to study their specialties and join the Company afterwards
Lab Tour	visiting outstanding electricity and electric engineering labs at universities in order to continue communication with schools and students
Summer internship program	allowing future employees to experience LSIS's vision and corporate culture beforehand through undertaking jobs and tasks in advance
LS Job Fair	inviting students looking for jobs to LSIS for career opportunity overview, mock interview, and a meet-up session with LSIS employees

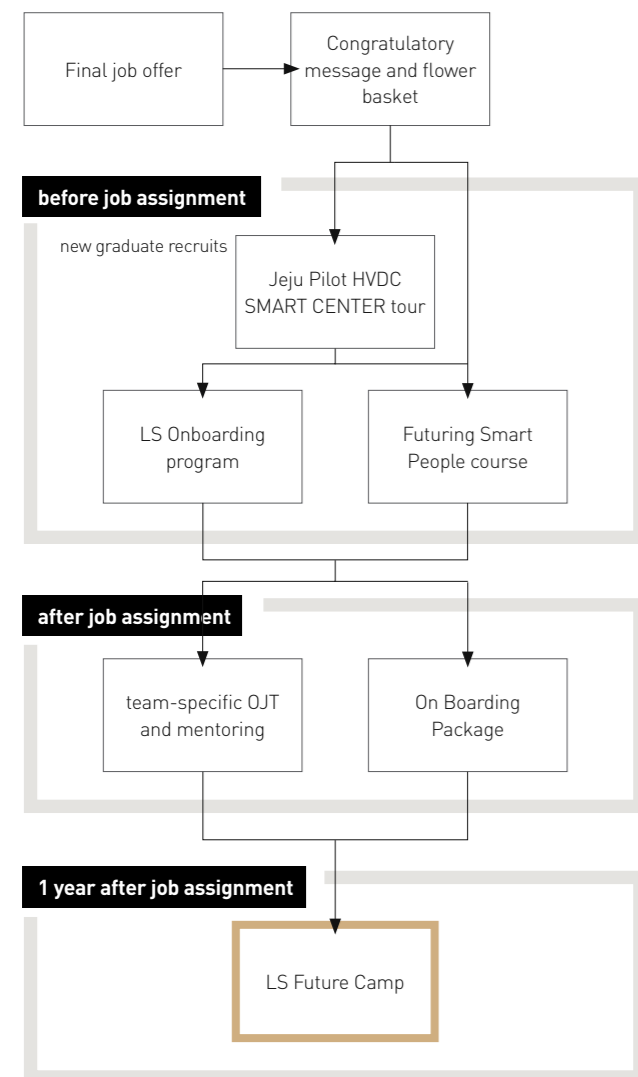
We put applicants' interest in and passion for their future jobs before qualifications and evaluate their basic competence and growth potential through screening career papers. We constantly improve recruitment procedure so as to minimize unfair treatment based on gender. We assign high relative weight on objective criteria including personality/aptitude test and English test, and conduct interviews in a consistent manner through a standardized process and interviewer training.

Recruitment Process



Programs to Help New Hires Adjust to Company

New hires at LSIS have diverse experiences prepared to help them rapidly adjust to the Company. We provide new graduate recruits with a message from the CEO and flower basket and take them on tours of the Jeju Pilot HVDC SMART CENTER, allowing them to be proud of joining the Company. Other programs include entry-level education to introduce the group, "Futuring Smart People" course, mentoring program, on-the-job training, basic job training course by each value chain. The Onboarding Package program introduces the Company's HR system and guides for their jobs, supporting quick adaptation to organizational culture and exhibition of their abilities. In addition, the LS Future Camp assists employees who have finished their first year to look back over their careers and shape the future. Our mentor matching program also help anchor and situate new hires and support them in developing career.



Development of Human Resources and Education

Our HR development focuses on cultivating smart people to achieve the vision "G365." With the belief that consistent competence development ensures the future, we operate about 150 collective training programs participated by around 14,000 employees and customers every year and run roughly 2,500 online programs as well. The LSIS Training Center had won the President Prize in 2005 and has obtained A grade for four years in a row from 2012 to 2015 in recognition of its excellence. Our education & training programs for employees are grouped into "position," "global," "organization development," "expertise," and "customer," in general. We also run specialized education programs including the Global Lounge, a coaching program for performance management, and product/solution training courses for acquiring competencies of key technologies. These education programs are systematically offered to our employees to help them secure the competence needed to compete in the global markets. Moreover, we operate the Career Development Program (CDP) that supports all employees to develop career paths ranging from hiring to retirement.



Employee Benefits and Organizational Culture

'Smart Working, Happy Life!' Event For the employees promoted to managerial level, the "Smart Working, Happy Life!" event is held in every January where their families and company executives are invited. Started in 2011, the event has served the purpose of assuring the importance of the manager role as well as thanking the families' support.

Family Fun Event on Children's Day We also hold an athletic meeting on Children's Day for the kids of staff members in order to realize the importance of family and give them a sense of pride in the company their parents work for.

Concentrated Vacation System We run a system which allows all employees to go on a concentrated vacation within the limits of their paid leaves and personal vacations, which are fixed by related laws and collective agreements. It is a policy that helps employees balance work with personal lives. It is, in particular, implemented after long term projects or personal events, allowing employees to regain strength and return, thus enhancing business efficiency. Apart from summer vacation, all LSIS employees are given concentrated breaks at the first half and latter half of a year [3-5 days], which provides employees with an opportunity to rest and refresh.

Family happiness camp Family happiness camps are held to facilitate communication within families, by providing an opportunity for both the parents and children to think about what makes a family happy. The program teaches family members how to compliment each other and exchange opinions, and encourage families to think of ways to enhance happiness in their homes.

Dream Camp Children can search for their dreams and find out how they can accomplish them through the Dream Camp. Children of employees can participate in this camp to think about their dream careers and ambitions, and look for ways to improve their daily habits and study patterns to step closer to their goals.

Counseling for married couples Marriage counseling sessions are held to help married couples improve their relationships and have better communication skills. Consisting of various sessions such as 'open your heart', 'understand myself and my spouse', and 'put words into action', the counseling program encourage couples to express their affection and understand each other's differences.

Respect for Human Rights and Labor-Management Relationship

Respect for Human Rights

At LSIS, institutional strategies are provided to prevent any discrimination with regard to gender, race, religion or region of origin. To this end, we enforce policies with respect to diversity, and cultivate an environment where each and every employee has an equal opportunity to reach their potential. We fundamentally prohibit any form of child labor or forced labor and strictly comply with related domestic and international laws. As a result, there has been no single infringement in terms of these since the foundation. The Company will stay committed to respecting human rights.

Guaranteeing Basic Labor Rights

We sit down together and talk with labor union to negotiate wages and collective agreement with the awareness that labor union is a valuable partner for our businesses. In the collective agreement we have specified a phrase 'The Company enters into collective discussions on equal terms as the labor union' to respect the right of collective agreement. The labor union is free from corporate intervention and their activities are guaranteed without any disadvantage.

Operation of Labor-Management Council

For the improvement of working conditions and grievance resolution, we operate the Labor-Management Council in accordance with relevant laws and collective agreement. Issues between labor and management are resolved through the Corporate Labor-Management Council and Labor-Management Councils held at each worksite. At the collective discussion in June 2016, a significant agreement was made on adopting the wage peak system, which has emerged a social issue in Korea, so as to live up to our responsibilities as a responsible corporate citizen. In addition to the official labor-management consultative body, LSIS discusses and consults with LSIS labor union on industrial issues including working conditions via a variety of channels.

Labor Union Membership

Category	Classification	as of end of 2014	as of end of 2015	as of end of 2016
Non-union members (persons)	Staff	2,288	2,258	2,233
	Production advisor / etc	82	83	79
Union members (persons)	Production worker	Male	873	867
		Female	165	167
Rate of union membership (%)		30.6	30.6	30.5

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06 Local Community Contribution



LSIS is driving sustainable social contribution activities that can resolve the fundamental cause behind problems based on the principle of sincerity. With the understanding that community sharing is the essence of social contribution, LSIS aspires to become a reliable partner for the vulnerable classes and future generations. Throughout 2016, LSIS implemented social contribution projects that cater to the needs of local communities where its branches are located, including An-yang, Cheong-ju, Cheon-an and Busan, as well as donations to low-income families. Going forwards, LSIS is committed to designing and executing social contribution programs that promote harmony between the company and local communities.



Plans for 2016

- Expand joint social contribution activities with Anyang Senior Welfare Service Center
- Devise social contribution programs by season & national holiday
- Raise employees' awareness of social contribution

Achievements in 2016

- Introduced social contribution programs tailored to national holidays
- Enhanced communication regarding joint social contribution activities with welfare facilities
- Expanded employee participation in social contribution programs
- Entrenched joint social contribution programs with suppliers

KPI in 2016

<p>No. of participants in volunteer service</p> <p>8,258 persons</p>	<p>Total funds raised in 2016</p> <p>KRW 958.4 million</p>	<p>Social Contribution Expenses</p> <p>KRW 42.82 million</p>
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Social Contribution System

Social Contribution Philosophy
 We jointly carry out social contribution activities with LS Group. LS Group's management philosophy "LSpartnership," which can be summed up as creating a greater value together as trustworthy partners, embodies the identity of our social contribution activities. LS Group also implements various social contribution activities at home and abroad to create a greater value through sharing and collaborating between beneficiaries and volunteers under the social contribution philosophy of becoming "A Reliable Partner Sponsoring the Underprivileged and the Future Generation with Dreams." All affiliates of LS Group generate synergy throughout the entire process encompassing planning and implementation of social contribution under a unified philosophy.

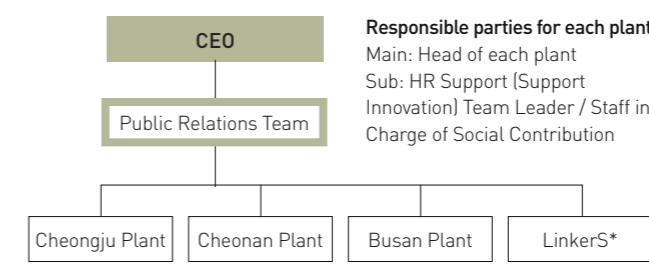
LS Group's Philosophy of Social Contribution	Trustworthy partner supporting the underprivileged and our future generations
	<ul style="list-style-type: none"> • Create better value through sharing and cooperating between beneficiaries and volunteers based on the philosophy of LSpartership • Develop and operate programs with the same concept in line with LS Group's philosophy to create synergy among affiliates
LSIS's Philosophy of Social Contribution	Provide sustainable support towards solving social conflict and helping the minorities based on a commitment to partnership
	<ul style="list-style-type: none"> • Partnership: Take interest and participate in issues related to social conflict and minorities • Initiative: Conduct sincere and voluntary activities from the bottom of the heart • Sustainability: Continuously participate in social contribution activities beyond just one-time event

Plans for 2017

- Establish stakeholder communication channels to hear from local welfare facility workers, academia, citizens and government (discussion forum)
- Reinforce social contribution activities tailored to local communities we operate in
- Continue seasonal programs targeting the socially disadvantaged
- Firmly establish a culture of sharing among employ

Social Contribution Implementation Structure

The company-wide social contribution activities are driven by the Public Relations Team, and, at the plant-level, the HR Support (Support Innovation) Team and LinkerS (representative body for support staff) jointly implement activities tailored to each region.



* LinkerS: LSIS's representative body for support staff, comprised of 17 members, to establish an open corporate culture and lead social contribution activities

Flagship Social Contribution Programs with LS Group

LS Dream Science Class
 We run LS Dream Science Class to provide neighboring elementary students with science classes and culture experiences in cooperation with the Child Fund and the National Academy Engineering of Korea since 2013. Tailored to 5th and 6th-grade students in elementary school, this program offers science experiment classes and weekly culture/arts activities to boost children's interest in science by teaching them about the principles of science in an easy and enjoyable manner, thereby helping them to have continued interest in school classes. Selected college students majoring in science and engineering provide science classes and mentoring programs after completing trainings for instructors. Our employees working at Cheongju, Anyang, and Busan plants participate in the class as one-day instructors and science mentors and the Company offers students chances to visit its worksites.



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LS Dream Village(Overseas Volunteer Group / LS Dream School)

LS Group has been dispatching the undergraduate volunteer group to developing countries twice a year since 2007 with the aim of offering local children better educational environment and cultural experiences. Since 2013, the volunteer group has joined the "LS Dream School" project which selects two old and needy schools and constructs school buildings every year.



The overseas volunteer group, composed of 20 college students selected through an open application process, employees of LS Group and experts from NGOs cohosting the program, receives

professional training and thorough preparation for about two months and is dispatched to under-developed countries to share love and compassion as they build buildings. Through this project, we had completed multi-layered buildings with 6-10 classrooms for Trung An A Primary School in VinhLong Province near Ho Chi Minh and Thai Hoa Primary School in HaiDuong near Hanoi in 2014, following the 1st and 2nd Dream School in 2013. In 2015, we held a ceremony to celebrate the completion of 5th and 6th Dream School in HaiDuong and VinhLong Province in Vietnam where production sites of LS Group's major affiliates (LSIS, LSCS, and LS Mtron) are located.

LS Dream Orchestra

The LS Dream Orchestra is an education program on orchestra music launched in June 2012 for the children and youth from marginalized families, designed after 'El Sistema', which is a similar concept of teaching music to the impoverished children in Venezuela. The program offers education on culture and arts to students through various activities such as musical instrument lessons, music camps, classical concerts, recitals and performances. Currently active in many areas including Dae-jeon, Cheon-an, Ul-san and Po-hang, the program strives to pursue positive changes in the society and promote children's rights as well as their development. The LS Dream Orchestra has held concerts every year since establishment, the most recent one in September 2016 being the '4th LS Dream Orchestra Annual Concert' performed in the Bongseo hall of the Cheon-an City Hall. The concert was a valuable occasion for the students to display their musical instrument performance skills, and for the audience and local residents to have increased awareness about the livelihoods of children from low-income families. LSIS will continue to actively support the activities of the orchestra, to allow young students to hone their musical talent, develop enterprising spirit and team work, and become responsible members of the society.

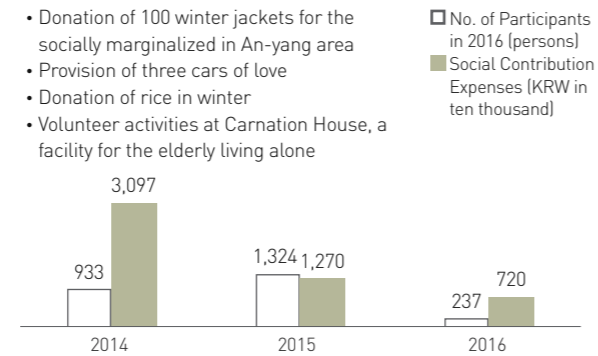
Community-based Social Contribution Activities

Based on the principle of 'sincerity', LSIS is conducting various social contribution activities that can resolve the fundamental problems rather than settling for one-off donations. Not only in An-yang, where the company headquarters are located, but also in Cheong-ju, Cheon-an, Busan, and other areas home to regional branches, LSIS is actively implementing Social Contribution activities, developing programs that have relevance with its business, and carrying out donations for the low-income households.

An-yang

LSIS runs diverse social contribution activities in tandem with the Anyang Senior Welfare Service Center established by the city government and is now run by a non-profit foundation Buddhist An-yang Center. One example is the 'Warm Winter with LSIS' launched in 2014, which donated insulated winter clothing to low-income senior citizens. Similarly, 'Cool Summer with LSIS' was launched to donate cooling mats priced over KRW 5 million to help the elderly living alone withstand the scorching summer heat.

Social Contribution Activities



Interview | Jee-hee Byeon, An-yang Senior Welfare Facility

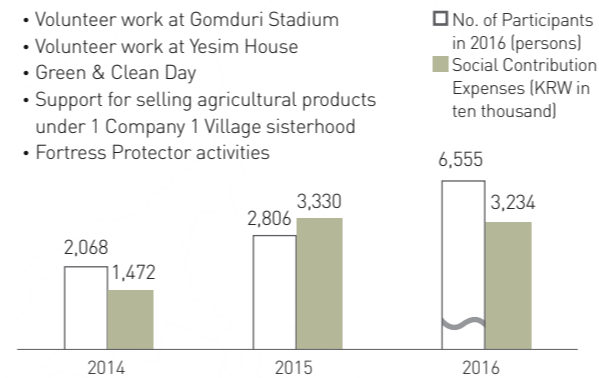
Although LSIS is not a household name to most people given its business characteristics, I feel that the active Social Contribution is definitely giving them a friendly and warm image. Going forwards, I think that LSIS should try to define its brand identity in order to see consistent development. Also, because facilities in local communities have different demands, regular communication will be important to understand what kind of help is really needed. I am grateful for the support that LSIS has shown thus far, and would like to ask them to keep up the excellent work.



Cheong-ju

Various programs are carried out in Cheong-ju, where the Cheong-ju branches no.1 and no.2 are located, to promote communication and sharing with the local residents. Once every month, LSIS holds a Green & Clean Day, where employees clean not only the insides of the office but also the surrounding areas. Other regularly conducted activities include the cultural heritage program, designed to protect local heritages including the Sangdang mountain fortress, or the Cheong-ju Bumo mountain program which aims to preserve the natural environment of the region.

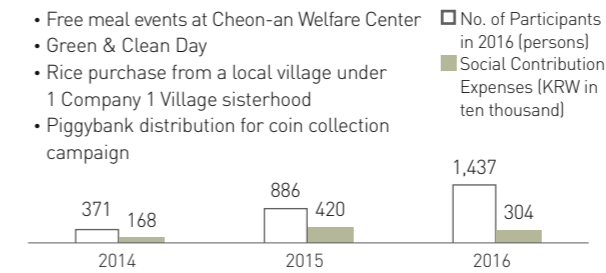
Social Contribution Activities



Cheon-an

The Cheon-an branch consistently conducts diverse sharing activities in order to promote interaction with the local community. In coordination with the Cheon-an Hope Sharing Volunteer Center, LSIS distributes free meals every month to the homeless or those in need. The volunteer work focuses on not only solving imminent problems, but also on providing support to the vulnerable and the low-income. Apart from the regular contribution activities, LSIS is planning to implement various sharing events to improve the livelihood of local residents. The Cheon-an branch holds monthly Green & Clean days to clean the office buildings and the surrounding environments, not to mention the regular blood donation events.

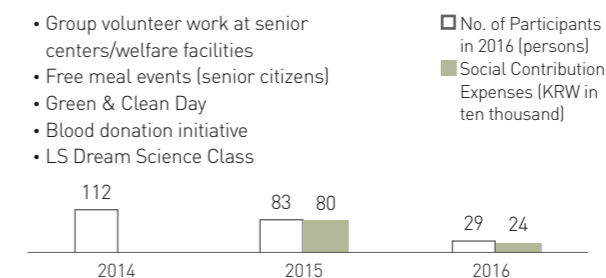
Social Contribution Activities



Busan

Various social contribution activities such as volunteer work, social contribution, and donations are being implemented in Busan by the Busan branch, based on the unique CSR model adopted by LSIS. Group volunteer work at senior centers and welfare facilities, or social contribution such as free meal events are good examples of bolstering harmony in the local community. The branch also holds Green Days to clean the local environment, engages in the one-company-one-river program to preserve nature, and holds factory visit programs to invite local residents and students on a tour.

Social Contribution Activities



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Sustainability Management Data_ Economy

Consolidated Basis

Summarized Financial Position		(KRW in millions, at the end of each year)		
Item	2014	2015	2016	
Assets				
Current assets	1,402,955	1,394,335	1,417,503	
Non-current assets	891,401	857,339	844,302	
Total assets	2,294,355	2,251,674	2,261,806	
Liabilities				
Current liabilities	737,437	618,075	680,590	
Non-current liabilities	563,458	618,900	515,150	
Total liabilities	1,300,895	1,236,975	1,195,739	
Equity				
Total equity attributable to stockholders of the company	992,937	1,013,260	1,064,582	
Share capital	150,000	150,000	150,000	
Share premium	935	1,178	1,178	
Other equity items	-25,542	-25,542	-25,542	
Other comprehensive income/loss accumulated amount	23	949	-1,262	
Retained earnings	867,521	886,674	940,207	
Non-controlling interest	524	1,439	1,485	
Total equity	993,461	1,014,699	1,066,066	
Total liabilities and equity	2,294,355	2,251,674	2,261,806	

Summarized Income Statement		(KRW in millions)		
Item	2014	2015	2016	
Sales	2,290,983	2,201,676	2,213,616	
Gross income	425,913	433,917	412,886	
Operating income	162,066	154,402	124,424	
Income from continuing operations before tax	133,498	113,642	101,984	
Net income	105,146	70,554	80,748	

Non-consolidated Basis

Summarized Financial Position		(KRW in millions, at the end of each year)		
Item	2014	2015	2016	
Assets				
Current assets	1,117,160	1,096,545	1,092,398	
Non-current assets	1,033,924	1,011,380	1,002,953	
Total assets	2,151,083	2,017,925	2,095,351	
Liabilities				
Current liabilities	636,131	518,885	579,426	
Non-current liabilities	559,052	614,401	510,887	
Total liabilities	1,195,183	1,133,286	1,090,312	
Equity				
Share capital	150,000	150,000	150,000	
Other equity items	-25,542	-25,542	-25,542	
Other comprehensive income/loss accumulated amount	-301	-138	-	
Retained earnings	831,774	850,318	880,581	
Total equity	955,901	974,639	1,005,039	
Total liabilities and equity	2,151,083	2,107,925	2,095,351	

Summarized Income Statement		(KRW in millions)		
Item	2014	2015	2016	
Sales	1,827,657	1,753,118	1,712,375	
Gross income	369,284	371,608	331,438	
Operating income	155,115	147,877	97,392	
Income from continuing operations before tax	115,995	104,417	74,886	
Net income	93,904	69,452	57,882	

Government Subsidies		(KRW in millions)		
Classification	2014	2015	2016	
Machinery	239	112	11	
Tools and instrument	-	-	-	
Office equipment	34	6	4	
Buildings	-	267	246	
R&D expense	2,584	2,119	1,873	

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Sustainability Management Data_ Environment & Safety

Sector	Item	Unit	2014	2015	2016	
Environment & Safety Investment	Eco-friendly product development	KRW in millions	4,025.1	5,342.0	3,117.9	
	Process improvement	KRW in millions	180.3	153.9	147.2	
	Investment in environmental and safety facilities	KRW in millions	351.3	616.1	565.7	
	Maintenance of environmental and safety facilities	KRW in millions	114.5	318.6	218.8	
Green Purchasing	Purchasing of eco-friendly products	KRW in millions	206.2	180.3	381.1	
Environment	Dust emissions	kg	939.6	1,015.3	1,076.2	
	Water consumption	km ³	230.0	242.5	232.8	
	Wastewater discharge	m ³	875.0	214.1	172.1	
	Waste discharge	General	ton	4,278.3	3,729.7	3,670.8
		Designated	ton	80.8	69.9	92.3
	Waste recycling rate	%	81.1	80.7	83.1	
	GHG emissions (by source)	Scope 1	tCO ₂ eq	201,620.3	226,974.6	186,792.0
		Scope 2	tCO ₂ eq	25,110.7	25,705.9	26,646.0
		Subtotal	tCO ₂ eq	226,731.0	252,680.6	213,438.0
	GHG intensity	tCO ₂ eq/KRW in millions	0.12	0.14	0.12	
Energy	Electricity consumption	MWh	47,863.7	55,251.7	57,149.8	
		toe	11,008.6	12,707.9	13,144.5	
	Electricity intensity	MWh/KRW in hundred million	2.62	3.09	3.30	
		km ³	2,079.3	2,188.7	2,135.7	
	LNG consumption	toe	2,168.7	2,282.7	2,227.3	
		km ³ /KRW in hundred million	0.11	0.12	0.12	
Safety	Industrial accident rate	%	-	-	-	
	Training hours (cumulative)	h	73,520.0	78,034.0	92,468.0	
	Trainees (cumulative)	Persons	30,783.0	33,899.0	37,439.0	
Raw materials	Steel		17,213,157.0	18,154,711.0	11,277,446.0	
	Nonferrous metals	kg	4,680,716.0	4,529,899.0	3,565,583.0	
	Resins		5,002,444.0	4,811,774.0	586,789.0	
Generation cost	KRW in hundred million	18,248.5	17,906.0	17,325.2		

※ The data in this report incorporates energy consumption of R&D Campus and therefore may vary from data in our previous reports.

※ We are operating the Occupational Safety and Health Committee where the labor and management consult or deliberate major issues with regard to safety and health of employees working at sites, which contributes to building safe and pleasant working environments.

Sustainability Management Data_ Society & Others

HR Metrics (as of the year end)						
Index	Classification	unit	2014	2015	2016	Remarks
Workforce	Executives		20	22	20	
	Permanent staff	Persons	3,395	3,351	3,292	
	Contracted staff		240	243	243	Dispatched staff
	Total		3,655	3,616	3,555	
Workforce by region	Anyang		1,163	1,176	1,135	
	Cheongju		1,624	1,581	1,537	
	Cheonan	Persons	567	557	550	
	Busan		187	193	187	
	Others		114	109	146	
	Total		3,655	3,616	3,555	
Workforce by age(permanent staff)	20s		478	421	357	
	30s		1,220	1,165	1,112	
	40s	Persons	1,143	1,166	1,216	
	Over 50s		554	599	607	
	Total		3,395	3,351	3,292	
Newly hired (permanent staff)	Persons	254	105	101		
Retirement rate (permanent staff)	%	3.35	2.97	2.69		
Female workforce	Persons	457	419	454		
Percentage of female workforce	%	12.5	11.6	12.8		
Female managers	Persons	29	33	33	Manager level and over	
Workforce with disabilities	Persons	44	45	45	Permanent	
Percentage of workforce with disabilities	%	1.3	1.3	1.4		
Foreign workforce	Persons	20	18	15	Foreign nationals working at domestic worksites	
Training expense	KRW in thousands/persons	2,162	2,106	2,109		
Training hours	PD/Persons	11	10	10	1PD = 8-hour collective training and one-month cyber training	
Welfare benefit expense	KRW in millions/person	13.2	13.7	14.1		
Employees who used childbirth leave	Persons	16	17	19		
Employees who used parental leave	Persons	14	17	19	Staff returned from parental leave	
Rate of return to work after parental leave	%	100	100	100		

Retirement Pension Program				(KRW in millions)
Classification		2014	2015	2016
Defined Benefit (DB)	Amount	107,102	152,441	182,152
	No. of subscribers	3,217	3,317	3,293
Defined Contribution (DC)	Amount	-	-	-
	No. of subscribers	80*	1**	6**

* The number of employees who cashed in retirement fund prematurely. (There is no DC type invested assets in real.)

** Amount of DC type invested assets operated by individual

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Sustainability Management Data_ Society & Others

Social Contribution						
Index	Classification	Unit	2014	2015	2016	Remarks
Donations	Donations O	KRW in millions	114,593	67,238	95,840	
Social contribution expenses	Donations X	KRW in millions	4,737	5,092	4,282	
No. of social contribution activities	No. of social contribution activities	Times	163	161	156	
No. of participants	No. of participants	Persons	3,484	5,099	8,258	
Social contribution activity hours	Participants x avg. activity hours (5 hours)	Hours	17,420	25,495	41,290	

Win-win Growth						
Index	Classification	Unit	2014	2015	2016	Remarks
Supplier ethics index		Points	4.19	4.24	4.19	
Distributor ethics index		Points	3.84	3.98	4.01	
Subcontracting act training for suppliers	No. of training sessions	Times		3	1	
Agreement on win-win growth	Agreement	Cases	416	388	350	
Financial support to suppliers	Fund size	KRW in hundred million	202	218	238	
	Amount of supports	KRW in hundred million	174	104	144	
	Supported to	Firms	70	57	77	
Mutual growth payment support for suppliers	Total amount of credits issued	KRW in hundred million	683	2,436	5,664	
Support for suppliers' training	No. of participants	Persons	1,005	612	424	
Support for suppliers' technology sharing	Suppliers benefitted	Firms	9	-	15	Offered patent rights free
Support for suppliers' technology protection	No. of credit issuance	Cases		39	44	Trade Secret Certification Service
Support for technology development by supplier - New product development with conditional purchase option	No. of tasks	Cases	5	2	1	
	No. of tasks	Cases	54	74	66	
Support for technology development by supplier - Technical cooperation tasks	Amount	KRW in hundred million	29	33	44	
	Members	Firms	29	19	20	
ACE Club(Supplier Association)	Supported suppliers	Firms	29	20	20	2014: Innovation on the Front Lines 2015: Leadership Innovation Program for CEOs
	Supported personnel	Persons	143	20	20	2016: Innovation Competition / Participating suppliers
Communication with suppliers - Performance Sharing Meeting	Participating suppliers	Firms	584	600	470	
Communication with suppliers - Talk Concert	Times	Times	4	2	3	2014~2015: CPO Talk Concert 2016: CLO Talk Concert

Overseas Supply Network Management

LSIS is supplied with raw materials and equipment from 31 suppliers around the globe and purchased materials and equipment worth about KRW 1.13 trillion in 2016. Region-wise, we procured parts from Asia (94%) (87% from Korea, 8% from China, 4% from Japan, 1% from other countries), Europe (5%), Americas (0.7%) and Middle East (0.7%).

Purchase by Region	[%]		
	2014	2015	2016
Asia	96	95	94
Europe	3	4	5
Americas	1	1	0.7
Middle East	0.7	0.30	0.7

Sustainability Management Data_ Memberships and Recognitions

Membership in Initiatives	
Domestic	Overseas
Korea Chamber of Commerce, Korea International Trade Association, Federation of Korean Industries, Korea Electrical Manufacturers Association, Korea Smart Grid Association, Korea Standards Association, Korea Electric Association, Korean Institute of Electrical Engineers, Korea Electrical Contractors Association, International Contractors Association of Korea, Korea Engineering & Consulting Association, Korea New & Renewable Energy Association, Korea Fire Safety Association, Korea Customs Association, Korea Invention Promotion Association, Korea Atomic Industrial Forum, Korea Device Net Association, Korea Industrial Technology Association, Korea Association of ESCO, Korea Information and Communication Contractors Association, Korea Railway Association, Korea Railway Signal Engineering Association	UN Global Compact, Mechatro Link, Ether CAT Technology Group, CIRED, CAN in Automation

Awards				
Classification	Date	Title	Hosted by	Award
Company	2016.06.	Korea's Best Enterprise (Power and cable sector)	Korea CEO Association	Grand Prize
Company	2016.11.	Shared Growth Best Practice	Ministry of Trade, Industry and Energy	Presidential Citation
Company	2016.11.	2016 Vision Awards	LACP	Gold Prize
Company	2016.12.	Top 100 Global Innovators	Clarivate Analytics	Top 100 Global Innovators
Individual	2016.05.	Award of Merit. Invention Day	Ministry of Trade, Industry and Energy	Bronze Tower Order of Industrial Service Merit
Individual	2016.05.	Award of Merit. Smart Factory Business Implementation	Ministry of Trade, Industry and Energy	Minister's Citation
Individual	2016.06.	Award of Merit. Development of Electricity Culture	Ministry of Trade, Industry and Energy	Minister's Citation
Individual	2016.11.	Award of Merit. Development of New Renewable Energy	Ministry of Trade, Industry and Energy	Industrial Medal

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Appendix

GRI G4(Core) Index

General Standard Disclosures							
Index	Contents	Report- ing Level	Page	Extrnal Assurance	Remarks		
Strategy and Analysis	G4-1	A general strategic view of the organizations's sustainability, in order to providd con- text for subsequent, more detailed reporting against other sections of the Guidelines.	●	7	V		
	G4-3	Name of the organization	●	10	V		
	G4-4	Primary brands, products, and services	●	18-21	V		
	G4-5	Location of the organization's headquarters	●	10,16	V		
	G4-6	The number of countries where the organization operates, and names of countries where either the organization has significant operatios or that are specifically relevant to the sustainability topics covered in the report	●	16-17	V		
	G4-7	Nature of ownership and legal form	●	12-13	V		
	G4-8	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	●	16-17	V		
	G4-9	Scale of the organization	●	10-11	V		
	Organiza- tional Profile	G4-10	Total number of employees by employment contract, gender, region, work scope of non- permanent employees, significant changes in number of employees	●	77	V	
		G4-11	Percentage of total employees covered by collective bargaining agreements	●	67	V	
		G4-12	The organization's supply chain	●	14-15	V	
		G4-13	Significant changes during the reporting period egarding the organization's size, structure, ownership or supply chain	●	10, 16-17	V	Closing of Palo Alto Branch, Opening of a Service Center in Ho Chi Minh
	G4-14	Reporting whether and how the precautionary approach or principle is ad- dressed by the organization	●	34-35	V		
	G4-15	Externally developed economic, environmental and social charters, or other initiatives to which the organization subscribes or which it endorses	●	79	V		
	G4-16	Memberships of association and national or international advocacy organizations	●	79	V		
	Identified Material Aspects and Boundaries	G4-17	Entities included in the organization's consolidated financial statements or equivalent documents	●	16-17	V	
G4-18		Process for defining the report content and the Aspect Boundaries and how they are implemented	●	28-29	V		
G4-19		All the material Aspects identified in the process for defining report content	●	28-29	V		
G4-20		Report on whether the Aspect is material within the organization	●	2, 29	V		
G4-21		Report on whether the Aspect is material outside of the organization	●	2, 29	V		
G4-22		Effect of any restatements of information provided in previous reports, and the reasons for such restatements	N/A	-	V	No modification	
G4-23		Significant changes in the Aspect Boundaries and the Aspect in post-reporting period	N/A	-	V	No change	
Stakeholder Engagement	G4-24	List of stakeholder groups engaged by the organization	●	14-15	V		
	G4-25	Basis for identification and selection of stakeholders with whom to engage	●	14-15	V		
	G4-26	The organization's approach to stakeholder engagement	●	14-15, 28-29	V		
Report Profile	G4-27	Key topics and concerns that have been raised through stakeholder engage- ment and how the organization has responded to those key topic and concerns	●	28-29, 36, 42, 50, 56, 64, 68	V		
	G4-28	Reporting period for information provided	●	2	V		
	G4-29	Date of most recent previous report	●	2	V		
	G4-30	Reporting cycle	●	2	V		
	G4-31	Contact point for questions regarding the report for its contents	●	2	V		
	G4-32	Report on 'in accordance' option the organization has chosen, the GRI Content Index for the chosen option, the reference to the External Assurance Report, if the report has been externally assured	●	81-85	V		
Governance	G4-33	Report on the organization's policy and current practice with regard to seeking external assurance for the report, the relationship between the organization and the assurance providers, and whether the highest governance body or senior exec- utives are involved in seeking assurance for the organization's sustainability report	●	2, 84-85	V		
	G4-34	The governance structure of the organization, including committees of the highest governance body	●	12-13	V		
	Ethics and Integrity	G4-56	The Organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	●	30	V	

Specific Standard Disclosures						
Index	Contents	Report- ing Level	Page	Extrnal Assurance	Remarks	
Disclosures on Management Approach	G4-DMA (1) Why the Aspect is material. Report the impacts that make this As- pect material (2) How the organization manages the material Aspect or its impacts (3) The evaluation of the management approach	●	36, 42, 50, 56, 64, 68	V		
Economic						
Economic Performance	G4-EC1	Direct economic value generated and distributed	●	14-15, 74-75	V	
	G4-EC2	Financial implications and other risks and opportunities for the organi- zation's activities due to climate change	●	7, 74-75	V	
	G4-EC3	Coverage of the organization's defined benefit plan obligations	●	77	V	
	G4-EC4	Significant indirect economic impacts, including the extent of impacts	●	75	V	
Market Presence	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	●	-	V	Directors who are the BOD members at the domestic sites are Korean
Indirect Eco- nomic Impacts	G4-EC7	Development and impact of infrastructure investment and services supported	●	14-15, 68-71	V	
	G4-EC8	Significant indirect economic impacts, including the extent of impacts	●	14-15	V	
Procurement Practices	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	●	14-15, 78	V	
Environmental						
Material	G4-EN1	Materials used by weight or volume	●	76	V	
	G4-EN2	Percentage of materials used that are recycled input materials	●	-	V	No use of recycled raw materials
Energy	G4-EN5	Energy intensity	●	44-45, 76	V	
	G4-EN6	Reduction of energy consumption	●	44-45, 76	V	
	G4-EN7	Reductions in energy requirements of products and services	●	18-21	V	
Water	G4-EN8	Total water withdrawal by source	●	76	V	
	G4-EN9	Water sources significantly affected by withdrawal of water	●	45	V	
	G4-EN10	Total water withdrawal by source	●	45	V	
Emission	G4-EN15	Direct greenhouse gas (GHG) emissions	●	44, 76	V	
	G4-EN16	Indirect greenhouse gas (GHG) emissions	●	44, 76	V	
	G4-EN18	Greenhouse gas (GHG) emissions intensity	●	76	V	
	G4-EN19	Reduction of reenhouse gas (GHG) emissions intensity	●	44	V	
	G4-EN21	NOx, SOx and other significant air emissions	●	45, 76	V	
	G4-EN22	Total water discharge by quality and destination	●	45, 76	V	
Effluents and Waste	G4-EN23	Total weight of waste by type and disposal method	●	45, 76	V	
	G4-EN24	Total number and volume of significant spills	●	-	V	No spill of hazardous substances during the reporting period
	G4-EN25	Weight of transformed, imported, exported, or treated wasted deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and percentage of transported waste shipped internationally	N/A	-	V	No waste was shipped overseas
	G4-EN26	Identity, size, protected status, and biodiversity value of water bodies related habitats significantly affected by the organization's discharge of water and runoff	N/A	-	V	Wastewater was entirely treated by external pro- fessional firms
Products and Services	G4-EN27	Extent of impact mitigation of environmental impacts of products and services	●	18-21, 48-49	V	
Compliance	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	●	-	V	No violation to environ- mental laws and regula- tions during the reporting period

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GRI G4(Core) Index

Specific Standard Disclosures					
Index	Contents	Report- ing Level	Page	Extnal Assurance	Remarks
Overall	G4-EN31 Total environmental protection expenditures and investment by type	●	44,	V	
Supplier Environmental Assessment	G4-EN32 Percentage of new suppliers that were screened using environmental criteria	●	44,	V	
Environmental Grievance Mechanisms	G4-EN34 Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	●	31	V	
Social					
Labor Practices and Decent Work					
Employment	G4-LA1 Total number and rates of new employee hires and employee turnover by age group, gender and region	●	77	V	
	G4-LA2 Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	●	67	V	
	G4-LA3 Return to work and retention rates after parental leave, by gender	●	78	V	
Labor/ Management Relations	G4-LA4 Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	●	67	V	
Occupational Health and Safety	G4-LA5 Percentage of total work force represented in formal joint management-worker health and safety commitments that help monitor and advise on occupational health and safety programs	●	76	V	
	G4-LA6 Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and gender	●	46, 76	V	
	G4-LA7 Workers with high incidence of high risk of diseases related to their occupation	●	46-47	V	
	G4-LA8 Health and safety topics covered in formal agreements with trade unions	●	46-47	V	
Training and Education	G4-LA9 Average hours of training per year per employee by gender, and by employee category	●	66, 77	V	
	G4-LA10 Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	●	66	V	
	G4-LA11 Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	●	66	V	
Diversity and Equal Opportunity	G4-LA12 Composition of governance bodies and breakdown of employees	●	77	V	
Labor Practices and Grievance Mechanisms	G4-LA16 Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	●	31	V	
Human Rights					
Investment	G4-HR2 Total number of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	●	32	V	
Freedom of Association and Collective Bargaining	G4-HR4 Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	●	-	V	No infringement or violation
Child Labor	G4-HR5 Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	●	57, 67	V	
Forced or Compulsory Labor	G4-HR6 Operations and suppliers identified as having significant risk for incidents or forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	●	57, 67	V	
Human Rights Grievance Mechanisms	G4-HR12 Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	●	31	V	
Society					
Local Communities	G4-S01 Percentage of operations with implemented local community engagement, impact assessments, and development programs	●	70-71	V	
Anti-corruption	G4-S03 Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	●	34-35	V	
	G4-S04 Communication and training on anti-corruption policies and procedures	●	33	V	
	G4-S05 Confirmed incidents of corruption and actions taken	●	-	V	No case

Specific Standard Disclosures					
Index	Contents	Report- ing Level	Page	Extnal Assurance	Remarks
Public Policy	G4-S06 Total value of political contributions by country and recipient/beneficiary	●	-	V	No case
Anti-competitive Behavior	G4-S07 Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	●	-	V	No case
Compliance	G4-S08 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	●	-	V	No case
Supplier Social Assessment	G4-S09 New suppliers that were screened using social criteria	●	61	V	
Mechanisms for Impacts on Society	G4-S011 Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	●	31	V	
Product Responsibility					
Customer Health and Safety	G4-PR1 Percentage of significant products and services categories for which health and safety impacts are assessed for improvement	●	48-49	V	
	G4-PR2 Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	●	-	V	No case
Product and Service Labeling	G4-PR5 Results of surveys measuring customer satisfaction	●	51	V	
	G4-PR6 Sale of banned or disputes products	●	-	V	No case
Marketing Communications	G4-PR7 Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	●	-	V	No case
Customer Privacy	G4-PR8 Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	●	55	V	
Compliance	G4-PR9 Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	●	-	V	No case

UN Global Compact COP



UN Global Compact 10 principles	Page reported	LSIS policy
Human Rights	Principle 1. Businesses should support and respect the protection of internationally proclaimed human rights. Principle 2. Businesses should ensure they are not complicit in human rights abuses.	Ethical Management p.30-33
Labor	Principle 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining. Principle 4. Businesses should uphold the elimination of all forms of forced and compulsory labor. Principle 5. Businesses should uphold the effective abolition of child labor. Principle 6. Businesses should uphold the elimination of discrimination in respect of employment and occupation.	Employees -Strengthen Human Rights and Labor Policies p.67 - LSIS Code of Ethics - Code of Conduct for Employees
	Principle 7. Businesses should support a precautionary approach to environmental challenges. Principle 8. Businesses should undertake initiatives to promote greater environmental responsibility. Principle 9. Businesses should encourage the development and diffusion of environmentally friendly technologies.	Environment and Safety p.42-49 - LSIS Environmental policies
	Principle 10. Businesses should work against corruption in all its forms, including extortion and bribery.	Ethical Management p.30-33 - LSIS Code of Ethics - Code of Conduct for Employees

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Appendix

Third Party's Assurance Statement

To the Readers of 2016-2017 LSIS Sustainability Report:

Foreword

Korea Management Registration Inc.(hereinafter "KMR") has been requested by of LSIS to verify the contents of its 2016-2017 Sustainability Report (hereinafter "the Report"). LSIS is responsible for the collection and presentation of information included in the Report. KMR's responsibility is to carry out assurance engagement on specific data and information in the assurance scope stipulated below.

Scope and standard

LSIS describes its efforts and achievements of the corporate social responsibility activities in the Report. KMR performed a Type 2, moderate level of assurance using AA1000AS (2008) as an assurance standard. KMR's assurance team(hereinafter "the team") evaluated the adherence to Principles of Inclusivity, Materiality and Responsiveness, and the reliability of the selected GRI G4 indices as below, where professional judgment of the team was exercised as materiality criteria.

• GRI Reporting Principles

• General Disclosures

• Specific Standard Disclosures

Generic DMA of each of following material Indicators of Aspects

· Economic Performance: EC1, EC2, EC3, EC4

· Market Presence: EC6

· Indirect Economic Impacts: EC7, EC8

· Procurement Practices: EC9

· Materials: EN1, EN2

· Energy: EN3, EN5, EN6, EN7

· Water: EN8, EN9, EN10

· Emissions: EN15, EN16, EN18, EN19, EN20, EN21

· Effluents and waste: EN22, EN23, EN24, EN25, EN26

· Products and Services: EN27

· Compliance: EN29

· Overall: EN31

· Supplier Environmental Assessment: EN32

· Environmental Grievance Mechanisms: EN34

· Employment: LA1, LA2, LA3

· Labor/Management Relations: LA4

· Occupational Health and Safety: LA5, LA6, LA7, LA8

· Training and Education: LA9, LA10, LA11

· Diversity and Equal Opportunity: LA12

· Labor Practices Grievance Mechanisms: LA16

· Investment: HR2

· Freedom of Association and Collective Bargaining: HR4

· Child Labor: HR5

· Forced or Compulsory Labor: HR6

· Human Rights Grievance Mechanisms: HR12

· Local Communities: SO1

· Anti-corruption: SO3, SO4, SO5

· Public Policy: SO6

· Anti-competitive Behavior: SO7

· Compliance: SO8

· Grievance Mechanisms for Impacts on Society: SO11

· Customer Health and Safety: PR1, PR2

· Product and Service Labeling: PR5

· Marketing Communications: PR6, PR7

· Customer Privacy: PR8

· Compliance: PR9

This Report excludes a data and information of joint corporate, contractor etc. which is outside of the organization, i.e. LSIS, among report boundaries.

Our approach

In order to verify the contents of the Report within an agreed scope of assurance in accordance with the assurance standard, the team has carried out an assurance engagement as follows:

• Reviewed overall report

• Reviewed materiality test process and methodology

• Reviewed sustainability management strategies and targets

• Reviewed stakeholder engagement activities

• Interviewed people in charge of preparing the Report

Our conclusion

Based on the results we have obtained from material reviews and interviews, we had several discussions with LSIS on the revision of the Report. We reviewed the Report's final version in order to confirm that our recommendations for improvement and our revisions have been reflected. When reviewing the results of the assurance, the assurance team could not find any inappropriate contents in the Report to the compliance with the principles stipulated below. Nothing has come to our attention that causes us to believe that the data included in the verification scope are not presented appropriately.

- **Inclusivity** Inclusivity is the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.
 - LSIS is developing and maintaining stakeholder communication channels in various forms and levels in order to make a commitment to be responsible for the stakeholders. The assurance team could not find any critical stakeholder LSIS left out during this procedure.
- **Materiality** Materiality is determining the relevance and significance of an issue to an organization and its stakeholders. A material issue is an issue that will influence the decisions, actions, and performance of an organization or its stakeholders.
 - LSIS is determining the materiality of issues found out through stakeholder communication channels through its own materiality evaluation process, and the assurance team could not find any critical issues left out in this process.

- **Responsiveness** Responsiveness is an organization's response to stakeholder issues that affect its sustainability performance and is realized through decisions, actions, and performance, as well as communication with stakeholders.
 - The assurance team could not find any evidence that LSIS's counter measures to critical stakeholder issues were inappropriately recorded in the Report.

We could not find any evidence the Report was not prepared in accordance with the 'Core Option' of GRI G4.

Recommendation for improvement

KMR recommends that the report published by LSIS will be actively used as a tool for stakeholder communication and continuous improvement.

- **LSIS is conducting systematic materiality assessment through communication and diagnosis of various stakeholders. It is impressive that we are making active efforts to establish key issues and CSR action plans and to achieve LSIS's goals. In the future, we recommend that you continue to identify stakeholder interests and reflect them in our products and services.**

- **LSIS conduct systematic materiality evaluations through various communication and diagnosis with stakeholders and makes great efforts to enhance the sustainability of the organization. In the future, LSIS will continue to monitor and reflect stakeholder expectations and interests in products and services in the context of sustainability.**

Our independence

KMR has no involvement in LSIS business activities other than providing third party assurance services and maintains independence to avoid conflicts of interest.

May, 25th, 2017
CEO **Ki Ho Park**



K. H. Park

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Appendix

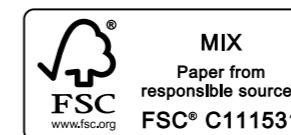
Staff Recognition for Their Contribution to This Report

General Publication Management		
Chief Strategy Officer		Sei-Jin Ahn
Corporate Planning Team		Sang-Soo Lee
Corporate Planning Team		Young-Myoung Sohn
Corporate Overview		
Treasury Team		Jae-Hyun Park
Treasury Team		Sung-Joon Song
Power Solution Biz.) Strategic Planning Team		Jong-Sopb Choi
Power Solution Biz.) Strategic Planning Team		Jin-Hong Song
Industrial Automation Biz.) Strategic Planning Team		Hwan Jeong
Industrial Automation Biz.) Strategic Planning Team		Jin-Bok Noh
Core Issue Reporting		
Ethical Management	Audit Dept.	Joon-Gil Kim
	Audit Dept.	Won-Ki Kim
Compliance	Legal Affairs Team	Dong-Ick Moon
	Legal Affairs Team	Ju-Hye Kim
Integrated Risk Management	Internal Verification Part	Hee-Tack Roh
	Internal Verification Part	Taek-Yoon Kim
Reinforcement of Product Competitiveness	Quality Management Team	Kwan-noh Yoon
	Quality Management Team	Sik-Il An
	Reliability Center	Jong-Kug Seon
	Reliability Center	Sung-Hwan Kim
	Research Support Team	Yung-Ho Yuon
	Research Support Team	Sang-Rae Park
	IP Team	Jang-Se Jung
	IP Team	Jong-Hoon Seong
Environment and Safety Management	Environment & Safety Team	Ki-Seon Kim
	Environment & Safety Team	Gi-Hyun Ryu
	Environment & Safety Team	Jun-Pyo Ko
Customer Communication	Power) Marketing Team	Sang-Won Hwang
	Power) Marketing Team	So-Hyun Yoon
	Industrial Automation Biz.) Marketing Team	Byung-Su Ku
	Industrial Automation Biz.) Marketing Team	Sang-Hee Hong
	Innovation Promotion Team (Security Part)	In-Kyoung Kim
	Design Center	Sung-Man Kim
Shared Growth with Suppliers	Global Sourcing	Ki-Bok Kim
	Global Sourcing	Hye-Yeong Seo
Securing and Cultivating Global Talents	HR Team	Sang-Tae Park
	HR Team	Seung-Seok Oh
	HR Development Team	In-Seok Cheon
	HR & Relations Management Team	Jae-Woo Kim
Local Community Contribution	Public Relations Team	Young-Dal Oh
	Public Relations Team	Myoung-Geun Choi
	Public Relations Team	Do-Yup Kwon

About LSIS

Core Issues of Sustainability Management

Appendix



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