

# NATURE, HUMAN AND SPACE



LG Hausys Sustainability Report 2018



We create human-friendly and  
eco-conscious living spaces.



# LG HAUSYS 2018 SUSTAINABILITY REPORT

## About This Report

### Report Overview

This report marks LG Hausys' seventh sustainability report. Each year, LG Hausys publishes a sustainability report in order to respond to the interests of its key stakeholders and to share the company's performance with regard to their expectations. We use the report as a communications channel to reflect the ideas and opinions of our internal and external stakeholders, and for enhancing the credibility of the company in the eyes of our stakeholders.

### Reporting Period

This report contains our economic, environmental and social initiatives and accomplishments between January 1st, 2017 and December 31st, 2017. The latest data of April 2018 is included for several sections (e.g. composition of the BOD). The data for the years 2015-2017 is provided for a portion of the quantitative data to allow for yearly trend analyses.

### Reporting Scope

The contents of this report covers our headquarters and domestic plants. Some data covers our overseas subsidiaries in China, the U.S. and other regions. If any data discrepancy from the previous report occurs due to modification in data coverage or calculation methods, such differences are marked separately. The financial data of LG Hausys and its subsidiaries are reported on a consolidated basis in accordance with K-IFRS standards.

### Reporting Principles

The preparation of this report is based on the Core Option of the Global Reporting Initiative (GRI) Standard. For further details, please refer to the GRI Index on pages 74-75.

### Assurance

This report was assured by an independent third-party assurance service provider in accordance with AA1000APS (2008), and the assurance statement appears on pages 72-73.

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## Contents

	04	CEO's Message
<b>Business &amp; Strategy</b>	06	Corporate Overview
	08	Product Portfolio
	10	Management Strategy & Performance
	11	Market Outlook for Each Business
	12	Overseas Business Expansion
	14	Sustainability Management
	15	Stakeholder Communication & Materiality Analysis Process
	16	Key Achievements in Sustainability Management
<b>Focus Issues &amp; Business Cases</b>	20	Eco & Social Value Product
	28	Quality and Design Competitiveness
	34	Strengthening Workplace Safety
	38	Shared Growth with Suppliers
<b>Management Report</b>	44	Research & Development
	46	Environmental Management
	48	Talent Management
	52	Social Contribution
<b>Governance &amp; Ethics</b>	58	Governance
	60	Ethics Management
	62	Fair Trade
	64	Risk Management
<b>Appendix</b>	66	Financial Data
	67	Sustainability and Performance Data
	72	Independent Assurance Statement
	74	GRI Index
	76	UN Global Compact
	77	UN SDGs
	78	Association Memberships

## CEO's MESSAGE

LG Hausys will make 'Customer Values Creation' its top priority and transform itself into a company that ceaselessly takes on new challenges and uses talent and innovation to create living spaces where people can live in harmony with nature and socialize with each other.



Dear Stakeholders,

LG Hausys is Korea's largest manufacturer of building & decorative materials, high-functional materials, industrial film, and automotive components. Under the vision of 'We create human-friendly and eco-conscious living spaces.', our company provides products and solutions designed to maximize eco-friendliness and energy efficiency. We are establishing ourselves as a company that knows how to impress its customers and win their trust with all its products, whether designed for living spaces or moving spaces.

With our core technologies serving as its backbone, our company is continuously developing future growth engines and working to upgrade our business structure. These new businesses include automotive lightweight parts, energy-saving windows, noise-attenuation flooring, high-performance insulation materials, solid surface, engineered stones, and high-performance interior materials.

We are also pursuing localization actively by securing production sites that will facilitate our expansion into strategic overseas markets such as the US and China. At the same time, we are actively seeking entry into emerging markets such as India, the Middle East, and Southeast Asia. In doing so, we plan to lay the foundations for sustained growth in overseas markets.

This year, LG Hausys plans to improve its manufacturing capabilities, the key element of our business, to a world-class standard and to completely upgrade our business structure by changing the way we do business. To become a leading company that fundamentally transforms the competitive landscape, LG Hausys will concentrate its resources into manufacturing innovation and completing an upgrade of our business structure this year. We consider 'Customer Value Creation' our top priority and we will recreate ourselves as a company that ceaselessly takes on new challenges and uses talent and innovation to create living spaces where people can live in harmony with nature and socialize freely. In addition, we are actively pursuing sustainability management activities as well as recognizing that communication and trust-building with various stakeholders such as our customers, our suppliers, local community, and shareholders the driving forces of sustainable growth and development.

### First, LG Hausys will continuously develop eco and social value products

By developing eco and social value products, we will help solve some of the urgent problems currently facing our society such as climate change, widespread concerns about chemical substances, air pollution caused by fine dust, and both natural and man-made disasters. Eco-friendly materials such as flooring and wallpaper, energy-saving windows and glass, and semi-fireproof and fireproof insulation products are just some of the unique environmental and social solution products that our company provides. In recognition of these efforts, LG Hausys was selected as one of the 'Top 10 Eco-friendly Building Material Brands in China' in 2018 for the 5th year in a row. LG Hausys is the only foreign company to make this achievement. In addition, we have succeeded in obtaining EPD (Environmental Product Declaration) certifications for our PF board (a high-performance building insulation material), a first in the building industry. The Environmental Product Declaration is a system for rating and marking the environmental impact of the entire product process from production to distribution, consumption, and disposal. Starting with insulation materials, we are gradually increasing the number of EPD certified products to include wallpapers, windows, and floorings. Through steady R&D and investment, we will maintain our leadership of the market by developing products that can contribute to tackling the world's most pressing environmental and social problems.

### Second, LG Hausys will improve its competitiveness in design and quality

We operate a systematic quality assurance program to provide the best value to our customers, and thus require that all of our organizations and personnel adhere to stringent quality requirements. In 2017, we were the first company in Korea to obtain quality management system certification for window installation quality. To improve customer satisfaction with not only the product itself, but also with the quality of installations, we standardized window installation procedures and collaborated with window installation companies in setting up a long-term quality management system. In addition, in order to transcend the design value of our products and enrich the living space of our customers, we are building customer-oriented, world-class design skills to become the penultimate leader of future trends in residential spaces.

### Third, LG Hausys will improve safety management in the workplace

The safety of the environment must be strictly guaranteed by leaving no room for error or compromise. Our company has adopted safety environment work standards and is carrying out activities to boost our safety environment management capabilities and realize "zero safety environment accidents" in the workplace. To ensure safety after adding to new equipment or expanding to existing equipment, we are actively responding to potential safety and environmental risks by running a pre-review process (SE-Gate) in which checkpoints included in the investment plan are examined.

### Fourth, LG Hausys will pursue shared growth by helping our suppliers improve their competitiveness

We recognize suppliers as partners in shared growth, and are helping them improve their competitiveness in areas like productivity enhancement and facility automation. We also established the CSR Code of Conduct for suppliers to define regulations concerning labor and working conditions, ethical management, safety and health, and environmental management. We are requiring all of our suppliers to comply with the CSR Code of Conduct and fulfill their social responsibilities.

LG Hausys will continue creating customer and social values through the development of sustainable products. We will become a company that wins the trust and respect of our stakeholders by stepping up our safety environment management and pursuing shared growth. We would greatly appreciate your continued interest and encouragement.

Thank you.

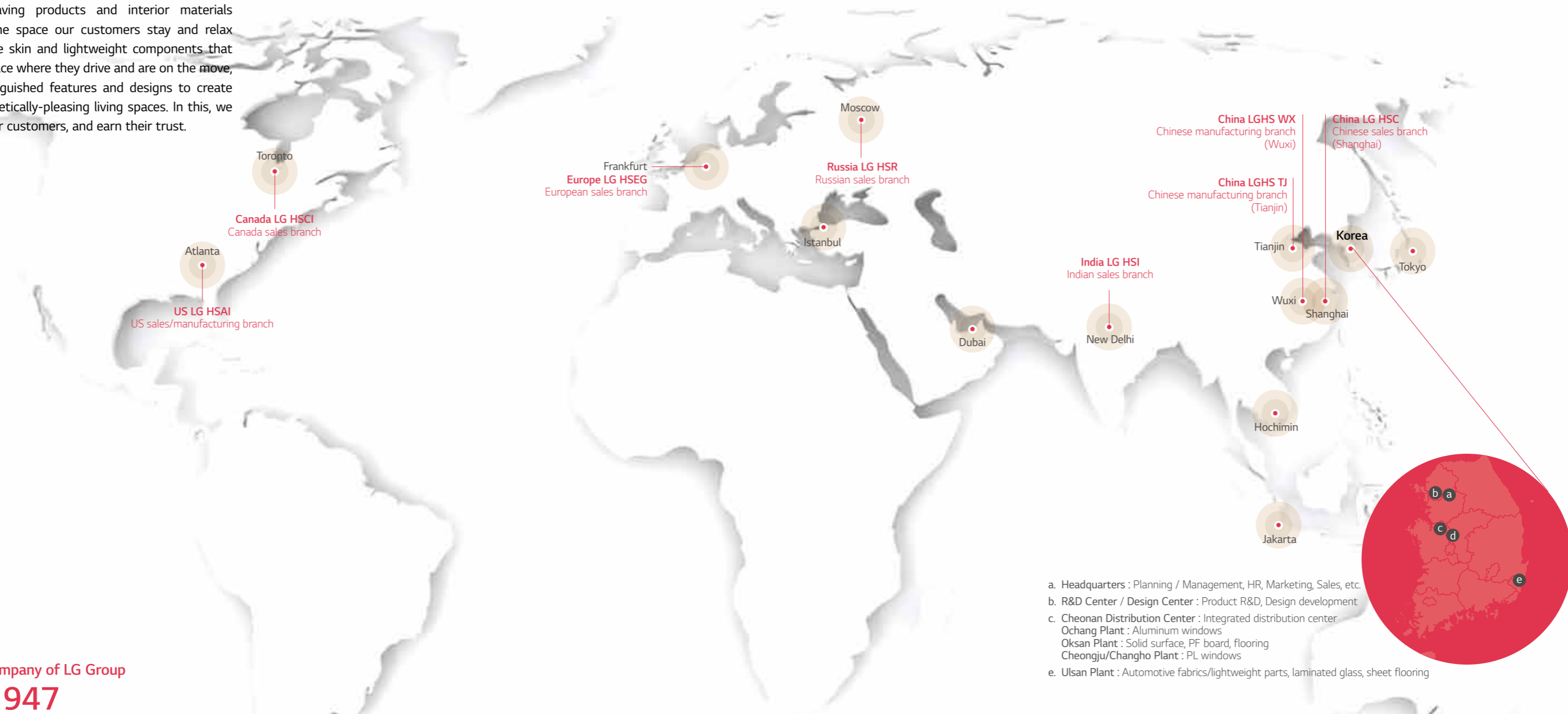
LG Hausys, President & CEO, Min Kyung-Jip

# Corporate Overview

LG Hausys is Korea's largest manufacturer of building & decorative materials, in addition to high-performance and automotive materials & parts. From market-leading green energy-saving products and interior materials that decorate the space our customers stay and relax in, to automotive skin and lightweight components that complete the space where they drive and are on the move, we deliver distinguished features and designs to create sound and aesthetically-pleasing living spaces. In this, we aim to satisfy our customers, and earn their trust.

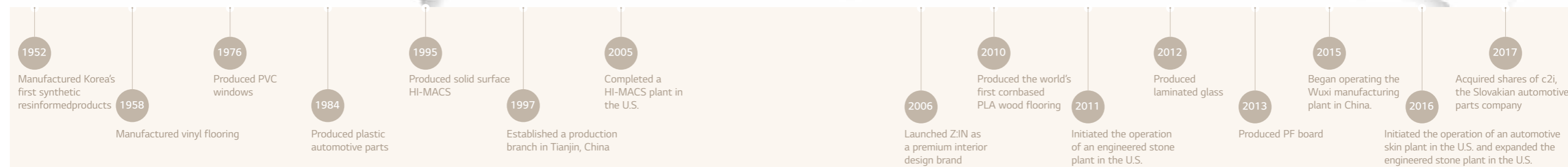
Sales (Unit : KRW 100 million)	Profits	Overseas sales (Unit : KRW 100 million)	Ratio of overseas sales (Unit : %)	Employees in Korea (Unit : No. of persons)	Employees abroad
32,565	1,330	9,456	29.0	3,197	1,297

\* As of year-end closing 2017



- a. Headquarters : Planning / Management, HR, Marketing, Sales, etc.
- b. R&D Center / Design Center : Product R&D, Design development
- c. Cheonan Distribution Center : Integrated distribution center  
Ochang Plant : Aluminum windows  
Oksan Plant : Solid surface, PF board, flooring  
Cheongju/Changho Plant : PL windows
- e. Ulsan Plant : Automotive fabrics/lightweight parts, laminated glass, sheet flooring

## The mother company of LG Group Since 1947



## Product Portfolio

LG Hausys has been enhancing its corporate competitiveness by providing a wide range of solutions such as building and decorative materials, automotive fabrics and industrial films for living spaces and moving spaces. LG Hausys is committed to producing innovative products that reflect its customers' interests and lifestyles with products intended for environments where people can feel and appreciate the presence of nature.



### Building & Decorative Materials

To create safe and vibrant interiors, we create windows and laminated glass with exceptional insulation and durability, green flooring and wallpaper with surface lay materials made from a natural plant base, fire-proof insulation boards with outstanding insulation performance, solid surface favored by world-renowned architects, and decorative and interior design films recognized for their trendy designs and top-notch functionality.

#### Main Products

Windows, Glass, Flooring, Wallpaper, PF board, Solid surface & Engineered stone, Synthetic wood, Decorative film, Interior design film

### Automotive Materials & Components

Our automotive skin is recognized for its exceptional functionality and eco-friendliness with lightweight parts that help improve fuel efficiency, and other automotive components fitted in both the interior and exterior of vehicles to create safer and more comfortable auto interiors.

#### Main Products

Automotive Fabrics, Lightweight Parts, Automotive Parts



### Industrial Films

We produce home appliance films known for their outstanding design and materials for use in advertisements, and in the creation of aesthetically-pleasing spaces

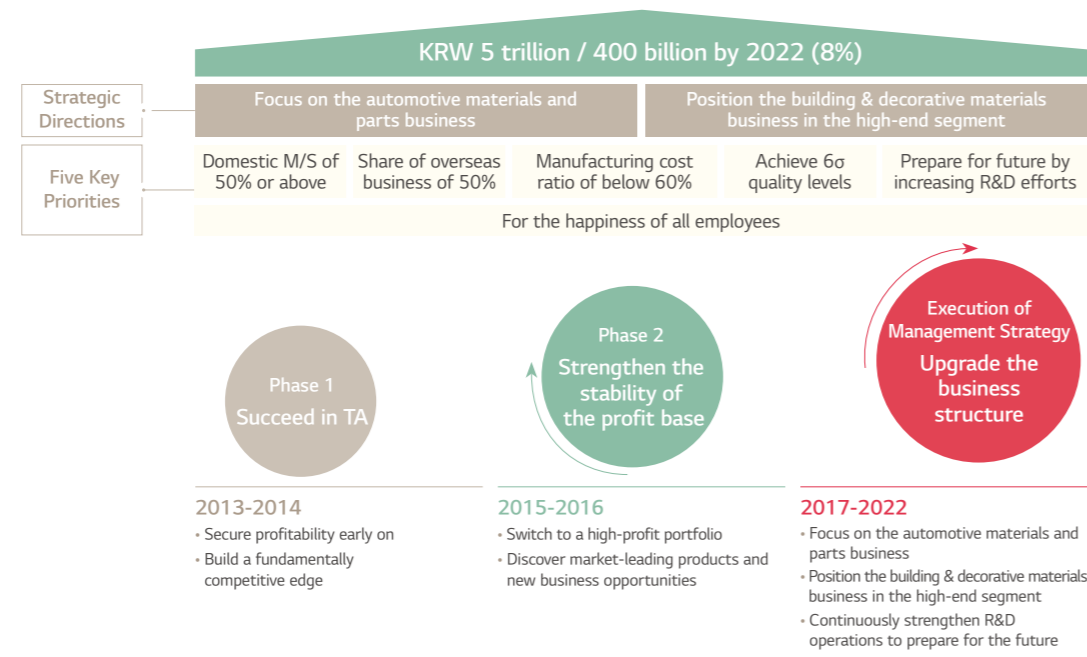
#### Main Products

Home Appliance Films, Signs & Graphics



## Management Strategy & Performance

For two years from 2015 to 2016, LG Hausys focused on strengthening the profitability of its business structure by transforming it into a high-profit portfolio-based structure. The company thus defined two strategic directions to pursue from 2017 growing the automotive materials and parts business into the company's main business, and positioning the building & decorative materials business in the high-end segment. Under these main strategies, we intend to work towards realizing the following 5 key objectives of increasing our domestic market share to 50% or above, increasing the share of our overseas business to 50% or above, reducing our manufacturing costs, achieving 6σ quality, and increasing our R&D efforts in preparation for the future. With these efforts, we intend to achieve our goal of posting KRW 5 trillion in sales and KRW 400 billion in profit by 2022.



### Achievements & Goals

LG Hausys has achieved a sales growth of 11% compared to the previous year, generating sales of KRW 3.26 trillion and an operating profit of KRW 133 billion. This is the result of our aggressive pursuit of product innovation, cost innovation, and sales innovation activities with the aim of fundamentally changing our business structure. Hereafter, we aim to increase our R&D efforts to expand our overseas business, objectives that are necessary for our future strategic goals of growing the automotive materials and parts business into the company's main business and positioning the building & decorative materials business into the high-end segment.

Focus on the automotive material and parts business	Position the building & decorative materials business in the high-end segment	Strengthen the competitiveness of R&D
<p><b>Key Achievements in 2017</b></p> <ul style="list-style-type: none"> <li>Secure of a European manufacturing hub for lightweight parts.</li> <li>Entry to the fabric global OEM market.</li> </ul> <p><b>2018 Plans</b></p> <ul style="list-style-type: none"> <li>Accelerate the growth of our lightweight component business</li> <li>Develop differentiated automotive skin products and expand the market</li> </ul> <p><b>Mid/long-term Goals</b></p> <ul style="list-style-type: none"> <li>Lead the lightweight component market</li> <li>Expand the global automotive skin business</li> </ul>	<p><b>Key Achievements in 2017</b></p> <ul style="list-style-type: none"> <li>Developed differentiated energy-saving and premium products : Increased the sales of high-insulation windows, insulation boards and engineered stone</li> </ul> <p><b>2018 Plans</b></p> <ul style="list-style-type: none"> <li>Constantly improve the performance of energy-saving products and strengthen new differentiated premium products.</li> </ul> <p><b>Mid/long-term Goals</b></p> <ul style="list-style-type: none"> <li>Continue to lead the domestic building &amp; decorative materials market and increase the ratio of overseas business to 50% and above</li> </ul>	<p><b>Key Achievements in 2017</b></p> <ul style="list-style-type: none"> <li>Automotive materials and parts                             <ul style="list-style-type: none"> <li>Diversified automotive lightweight components and materials</li> </ul> </li> <li>Building &amp; decorative materials                             <ul style="list-style-type: none"> <li>Development of next-generation IoT enabled window handles (Winner of the 2018 iF Design Award)</li> </ul> </li> </ul> <p><b>2018 Plans</b></p> <ul style="list-style-type: none"> <li>Automotive materials and parts                             <ul style="list-style-type: none"> <li>Expand the automotive lightweight parts line-up</li> <li>Develop new differentiated automotive fabrics</li> </ul> </li> <li>Building &amp; decorative materials                             <ul style="list-style-type: none"> <li>Develop an insulation material with enhanced insulation &amp; installation properties for the construction industry</li> </ul> </li> </ul> <p><b>Mid/long-term Goals</b></p> <ul style="list-style-type: none"> <li>Strengthen technology in automotive lightweight components (expand lightweight parts line-ups)</li> <li>Develop next-generation building &amp; decorative materials by researching future residential environments</li> <li>Strengthen open innovation to secure key/source technology and prepare for the future</li> </ul>

## Market Outlook for Each Business

### Building Materials

The main products in our building materials category are windows (plastic windows, functional glass, aluminum windows) and interior materials (flooring, wallpaper, insulation materials for the construction industry, engineered stone, solid surface). In the window business, we have increased customer value with diverse products, functional windows, and our "Total Window Solution" in which construction and installation are integrated. Based on our completed windows business model, we provide high-performance insulation products to our customers. In addition, through Window Plus and our network of 170 dedicated stores, we are able to offer differentiated services to our customers. To strengthen our B2C business, we sell our products through direct stores, online stores (Z:IN Mall), and home shopping channels. We are also engaged in the government-backed green remodeling support business (including the renovation of old or dilapidated apartments).

We manufacture Low-E functional glass at our Ulsan plant, and are developing high-performance insulation products as part of a wider effort to grow our functional glass business. The demand for functional glass is predicted to increase due to the stricter building insulation requirements of the government's energy saving policy. In our interior materials business we offer ZEA Sorijam, ZEA Flooring, and ZEA wall flooring. These products are derived from eco-friendly resins extracted from corn starch that we hope will contribute to improving the quality of life for our customers and the environment.

With the enforcement of stricter building fire safety regulations, the demand for fireproof and energy-saving insulation materials is steadily increasing. In response to these developments, we are manufacturing a high-performance insulation material for the construction industry that can be used to build safer residential environments. Currently, we are constructing a second thermal insulation factory at our Oksan plant to meet the increasing demand for semi-inflammable insulation materials.

Finally, regarding the engineered stone and solid surface business, we are continually developing differentiated products in our domestic and North American manufacturing lines. We are also expanding our overseas business with the establishment of a sales subsidiary in Canada and our entry into the Australian market.

### Automotive Materials & Components

In the automotive parts and industrial film business, our main products are automotive fabrics, general parts, lightweight parts and décor/advertisement/home appliance films. These are used as interior materials in furniture, windows, buildings, and home appliances.

Changes in the automotive industry are affecting the market for automotive fabrics and parts. Automotive interior materials are becoming increasingly luxurious however the demand for fuel efficiency is increasing while environmental regulations are becoming more stringent. Therefore, we are focused on developing differentiated materials, conducting research into lightweight materials, and procuring new technologies to meet these newly emerging market trends. As for automotive fabrics, we are developing new eco-friendly manufacturing technologies and special products that appeal to the customers' sensibilities with an emphasis on emotional quality. One specific product that is being produced is based on bio-materials that can improve the indoor air quality of vehicles. In automobile parts, we are preparing to develop lightweight composite parts that could replace steel.

In February 2017, we acquired a stake in c2i, a Slovakian carbon fiber lightweight composite material company to procure its carbon fiber technology. We plan to use the c2i manufacturing facility to win further orders from European customers. In the industrial film business, our company is gaining global competitiveness in the home appliance, furniture, and advertisement film markets on the basis of our ability to develop new products with differentiated features and our material fabrication technology.

## Overseas Business Expansion

With regard to its overseas business, LG Hausys is pursuing customer-oriented market strategies in its key markets, namely China and North America. Notably, we have gained a leading position in the global markets for automotive fabrics, solid surface, and home appliances. We have established manufacturing and sales bases in China and North America, and are now focused on expanding our global network through product localization.

In the US, our factory in Georgia produces automotive fabrics, engineered stones, and solid surface products. We provide our customers with eco-friendly, high value-added premium products that are fully localized in line with North American market trends. Henceforth, we plan to raise our share of the automotive fabrics supply to the Big 3 US automakers and Japanese OEMs and we also plan to expand our supply to Europe's leading global customers. We will also expand our market share in solid surface and engineered stone by developing a more diverse distribution channel that will include some of the largest building material distributors in North America.

We are continuously pushing to expand our business in all product categories. As a result, we will make sure that our products meet on-site project specifications in emerging countries like India, Turkey, and the Middle East. In addition, we have opened an additional office in Ho Chi Minh City in order to respond more quickly to the rapidly growing Vietnamese market.

\*As of the end of Dec. 2017 (Unit : KRW billion)



### OTHER COUNTRIES

We are experiencing rapid growth with a large portion in the decorative materials market of emerging regions like the Middle East and Southeast Asia. Driven by our fully-fledged localization strategy (attending local exhibitions and developing products that cater to the lifestyle specifications of local customers), we are successfully tapping into these emerging markets.

Sales (OTHER COUNTRIES)  
**136.7** billion\*

Sales (INDIA)  
**64.5** billion\*

Sales (EUROPE)  
**86** billion\*

Sales (CHINA)  
**231.9** billion\*

Sales (USA)  
**426.5** billion\*

### USA

North America is home to the world's largest decorative and automotive materials market. Our localization strategy focuses on solid surface, automotive skins, and other highly sought after products. We have solid surface and engineered stone plants in the state of Georgia, and our automotive skin plant began operations in 2017 to further increase our share in the U.S. market.

### CHINA

In China, our business comprises automotive materials and parts, industrial films, and building & decorative materials such as windows and floorings. Presently, our high-function high-gloss products and our flooring products have high market shares in China, solidifying our position in the market. As a part of our localization strategy, we began operating our Tianjin and Wuxi plants to deliver differentiated value to customers, from production to distribution. We are also continuously improving the environmental and safety equipment used at those plants to provide a greener workplace for our employees.

### EUROPE

Europe is literally the arena of competition among leading companies in the decorative and automotive materials and components industries. We established our sales branch in Germany and we are competing against these global players in Europe. We paved the way to fully tap into the furniture film segment by forming partnerships with large furniture companies in Western Europe and processing companies in Italy, while building strong growth engines by diversifying the sales channels for our solid surface products. Furthermore, we are working with European automobile makers through our advancement into the automotive skin segment, and we plan to tap into the automotive materials and parts market in Europe by delivering products that exceed the quality requirements of our customers.

### INDIA

LG Hausys is actively advancing into the Indian market, primarily with home appliance film and surface materials. We are launching products that satisfy the design trends of the Indian market, raising our brand awareness through customized designs and regularly-hosted seminars, and discovering new customers. We are gaining a solid foothold in India through our swift and proactive response to customer needs in the home appliance film and solid surface.



# Sustainability Management

## Sustainability Management Implementation System

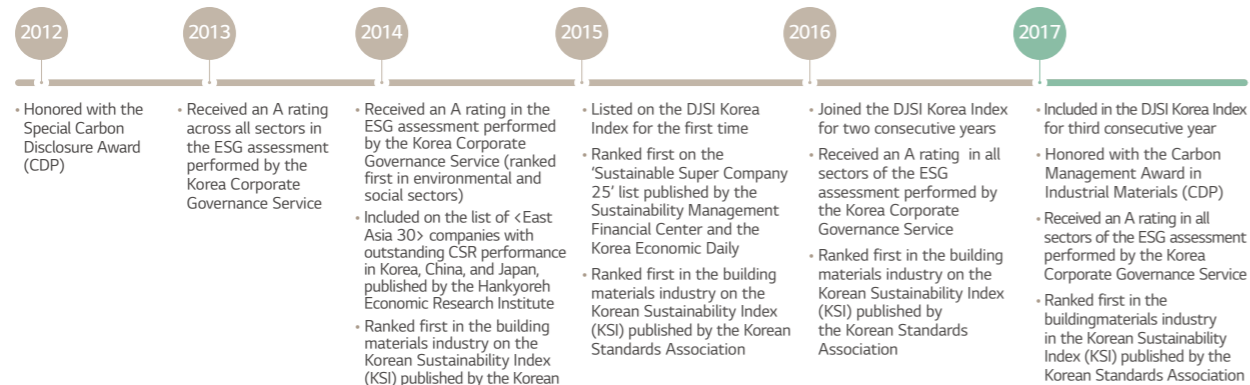
It is under our vision to create 'human-friendly, eco-conscious happy living spaces' that we advance sustainability management at LG Hausys. To become a company respected by society, we have established our sustainability management system to focus on risk management, social contributions and stakeholder communication as the guiding principles of our sustainability management.



## Sustainability Management Roadmap

	2016 : Systematize CSR Activities	2017 : Expand CSR Activities	2018 : Strengthen CSR Activities
Risk Management	<ul style="list-style-type: none"> <li>Global CSR standard compliance activities</li> <li>Establishment of global code of conduct on labor &amp; human rights</li> <li>Establishment of CSR code of conduct for suppliers</li> <li>Risk assessment of LG Hausys &amp; suppliers</li> <li>LG CSR self-assessments and onsite audits</li> <li>Evaluation of suppliers' CSR activities</li> </ul>	<ul style="list-style-type: none"> <li>CSR self-diagnosis &amp; education</li> <li>Regularization of audits of manufacturing subsidiaries/workplaces in Korea and overseas; on-site audit of Tianjin subsidiary</li> <li>Regularization of supplier risk prevention activities</li> <li>Increase of onsite audit ratio</li> <li>Expansion of management of automotive parts suppliers &amp; education for key suppliers</li> <li>LG CSR self-assessments and onsite audits</li> <li>Evaluation of suppliers' CSR activities</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening of risk assessment activities</li> <li>On-site audits and education at overseas branches</li> <li>Revision of questions on audit for suppliers</li> <li>Establishment of standard for CSR audits of suppliers</li> </ul>
Social Contribution	<ul style="list-style-type: none"> <li>Invigoration of leading programs</li> <li>Patriotic social contribution activities</li> <li>Dokdo Natural Preservation Zone (Jikim)</li> <li>Creation of happy spaces</li> <li>Intensification of local community &amp; educational center activities</li> <li>Assistance with recovery from damages caused by typhoon 'Chaba'</li> <li>Support for undergraduate chemical engineering departments</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of leading program activities</li> <li>Support for repair &amp; maintenance of Hyeonchung building : Wudang Memorial Hall &amp; Ahn Joong-geun Memorial Hall</li> <li>Support for repair &amp; maintenance of Korean War veterans monuments in Korea and overseas</li> <li>Development of new programs- Launch of social contribution activities for children of employees</li> <li>Expansion of economic/social outcomes</li> <li>Strengthening of external/internal communication</li> </ul>	<ul style="list-style-type: none"> <li>Reinforcement of leading programs</li> <li>Support for repair &amp; maintenance of Hyeonchung building and monuments dedicated to national heroes</li> <li>Strengthening of the Dokdo Camp program : linkage with patriotic social contribution activities</li> <li>Improvement of donation process</li> <li>Establishment of rules for making donations and formation of a donation review committee</li> <li>Invigoration of community social contribution program</li> <li>Expansion of employee volunteer activities (HQ, Ulsan)</li> <li>1-on-1 Military-Corporate activities (Oksan)</li> </ul>

## External Awards Received for Sustainability Management



# Stakeholder Communication & Materiality Analysis Process

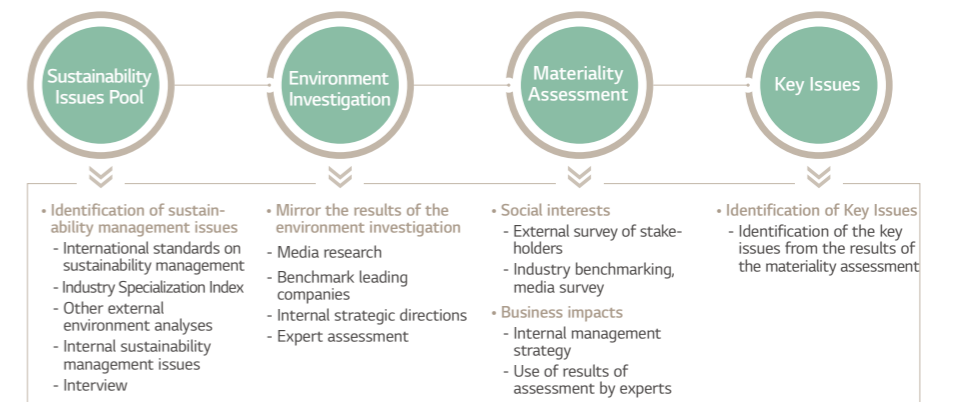
## Major Stakeholders and Communication Channels

We define shareholders & investors, employees, customers, suppliers, and local communities as our key stakeholders in accordance with their role, influence, and responsibilities out of the individuals and organizations who interact with us in our business conduct. Our 2018 Sustainability Report outlines the key initiatives undertaken in 2017 by identifying the concerns and expectations of our stakeholders.



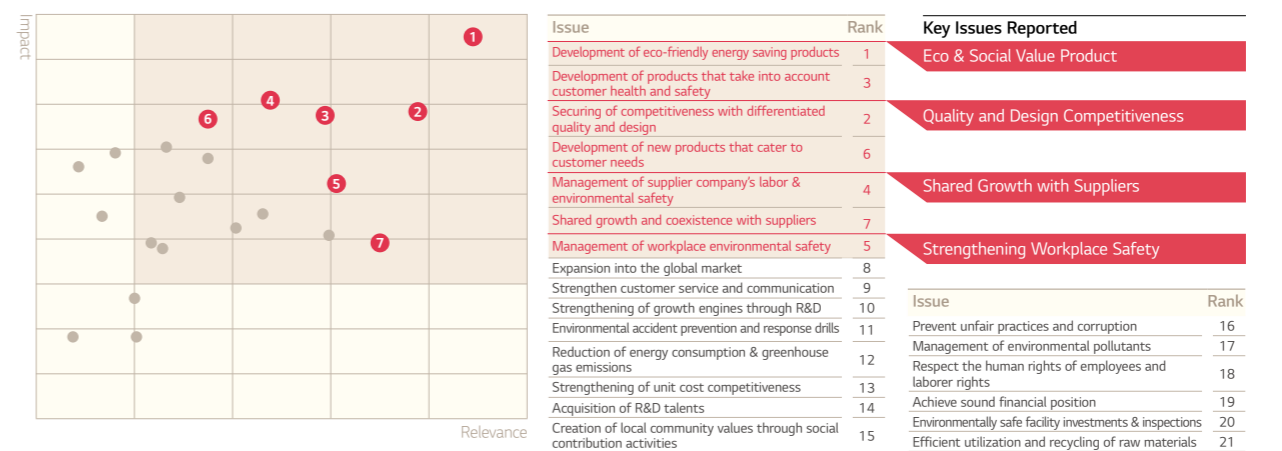
## Core Issue Identification Process

At LG Hausys, we have conducted materiality assessments to identify the core sustainability issues surrounding our company to satisfy the interest and expectations of our stakeholders. Through this materiality assessment, which is based on the GRI Standard, we were able to identify issues of high interest to our stakeholders along with any issues that have had a strong impact on our business.



## Materiality Assessment Mapping and Linkage to Report

Our Sustainability Report 2018 is the seventh report, and presents issues of high interest among our stakeholders.



# Key Achievements in Sustainability Management

The sustainability management issues that had the most impact on our internal/external stakeholders during 2017 were eco & social value product, quality & design competitiveness, workplace safety management improvement, and shared growth with suppliers. We set mid/long-term goals on key issues or respective areas and consistently endeavor to progress on these in order to maximize our efficiency.

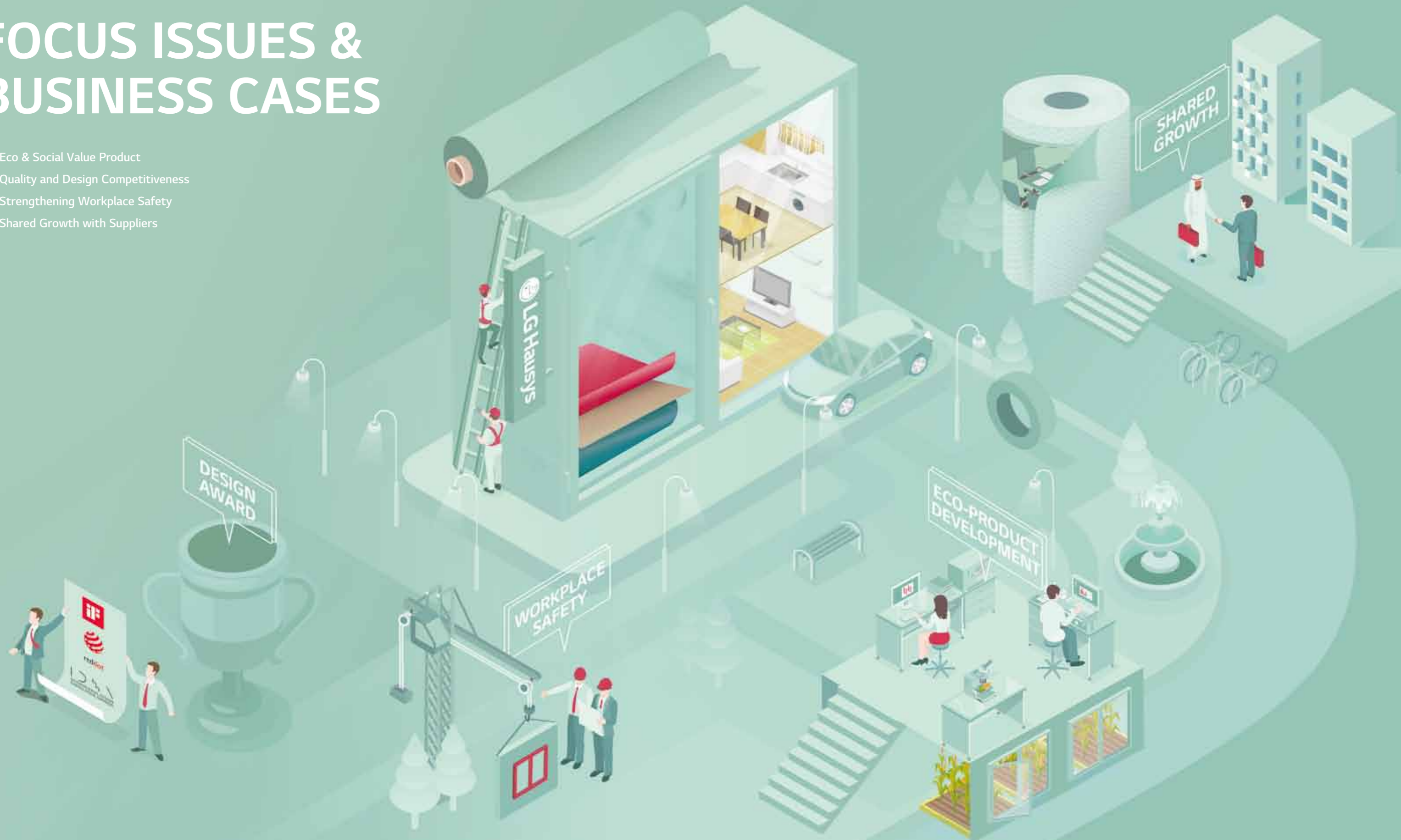
Key Issue	Priority	Key Achievements in 2017	2018 Plans	Mid/Long-term Goals	Page
Eco & Social Value Product	Broaden the green materials and product market	<ul style="list-style-type: none"> <li>Launched new products Launched new products fine dust window, Oxidation-proof Power Plus Low-E glass, ZEA Sorijam, ZEA, ZEA Jayeonae, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Expand the eco-friendly product line ZEA Sarangae sheet floorings, DIAMANT wallpaper, fabric, ZEA Maru Wood etc.</li> </ul>	<ul style="list-style-type: none"> <li>Expand line-up of functional products made with eco-friendly materials</li> <li>Increase sales of products made with eco-friendly materials</li> </ul>	P. 20-27
	Expand energy-saving products	<ul style="list-style-type: none"> <li>Launched new products Power Plus Low-E glass, high strength thin film bumper</li> </ul>	<ul style="list-style-type: none"> <li>High insulation AL-PVC window, convenient high insulation window, expansion of applications for PF insulation materials</li> </ul>	<ul style="list-style-type: none"> <li>Introduce new energy-saving products</li> <li>Increase sales of energy-saving products</li> </ul>	
Quality and Design Competitiveness	Level-Up the quality assurance system	<ul style="list-style-type: none"> <li>Integrated the quality departments of HQ and manufacturing plants</li> <li>Expanded the new product quality assurance procedure (Q-Gate) - Required research centers to implement long-term reliability verifications</li> </ul>	<ul style="list-style-type: none"> <li>Expand the gate-keeper role in the quality division. - Regularize the quality audits for each product category</li> <li>Strengthen management of quality risks at each stage of development - Hazardous substance verification, long-term reliability verification</li> </ul>	<ul style="list-style-type: none"> <li>Set up and operate a quality assurance program that reflects the unique attributes of each business</li> <li>Set up an infrastructure which can connect the quality assurance program with production and distribution so that process skipping can be automatically prevented</li> </ul>	P. 28-33
	Six Sigma	<ul style="list-style-type: none"> <li>Expanded CTQ management of installation quality</li> <li>Accelerate the training of problem solving experts (MBB)</li> <li>Provide training support to overseas subsidiaries in improving their Six Sigma capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Preventive activities in the product development phase. - Expand FMEA* activities - Expand validation of product development effectiveness through carrying out Six Sigma strategy tasks - Improve process quality using Big Data</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the quality risks across a product's entire life cycle, starting from the development stage and feedback results to ensure the highest quality in development/production</li> </ul>	
	Develop new market leading designs	<ul style="list-style-type: none"> <li>Automotive fabric 'Superfine Real Printing (SRP)', 'Real Quilting'</li> <li>Woven Flooring</li> <li>Interior mid-door for foyers</li> </ul>	<ul style="list-style-type: none"> <li>Develop spatial solutions on the basis of trend research - Link the space contents development to product design</li> <li>Develop CMF** future products based on research</li> </ul>	<ul style="list-style-type: none"> <li>Focus on spatial research based on trends Increase business results with the development of new designs that can lead the market in the future</li> </ul>	
Strengthening Workplace Safety	Launch activities for increasing safety awareness	<ul style="list-style-type: none"> <li>Launch activities aimed at improving compliance with job safety standards.</li> <li>Augment the training system to better suit the roles and characteristics of workers on the job.</li> </ul>	<ul style="list-style-type: none"> <li>Increase awareness through safety culture TFT activities</li> <li>Assess and improve safety awareness in the workplace</li> </ul>	<ul style="list-style-type: none"> <li>Improve responsibility management through better safety environment leadership by top management.</li> <li>Set up an autonomous safety environment compliance system</li> </ul>	P. 34-37
	Establish a risk factor prevention management system	<ul style="list-style-type: none"> <li>Improve the workplace risk factor monitoring system.</li> <li>Advance the assessment procedure for securing the safety of equipment (SE-Gate) operation</li> </ul>	<ul style="list-style-type: none"> <li>Carry out a company-wide strengthening of joint safety assessments by experts (HQ supervision)</li> <li>Deploy a company-wide safety environment IT system</li> </ul>	<ul style="list-style-type: none"> <li>Each manufacturing site performs its diagnosis independently and acquires the capabilities needed for making improvements.</li> </ul>	
Shared Growth with Suppliers	Improve the intrinsic competitiveness of suppliers	<ul style="list-style-type: none"> <li>Expanded investment resources for shared growth</li> <li>Expanded the number of target suppliers for CSR management</li> <li>Developed CSR standards for overseas branches</li> </ul>	<ul style="list-style-type: none"> <li>Regularize supplier risk assessment (add risk assessment factors)</li> <li>Expand operation of fund for LG Partnership Fund for 2nd tier suppliers</li> <li>Support productivity improvements through manufacturing innovation activities</li> </ul>	<ul style="list-style-type: none"> <li>Through mutual improvements in competitiveness, build an industry ecosystem where sustainable growth is possible</li> </ul>	P. 38-41
	Open communication	<ul style="list-style-type: none"> <li>Increased the number of banks which support the mutual growth payment system</li> <li>Awarded suppliers with top productivity improvements</li> <li>Monitored the status of payment support provided to tier 2 suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Expand the cases where cash payment is allowed</li> <li>Reflect increases in minimum wages into the supply unit cost</li> <li>Establish a preliminary notification system before delivery</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen the base for shared growth and create a healthy culture of cooperation</li> </ul>	
	Create an environment for fair trade	<ul style="list-style-type: none"> <li>Revised the standard subcontracting agreement to increase the rights of the subcontractor.</li> <li>Preliminary/follow-up review committee evaluated subcontracts</li> </ul>	<ul style="list-style-type: none"> <li>Step up efforts to prevent unfair trade practices</li> <li>Sign standard subcontracting agreement between 1st and 2nd tier</li> </ul>	<ul style="list-style-type: none"> <li>Establish fair and rational trade practices through strict compliance with rules and laws</li> </ul>	

\*FMEA : Failure Mode and Effect Analysis / \*\* CMF : Color, Material, Finishing



# FOCUS ISSUES & BUSINESS CASES

- 01 Eco & Social Value Product
- 02 Quality and Design Competitiveness
- 03 Strengthening Workplace Safety
- 04 Shared Growth with Suppliers



# ECO & SOCIAL VALUE PRODUCT

Certified green products\*  
(Unit : No. of products)

# 177

\* Korea Eco Label, HB Mark, and Environmental Declaration of Products

Ratio of new green products\* in sales (Unit : %)

# 34.5

\* Sales from new green products are those of decorative materials and window products



### Our Approach

Social demand for materials that are not harmful to human health and the environment is increasing, and environmental regulations are becoming stricter. LG Hausys supplies eco-friendly products and materials that are safe for human use and also offer systems and solutions designed to maximize energy efficiency. The company's goal is to become a company that impresses its customers and wins their trust by developing products that meet their needs as well as social issues.

### Our Plan

Tasks	2017 Results	2018 Plans
Expand the green product market	<ul style="list-style-type: none"> <li>Launched new products</li> <li>Launched fine dust window, Oxidation-proof Power Plus Low-E glass, ZEA Sorijam, ZEA Sarangae, ZEA Jayeonae</li> </ul>	<ul style="list-style-type: none"> <li>Expand green product line-ups</li> <li>ZEA Sarangae sheet floorings, DIAMANT wallpaper, fabric, ZEA Maru Wood etc.</li> </ul>
Expand energy-saving products	<ul style="list-style-type: none"> <li>Launched new products</li> <li>Power Plus Low-E glass, Thin film high durability bumper</li> </ul>	<ul style="list-style-type: none"> <li>High insulation AL-PVC windows and user-convenient windows, Expand applications for PF insulation materials</li> </ul>

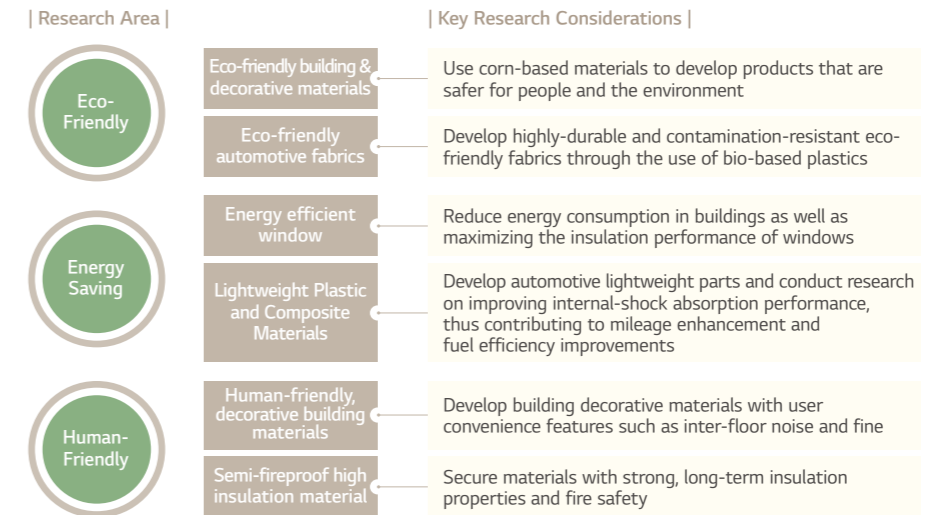
### Link to SDGs

- GOAL 12. Establish sustainable consumption and production patterns.
- GOAL 13. Adopt measures to counteract climate change and its impacts.

## Development of Products with Environmental and Social Values

### Value Aspirations of Product Development

At LG Hausys, our product development is based on three guiding principles. First, a product must be 'Eco-Friendly,' which means it must be made with eco-friendly materials and is capable of contributing to a living space that is healthy and pleasant. Second, it must be 'Energy Saving,' in other words, it must be capable of reducing energy consumption through the use of high-efficiency and lightweight materials. Finally, it must be 'Human-Friendly,' that is, it must address pressing social issues and provide user convenience.



### Product Certifications (As of 31.12.2017)

Certifications	Cases
Korea Eco-Label	84
HB Mark <sup>1)</sup>	45
Environmental Declaration of products <sup>2)</sup>	48
<b>Total</b>	<b>177</b>

1) Standard certifications for environmental building material companies  
2) In 2016, the Environmental Declaration of Product Certification and the Carbon Footprint of Product Certification were consolidated

### Eco-friendly Product Solutions

At LG Hausys, we are fully committed to using natural and recycled materials, increasing the sales of low-energy-consuming products, and launching new businesses based on our own in-house eco-friendly technologies. In 2018, we will continue to strengthen our green product solutions by broadening our ZEA product lines and developing high-performance, semi-non-combustible insulation materials.

Category	Products	Future Plans
Eco-friendly materials	PLA (corn-based) materials → ZEA line (flooring, wallpaper)	Expand product lines to lead the green market
	CO <sub>2</sub> emission-reducing materials → Olefin materials, Neuzen, a bio automotive fabric	Develop an automotive skin based on new materials.
	PET materials → Furniture films, home appliance films (ECO Series)	Expand into global markets with differentiated products
Energy-saving	Energy-saving windows → High insulation AL-PVC window	Improve insulation & unit cost competitiveness
	Laminated glass → Integrated oxidation-proof Power Plus	Broaden high performance product line
	Lightweight components → Glass fiber-based lightweight automotive parts (undercover, sheet frame, bumper back beam)	Expand lightweight automotive parts line

### BUSINESS CASE

#### LCA (Life Cycle Assessment) : The environmental impact assessment of a product's entire lifecycle

Through its Life Cycle Assessment (LCA), LG Hausys provides quantified environmental data for each stage of the product life cycle comprising manufacturing, distribution, use, and disposal. LG Hausys has accumulated the product performance data of windows, Zoom Tile, floorings (export bound sheet, tile), PF insulation materials, wallpaper (ZEA Fresh), ECONO, and KANGGREEN on six environmental factors. These factors are resource consumption, global warming, acidification, eutrophication, photochemical oxide production, and the effect on the ozone layer. We intend to continue analyzing and tabulating the impact of our products on the environment as we gradually expand our product line up.

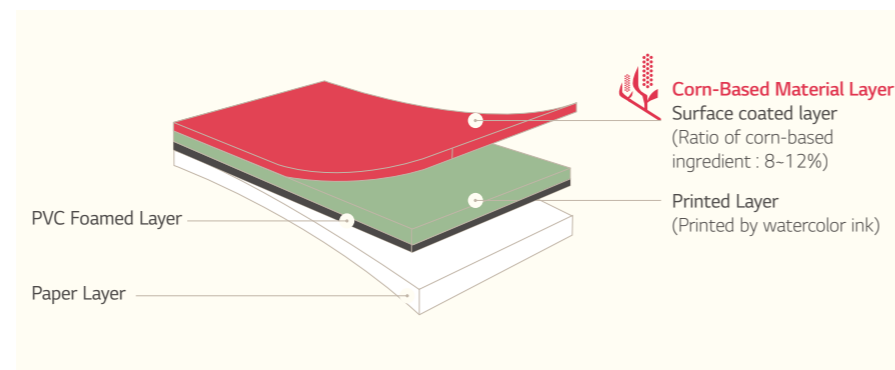


## Eco-Friendly Healthy and pleasant living spaces

### Eco-friendly building decorative material - Premium ZEA Fresh Wallpaper

Sick building syndrome is a recognized medical condition where chemical substances excreted from the preservatives and adhesives used to build a house, or make furniture, cause abnormal symptoms in the human body. Chemical substances such as formaldehyde, xylene, and benzene can inflame the eyes and nose, causing asthma, allergic rhinitis, dermatitis, headaches, and so on.

To combat this growing problem, LG Hausys has developed ZEA Fresh Wallpaper, which has the novel function of decomposing harmful substances inside a room, is a product suitable for customers who are sensitive to air conditions that cause ailments such as atopy and sick house syndrome are prevalent. Notably, ZEA Fresh wallpaper received the highest rating (Baby Class) in the European textile product quality certification (Oeko-tex® standard 100). This rating is given to products that are safe to use around infants under the age of 3, and is a validation of the product's eco-friendliness and safety. Furthermore, ZEA Fresh wallpaper has been awarded the environmental product declaration certification, the HB mark, the atopy safety mark and was also selected as a "Green Product of the Year" by consumers.



### Eco-friendly automotive fabric - Can reduce harmful substances in vehicle interiors

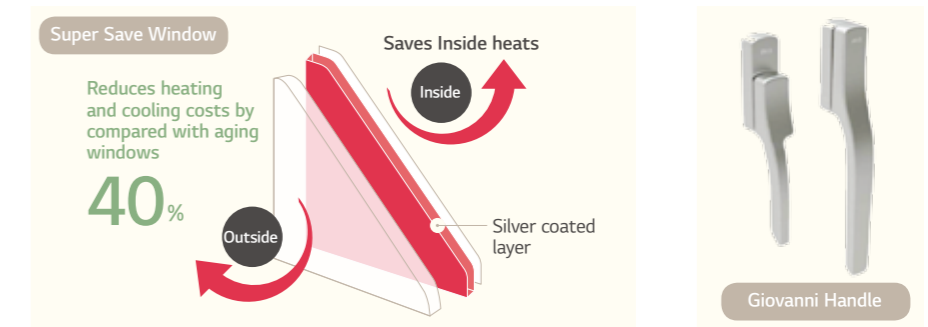
As the number of customers who prefer environmentally-friendly materials has increased, LG Hausys has continued to conduct R&D activities aimed at finding novel ways of reducing the discharge of toxic substances that end up in the human body. We have introduced environmentally-friendly fabrics by minimizing the level of phthalate plasticizers used in conventional vehicle fabrics, as well as employing unique solutions and techniques (such as the application of a water-based coating to the surface). Automobile manufacturers have acknowledged the benefits of LG Hausys' eco-friendly products and are gradually applying them to their automobile models.

At the same time, we at LG Hausys have launched new products geared to meet luxury trends in automotive interiors. For instance, we have succeeded in launching a suede fabric endowed with a superior feel and emotive quality using the textile fabric materials commonly used in automobile ceilings. In addition, we have expanded our business by introducing a quilt pattern fabric for car seats with an upscale look and feel. LG Hausys will continue to focus on R&D and manufacturing technologies to provide a more comfortable driving experience for both drivers and passengers.

## Energy-Saving High efficiency product and light-weight materials

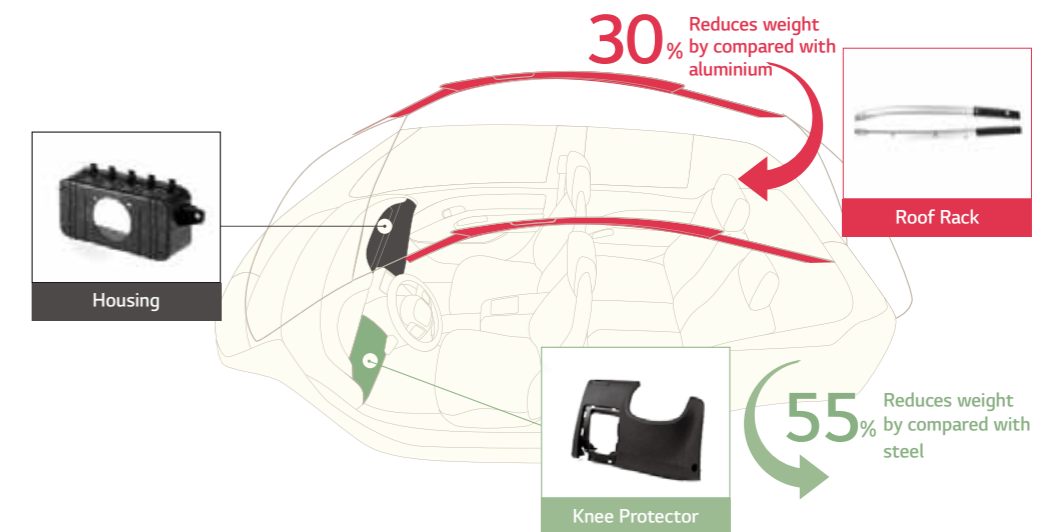
### Super Save Window - High insulation windows with top-grade energy consumption efficiency

Increasing indoor energy efficiency during the winter season is critical because it will result in a reduction of both energy costs and carbon emissions generated by heating. LG Hausys' Super Save Window is made with Low-e glass, which reduces heating and cooling costs by up to 40% when compared to aging windows. Low-e glass is a type of functional glass developed by coating a thin layer of a silver or metal oxide substance on the surface of building sheet glass to enhance the insulation effect. The Super Save Window is exceptionally easy to use due to its "easy open & lock display handle functions," which are designed to enable users to open and use the windows safely and easily.



### Independently Developed Automobile Weight Reducing Parts-maintain rigidity and help improve automobile fuel efficiency

Due to strengthened environmental regulations for automobiles, there is a movement among automobile makers to reduce the weight of vehicles. LG Hausys is continuing its R&D efforts to develop differentiated plastic composite materials and innovative parts for automobiles with the goal of becoming the number one player in the automobile weight reduction market. As a result, LG Hausys has succeeded in developing innovative automotive solutions such as lightweight plastic roof racks, knee protectors, and PAB housing in collaboration with customer companies. Our lightweight plastic roof rack delivers a 30% lighter weight over than traditional models made with aluminum materials. This achievement was recognized with the Technology Innovation Award at the JEC World 2017, an international composite material exhibition. The company's plastic knee protector is 55% lighter than traditional models made with steel, an achievement recognized by the national certification program's New Technology NET Certification. LG Hausys will continue to develop innovative automotive parts for the market through continuous R&D and joint development efforts.



## Human-Friendly Resolve Social Issues & Provide Customer Convenience

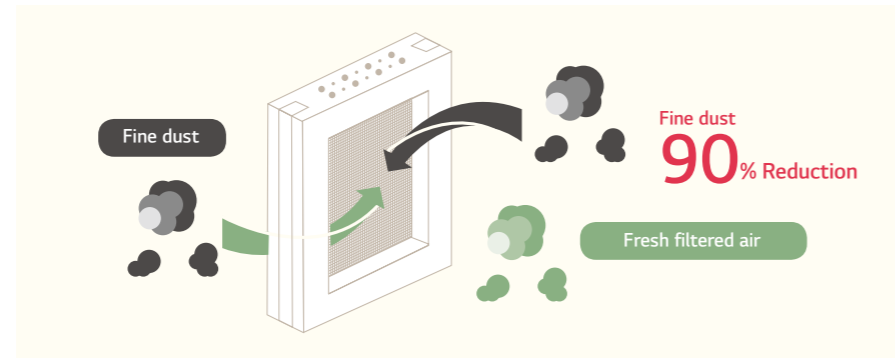
### PF Insulation Material for the Building Industry-Semi-fireproof and strong insulation properties

LG Hausys manufactures a semi-fireproof PF insulation material with a very low level of flammability. Our PF insulation material delivers a powerful insulation effect despite its relative lack of thickness. Its top-level insulation characteristics (0.019W / Mk) can help reduce energy consumption in buildings. In addition, its heat-resistant, durable resin foamed with environmentally-friendly foam gas minimizes the impact on the ozone layer as well as the generation of toxic gases in the event of a fire. As a result of these efforts, LG Hausys' PF insulation materials contribute to activation of green building establishment that the excellence was highly regarded in four sectors of certification of green building (usage of eco-friendly foam gas, EPD certification, low-carbon certification, and application of eco-friendly building materials).

### Harmful Dust Reduction Filter Network-removes 90% of fine dust

LG Hausys has introduced windows equipped with harmful dust reduction filter screens to address the growing need for products capable of dealing with fine dust.

The harmful dust reduction filter network has a nano-fiber filter with a thickness equal to 1/230 of the diameter of a human hair. This special thickness enables it to be capable of filtering out insects, fine particulates, and large dust particles. It can remove 90% of the dust in the air, and permits users to safely ventilate even in the event of danger warnings concerning the presence of high levels of fine dust in the atmosphere. In addition, the filter network has a double-filter structure comprised of a general insect screen and a roll insect screen for fine dust. On normal days, only the general insect screen is used, while the roll screen is used on particularly heavy fine dust days.

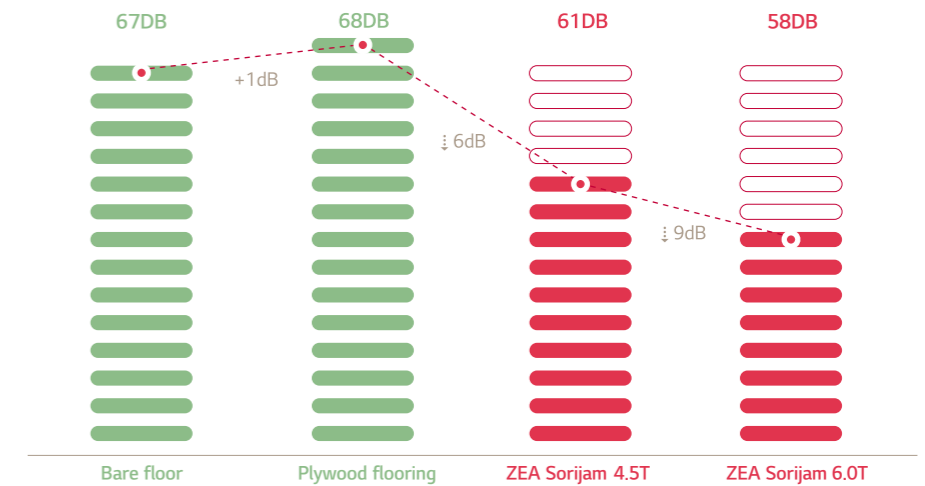


\* Source : filter network performance test by FITI Testing & Research Institute

### ZEA Sorijam Flooring-reduces noise between floors

The problem of noise between neighboring households in apartment complexes has grown from minor feuds between neighbors into a serious social issue, leading to an increasing number of civil complaints. ZEA Sorijam is the first functional residential flooring product with an extra thickness of 6.0mm. Through the use of a noise-reducing material, this product diminishes everyday noise as well as contributing to the reduction of noise between neighboring households on adjacent floors. It also has an anti-slip function that lessens slippage on the surface of the product. This function creates excellent shock absorption characteristics that can protect children from accidents and adults from knee joint ailments. In particular, the surface of ZEA Sorijam, which comes into contact with human skin, is coated with the vegetable resin PLA.

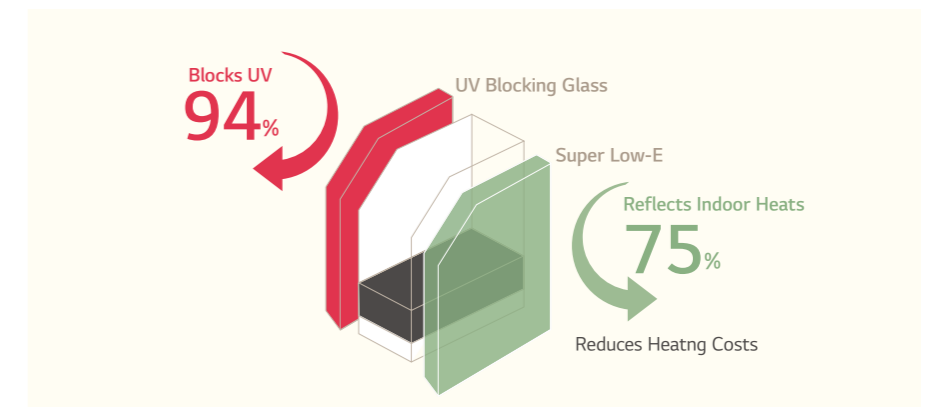
| Noise between floors reduction effect |



\* Test result by Daewoo Institute of Construction Technology (August 2014)  
 1) Floor structure: concrete frame (120mm)+Ondol floor (110mm)  
 2) Noise source: Standard lightweight impact factor (tapping machine)

### Super Solar Glass-Blocks UV and solar heat

Hot sunlight during the summer season is known to increase the cooling load of a room by introducing excess radiant heat. In addition, ultraviolet rays deteriorate the durability of a building's exterior finishing materials and cause the discoloration of indoor finishes and furniture. Ultraviolet rays can also cause skin aging and decrease visual acuity even in residents who remain indoors. Super Solar Glass reduces the inflow of hot solar heat into a room by 75% in the summer, blocks ultraviolet rays by more than 94%, and reduces air-conditioning costs. Super Solar Glass is produced by adding energy-efficient, high-grade Super Low-E technology. In addition, the unique UV blocking glass is supplied exclusively to LG Hausys by Pilkington, a global glass manufacturer. This product possesses both a summer heat-blocking function and a winter insulation function.



## ECO-Collection



### Wall Covering/Materials

#### ZEA Fresh Wallpaper

- Surface layer laminated with a corn-based resin (PLA)
- Recipient of the OEKO-TEX1 level certification, a European textile product quality certification, Meets the highest HB grade standard for TVOC (Total Volatile Organic Compounds)

#### Sum Tile

- Adjusts indoor humidity, absorbs and deodorizes harmful substances



### Interior Film

- Ink : almost zero BTX (benzene, toluene, and xylene) content
- Reduces the detection of phthalate-based plasticizers; HCHO (formaldehyde) which is almost non-detectable



### Flooring

#### ZEA Sorijam

- ZEA Sorijam reduces everyday light floor impact noises\* by 30%<sup>1)</sup> compared with plywood flooring (LG Hausys). It also has the effect of reducing shocks to the knees by 40%<sup>2)</sup> when walking indoors
- It reduces heating costs by 30%<sup>3)</sup> thanks to its outstanding thermal conductivity, which is 70% higher than laminated flooring (LG Hausys)

\* Lightweight floor impact noise : reduces noise generated on the floor by relatively light and hard impacts (e.g. sound of sliding chairs)

#### ZEA Maru Wood

- ZEA Maru Wood is SEO-graded premium eco-friendly flooring whose surface layer is made with natural wood and corn-based materials
- This premium flooring delivers a natural wooden texture and color created by applying a brushing process to natural hardwood



### Windows

#### Super Save

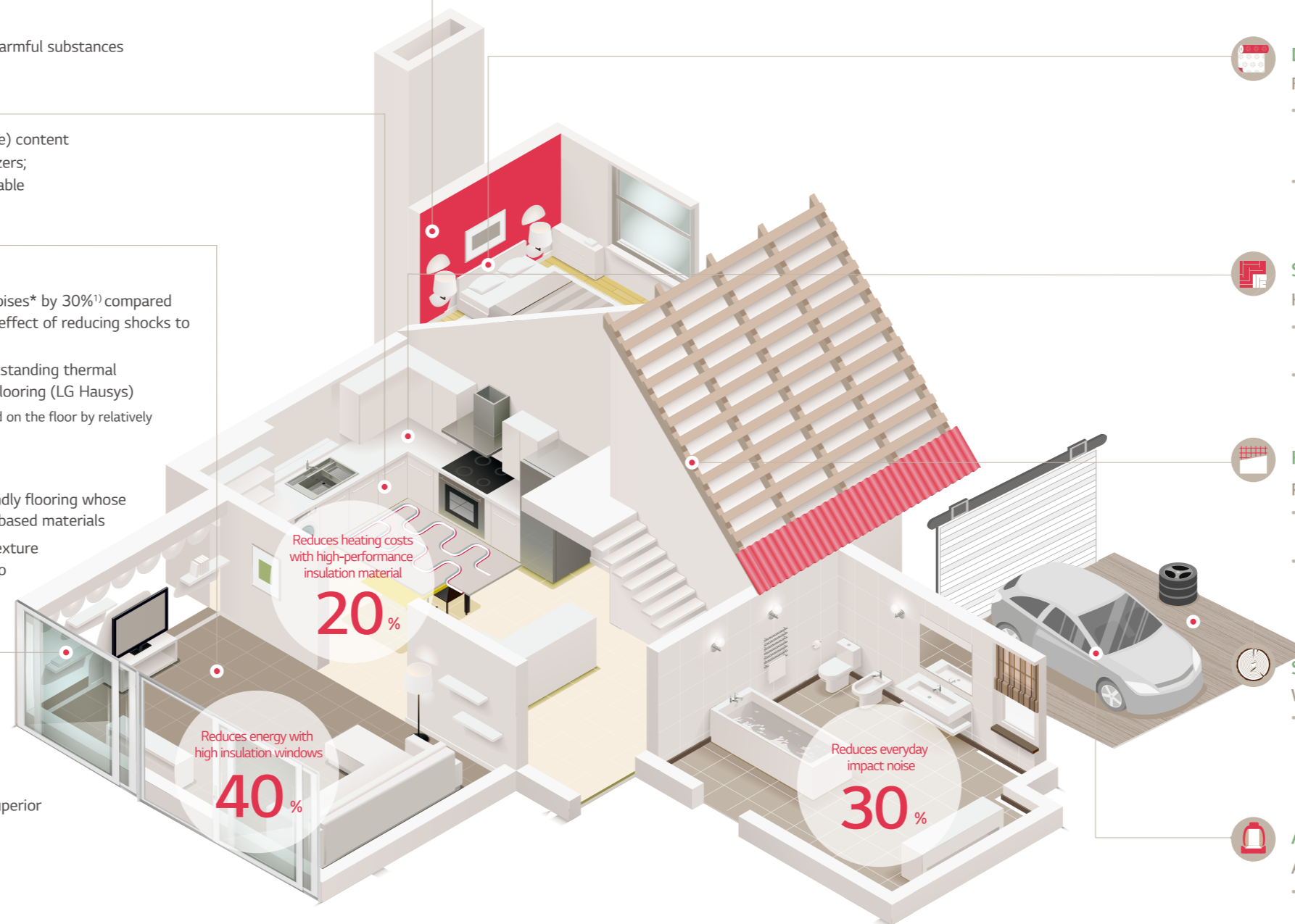
- Received the 1<sup>st</sup> grade rating in energy consumption efficiency (reduces energy use by 40% compared to aging windows)

#### Super Low-E glass

- Super Low-E glass provides insulation 2.3 times superior to ordinary glass

### What is the eco-friendly raw material called PLA (Poly Lactic Acid)

Known for its eco-friendliness, PLA is made from materials extracted from corn, sugarcane and other plants. At LG Hausys, we have developed and now supply the world's first PLA-based green flooring and wallpaper, demonstrating our firm commitment to delivering products that benefit both customers and the environment.



### Decorative Film

#### Furniture Film

- Resin : Heavy metals (lead, mercury, cadmium, hexavalent chrome, and arsenic) are almost non-detectable
- Ink : BTX (benzene, toluene, and xylene) is almost non-existent



### Solid surface

#### HI-MACS 'LE'

- HI-MACS LE is developed using recycled chips, thus helping reduce the discharge of waste
- It is remarkably sanitary and durable and this eliminates concerns about bacterial reproduction



### High-performance Insulation Material

#### PF Board

- Uses semi-noncombustible materials that generate less toxic gas in the event of a fire
- Reduces annual cooling/heating costs by up to 20%<sup>4)</sup> when compared with general-purpose insulation panels of the same thickness



### Synthetic Wood

#### Woozen

- Woozen is created with natural materials like wood chips, wood flour, and the olefin resin used in making formula bottles and food containers. It boasts outstanding durability



### Automobile Materials

#### Automotive fabric

- Does not use a phthalate-based plasticizer, so it is harmless to humans and free of heavy metals and other hazardous substances

#### Lightweight automotive parts

- Developed using glass fiber to reduce weight, LG Hausys' lightweight automotive parts improve fuel efficiency

\* 1) Daewoo Institute of Construction Technology, Research report (2013) / 2) POSTECH Research and Business Development Foundation, Report (2002) / 3) Korea Advanced Institute of Science and Technology, Research report (2008) / 4) Passive House Institute Korea, Energy simulation report

# QUALITY AND DESIGN COMPETITIVENESS

Honored at the World's Top 3 Design Awards  
(As of March 2018, On an Accumulated Basis)

**31**  
IF Design Awards

**12**  
RedDot Design Awards

**7**  
IDEA Design Awards



## Our Approach

LG Hausys aims to provide products of the very highest caliber to its customers by establishing 'Global No.1 Quality' as the company's quality vision. We are also expanding our channels of communication with our customers at every stage of the value chain, from production and sales to post-purchase use. At the same time, we are establishing a design strategy based on predictions about how consumer needs are likely to change in the future, as well as the agents behind such changes. We also share our design solutions with our customers in order to develop our ability to grow together with them.

## Our Plan

Tasks	2017 Results	2018 Plans
<b>Level Up the Quality Assurance System</b>	<ul style="list-style-type: none"> <li>Quality teams in the HQ and plants were integrated</li> <li>The new product quality assurance validation process (Q-Gate) was improved</li> <li>Research centers are now obliged to verify and validate long-term product reliability</li> </ul>	<ul style="list-style-type: none"> <li>Expand the gate-keeper role of the quality division</li> <li>Regularize quality audits for each product category</li> <li>Expand the management of quality risks at each stage of development</li> <li>Investigate hazardous materials, verify long-term reliability</li> </ul>
<b>Six Sigma</b>	<ul style="list-style-type: none"> <li>The CTQ management of installation quality was expanded</li> <li>Training of problem-solving experts (MBB) was accelerated</li> <li>Assistance in developing Six Sigma capabilities was provided to overseas subsidiaries</li> </ul>	<ul style="list-style-type: none"> <li>Take preemptive prevention measures at the development stage.</li> <li>Expand FMEA application</li> <li>Expand development validity confirmation efforts through distribution analysis</li> <li>Execute Six Sigma Strategic Tasks</li> <li>Improve process quality using Big Data</li> </ul>
<b>Develop new market leading design</b>	<ul style="list-style-type: none"> <li>Automotive fabric 'SRP, Real Quilting'</li> <li>Woven Flooring</li> <li>Interior mid-door for foyers</li> </ul>	<ul style="list-style-type: none"> <li>Develop spatial solutions on the basis of trend research</li> <li>Develop CMF future products based on research</li> </ul>

## Link to SDGs

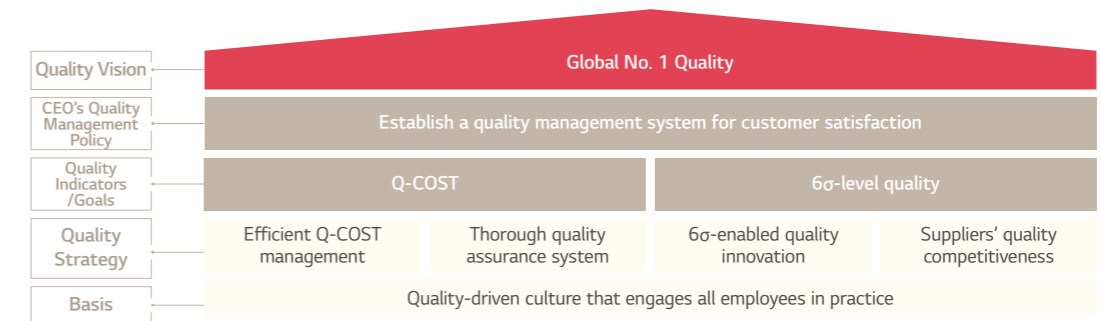
**GOAL 12. Establish a sustainable consumption and production pattern**



# Quality Management Vision

## Quality Management System

In line with the quality management policy of our CEO, we set the key management targets of quality level improvements, talent promotion, and an internal/external failure cost ratio review through Q-COST management, while focusing on the following four strategies to achieve our quality vision.



## Quality Management Process

LG Hausys strives to implement a consistent and customer-centered viewpoint, from product planning to the provision of services. We reflect a customer's complaints and needs at every stage of all of our business activities and strive to continually review and improve our processes to verify and assure quality from the customer's perspective. Through steady IT investment, we are also working hard to build a system that can collect and manage quality data from raw materials to post-product launch, covering all processes. In this, we are studying ways of utilizing the system to improve product quality.



1) IQA : Quality assurance of raw/subsidiary materials in storage / OQA : Quality assurance of products shipped  
2) 4M : Variable factors in the production process (Men, Materials, Machine, and Method)

## Quality Management System Certification

Category	Target Manufacturing Plant
ISO 9001 <sup>1)</sup>	6 manufacturing plants: [Korea] Ulsan Plant, Oksan/Cheongju Plant, Installation firms, [USA] Atlanta Plant [China] Tianjin Plant, Wuxi Plant
IATF16949 <sup>2)</sup>	3 manufacturing plants: [Korea] Ulsan Plant [USA] Atlanta Plant [China] Tianjin Plant

1) ISO 9001 : An international standard for quality management systems that was established and implemented by the International Organization for Standardization.  
2) IATF (International Automotive Task Force) : International Automobile Industry Association / IATF 16949 : An international standard for quality management systems that was established for the automobile industry



## Quality Assurance System

1) MBB (Master Black Belt) :  
 A Six Sigma expert who is in charge of education and project supervision consulting  
 BB (Black Belt) :  
 A Six Sigma project leader  
 GB (Green Belt) :  
 A Six Sigma project manager who carries out the implementation of the project

### Strengthening of Quality Management Capabilities at Overseas Subsidiaries

In order to set up a quality assurance system at its overseas manufacturing subsidiaries that will perform at the same level as its domestic plants, LG Hausys has been standardizing the quality regulations and disseminating the work procedures used at its domestic plants. Quality experts from the Seoul HQ were dispatched to help implement a quality assurance system that incorporates local characteristics. Its operational status is being monitored on a regular basis. To ensure its successful implementation, the quality assurance department at the Seoul HQ participates directly in the setting of quality KPI and KPI targets for overseas subsidiaries. Monthly KPI performances are also reported to top management at the HQ. Furthermore, the Seoul HQ provides Six Sigma education to overseas subsidiaries in order to train local experts who can solve quality problems and develop the skills required for making quality improvements. Case studies in quality excellence are also taught to the relevant personnel of the overseas subsidiaries.

### Train quality experts

LG Hausys understands a customer's needs by internalizing Six Sigma. It then trains MBB, the internal troubleshooting experts for efficient quality improvement measurements. From 2016, we implement more upgraded training policies with MBB/BB/GB<sup>1)</sup> certification in connection with a promotion system. We have trained 3.8% of engineers as MBB, and will secure 5% in 2018.

### Acceleration of an assurance system of development quality

LG Hausys establishes clear quality goals including a customers' needs in developing stages and operates quality assurance validation (Q-Gate) continuously. Only with thorough quality assurance validation can the quality risk of the new product become minimized and stable production become available reducing variability in mass production. Therefore, our quality assurance department works with the R&D center and strengthens the validation of long-term product reliability and hazardous materials at Q-Gate.

| Verification of long-term product reliability | LG Hausys has set up a department that investigates how long the products exposed in a usage environment maintain their quality. They then study these technologies to improve durability and quality in the R&D Center. They will continue to study these technologies for customers to use the products stably in various environmental conditions.

| Formation of the Hazardous Materials Analysis Team | Testing for major hazardous substances such as TVOC and formaldehyde are carried out at all times. A dedicated research department called the Hazardous Materials Analysis Department was established for the sole purpose of ensuring safety against newly discovered harmful substances, and any unrecognized harmful substances that may be produced during the manufacturing process. The department analyzes and studies harmful substances that are produced through unintended chemical reactions or introduced through unexpected routes other than through raw materials, for example during cleaning or equipment maintenance. By eliminating harmful substances at the product development stage, we will make safe products that customers can use without harboring any concerns about potential health risks.

### Operation of QAS (Quality Assurance System)

LG Hausys operates a thorough quality assurance system based on an IT system that manages variations during the production process to prevent them from affecting quality and then verifies whether finished products meet the quality requirements. Prior to the production of a new product or a change in a raw material, equipment, or process the quality department verifies whether it will affect product quality. If the department approves a change, it is implemented accordingly. In addition, we are continuously preceding investment to IT/facility for the purpose of integrated management of entire quality information to track raw materials, production history, and process conditions, etc. when customers' complaint occurring.

#### BUSINESS CASE

#### First ISO9001 Certification in the Window Installation Industry

LG Hausys is the first company in the Korean industry to acquire the ISO9001 quality management system certification for window installation quality. We inferred that customers who install our windows might be more dissatisfied with the quality of the installation service than with the quality of the actual window product. To improve this aspect, we standardized the installation procedures and built a quality management system that systemized the management of the installation companies. We paid particular attention to strengthening the training of installation service workers since their level of service was the greatest determinant of installation quality. For this purpose, we expanded our Window Installation Academy so that up to 300 window installers could receive training every year. LG Hausys is working hard to provide the best products and services in all its processes from the end quality of the finished product to the quality of the finish upon installation.

## Customer Communication

### Strengthening Online Customer Contact Points

We operate a wide range of communication channels to facilitate customer access to our products and to reflect their feedback in our products and business activities. To that end, LG Hausys is also diversifying its online contact points. We are reinforcing our online services in a bid to improve consumer access to our products from our Z:IN brand website that provides total interior information, through our Z:IN Mall where customers can purchase our materials, and with our corporate social network channels created to communicate with customers. In 2017, we created Z:IN account on Instagram, and have discovered premium contents by opening Naver post. We will create contents that enhance real construction cases and products, and distribution channel promotions actively in 2018.

### Strengthening Offline Customer Contact Points

We are currently operating 19 offline showrooms where customers can come to experience and purchase our products. In 2018, four showrooms are slated to open in Bucheon, Changwon, and West side of Busan, which will further reinforce our offline contact points for customers.

### Adoption of Net Promoter Score (NPS) Survey

Since the adoption of the Net Promoter Score (NPS) in 2016, LG Hausys has been able to compensate the lack of discriminability in existing customer satisfaction survey outcomes and manage service quality in a more systematic way. Based on the results of the NPS, we have been able to identify loyal customers (recommenders) and are working continuously to improve customer satisfaction by reinforcing our system of product specialists for each region. We also collect opinions from non-loyal customers (non-recommenders) and reflect them in our product development and production.

### Facilitating Customer Communities

Our representative interior community Z:ENNE, which consists of prosumers and brand ambassadors as well as our PPL (product placement programs) that sponsor our materials and showrooms for TV shows, allow us to take a step closer to our customers. By providing information to customers while collecting their instant feedback, we will deliver products and conduct business in a way that caters to customer needs.

### Securing Customer Information

LG Hausys carries out numerous information security activities that are mandated by domestic and international privacy laws (Personal Information Protection Act, Act on Promotion of Information and Communications Network, EU GDPR (General Data Protection Regulation), China Network Safety Act, etc.). In particular, we have been accredited by the Information Security Management System (ISMS) every year, and we are making every effort to safeguard the privacy of our customers through regular information security diagnosis. Furthermore, LG Hausys is promoting the importance of information security by organizing information security education sessions for all employees and resident supplier companies. In order to enhance the information security system and organizational reinforcement, every year, LG Hausys revises its information security policy to address security trends, establishes and implements a 3-year roadmap. To aid in the implementation, the company also created an information security team.

#### BUSINESS CASE

#### Z:ENNE



Z:ENNE represents our interior community that consists of our brand ambassadors and prosumers and is engaged in our overall product promotion and marketing activities. During the past year, Z:ENNE spread LG Hausys news in a storytelling format, produced high-quality contents about our brand and products from the customer's point of view, and functioned as a communication channel between customers. Since 2017, LG Hausys has been expanding Z:ENNE recruitment from its base in Seoul to the entire country, keeping up with an even more plentiful checklist of activities.

## Design-oriented Points

### Design Orientation

The Design Philosophy of LG Hausys consists of learning how to grow together with our customers by establishing a design strategy based on predictions about future changes in customer needs and the agents of future changes. Through this, we can then share the design solutions with the customers.

LG Hausys' design philosophy can be expressed in the vision "We create human-friendly and eco-conscious living spaces." Based on changes in people's needs, lifestyle research, and research into eco-friendly and energy saving materials, we are striving to provide happy and healthy living spaces with the intent to lead future trends of residential spaces. We are also dedicated to becoming a "customer's life solution partner" that generates economic and social values by applying the company's resources, expertise, and creative critical thinking. To realize this ideal, we have set the following three goals: customer-centered design, global design capability, and creative culture.

### Design Trend

Until very recently, the interior design trend in Korea could be described as "a modern look close to minimalism." Today, this trend is giving way to a new modern style based on a broad palette of colors, a bold use of materials, and the adoption of classic or retro elements. Due to a growing emphasis on the importance of the diverse tastes of individual customers, a design that can satisfy a wide range of tastes has become more valuable than a single prevailing trend.

In recent years, the automobile industry has been rapidly shifting to a new paradigm with the development of autonomous, connected, and environmentally friendly technologies. With autonomous driving and connected technology, automobiles are being transformed into moving living spaces rather than mere means of transportation, and these trends are transforming the car interior into another living space.

### Design Trend Seminar

As a concept initiated by LG Hausys, our Design Trend Seminar celebrated its 18th anniversary in 2017. Each year, around 1,000 design experts attend the seminar to predict future design trends based on domestic and global socio-cultural issues, consumer lifestyles, and global design trends. From now on, we at LG Hausys will continue identifying shifting market conditions and trends and reflect them in our designs so that we can exert an even broader influence on not only the interior design industry but also the automotive, electronic, and IT industries.

### Design Forum

The design forum is a process in which the market and consumption trends specific to each area of LG Hausys' business are studied with the objective of presenting concepts for new products that customers might need or might be attracted to in the future. Through this forum, the findings of in-depth research form the basis for new products designed from the customer's perspective according to a long-term design strategy. Furthermore, the forum allows LG Hausys to provide customized design solutions by basing its approach on the trends identified in each region of the global market.

## Development of Products with Leading Designs

### Woven Flooring

Woven flooring is an LG Hausys flooring product developed to target office, hotel, and high-end commercial space markets to replace the traditional carpet market. With an increasing trend towards creative workspaces, and the concept of the "hotel room as comfortable as one's home" taking root, warm woven flooring materials that can be installed as modules with different combinations of colors and patterns have come under the spotlight. Customers can purchase LG Hausys' woven flooring in the form of sheets or tiles with identical patterns and colors, thus enabling customers to install them in accordance with their own individual design concepts and physical space. The flooring can be installed using different combinations of pattern / color or modules consisting of different tile types. In addition, it is possible to create flooring with a rich color texture, 3-dimensional appearance, and the lush feel of woven fabric by developing a unique two-tone yarn scheme (one-thread, two-color) and applying it to a horizontal/vertical weave.

### Interior foyer mid-door

LG Hausys' interior foyer mid-doors are made with an aluminum frame and glass for installation in indoor areas only. As the spaces inside residences become ever more diverse, LG Hausys has developed the foyer mid-door product to address a customers' growing desire to segment residential spaces. The door is the central element of a spatial division system that can be applied to many different types of spaces in the home. Its frame features a slim design that exploits the advantages of aluminum material while its clean finish exudes an ambiance of openness. In addition, its exterior design looks upscale compared to conventional wooden mid-doors. In particular, gaskets (an important feature of windows) have been incorporated into the door design, contributing to its excellent insulation and airtight properties to enhance its usability.

### Automotive Fabric 'SRP'

Recently, the high-end trend for automobile interiors has made itself felt in the small and medium-size vehicle sector. This trend has led to an increasing market demand for fabrication methods that mimic the look and feel of natural textures. Superfine Real Printing (SRP) is an innovative printing technique that can reproduce the texture of natural materials intact. SRP has a high printing resolution, as well as the ability to recreate the feel of real wood through embossed patterns.

### Automotive Fabric 'Real Quilting'

Recently, as interior materials for automobiles have become more sophisticated, the quilting effects that were mainly available in luxury cars have been adopted in mass brands. With traditional techniques, only natural leather could be quilted and made to have the punching and stitch pattern align together. However, this technical hurdle has now been overcome. LG Hausys 'Real Quilting' is an artificial leather product that permits stitching with thread, despite being thicker than conventional automotive fabrics. Because of its ability to synchronize stitching and punching, 'Real Quilting' has radically improved the freedom of design.



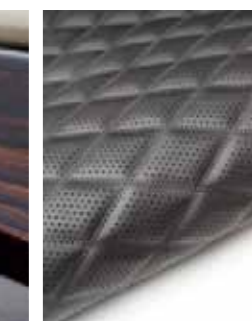
Woven flooring



Interior foyer mid-door



Automotive fabric SRP



Automotive fabric 'Real Quilting'

### BUSINESS CASE

#### Milan Design Week

Since 2011, LG Hausys has been introducing its design philosophies at the Milan Design Week, the most important exhibition in the world of design. In 2017, LG Electronics and LG Display participated in the Milan Design Week together as part of the LG Group, which amply demonstrated its design prowess by winning the Milano Design Award. For the exhibition, LG Hausys partnered with world-renowned Japanese designer Tokujin Yoshioka, who helped express the depth of the human senses with a very unique imaginative touch. He created LG's vision of the future living space with a large scale work of art made with OLEDs that was titled 'Senses of the Future.' The LG Hausys solid surface used for the flooring of this work made the OLED lights glitter even more.



# STRENGTHENING WORKPLACE SAFETY

Investments in safety and fire control improvements  
(2017/Unit : KRW 100 million)

## 51.0

Injury Rate  
(2017 achievement against 2016)

## 31.8 % Reduction



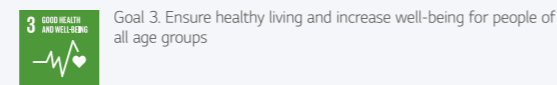
### Our Approach

The environmental impact of routine business activities, combined with both significant and minor safety and environmental accidents, give rise to increasing social concern regarding workplace safety. Furthermore, local communities are increasingly interested in these issues and are reinforcing their monitoring while governments are taking on a stronger role as a supervisor. At LG Hausys, we set and manage company-wide workplace safety targets. To establish a 'preventive workplace safety management system' that enables us to identify and eliminate risk factors well before any accidents even occur. We perform a wide array of self-reviews to ramp up our system and management and make large-scale investments.

### Our Plan

Tasks	2017 Results	2018 Plans
Implement activities aimed at raising safety awareness	<ul style="list-style-type: none"> <li>Launch activities aimed at improving compliance with job safety standards</li> <li>Augment the training system to better suit the roles and characteristics of workers on the job</li> </ul>	<ul style="list-style-type: none"> <li>Increase awareness through safety culture TFT activities</li> <li>Assess and raise safety awareness in the workplace</li> </ul>
Deploy risk factor prevention management system	<ul style="list-style-type: none"> <li>Strengthened the on-site risk factor review system</li> <li>Began implementing preliminary review procedures (SE-Gate) to ensure equipment safety</li> </ul>	<ul style="list-style-type: none"> <li>Carry out a company-wide strengthening of joint safety assessments by experts (HQ supervision)</li> <li>Deploy a company-wide safety environment IT system</li> </ul>

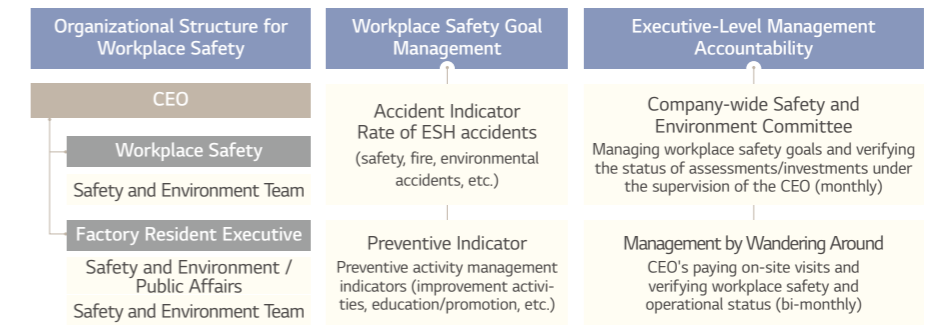
### Link to SDGs



## Safety Environment Operational System

### Strengthening Management Accountability on a Company-wide and Executive Level

We have developed a company-wide organizational structure and have set management goals for workplace safety, and reflect them in performing organizational assessments in order to reinforce the management accountability of workplace safety.



### Activities for Improving Risk Factors behind Safety Environmental Accidents

We conduct regular inspections and other activities aimed at improving risk factors in order to prevent serious accidents such as fire, explosion, and injury.

Initiative	Description
Fire Prevention	<ul style="list-style-type: none"> <li>Define management items—power, use of LNG, and overheated equipment</li> <li>Construct measurement/warning systems</li> <li>Improve upon the firefighting devices in offices, warehouses and other vulnerable facilities</li> <li>Train individuals on emergency response procedures</li> </ul>
Eliminate oil mist/static electricity	<ul style="list-style-type: none"> <li>Install static dischargers, oil mist measurement devices, and industrial humidifiers</li> <li>Modify the formulation of raw materials, and measure and manage the discharge of static electricity and oil mist</li> </ul>
Reduce narrowness to zero through the Blocking System	<ul style="list-style-type: none"> <li>Conduct activities to eradicate narrowness with high recurrence rate</li> <li>Install safety devices to prevent narrowness and minimize damage</li> </ul>
Reinforce the disaster prevention system	<ul style="list-style-type: none"> <li>Expand evacuation facilities and warning/monitoring systems</li> <li>Reinforce fire-fighting devices for vulnerable facilities</li> </ul>
Review ESH management status	<ul style="list-style-type: none"> <li>Review feedback from the examination of relevant principles and the management of staff diagnosed with certain medical conditions</li> <li>Verify the progress made in reducing waste</li> </ul>

### Establishment of a company-wide safety environment assessment program

We have established an assessment program for implementing a system of improvements and compliance in safety environment operations.

Regular assessments of safety environment are conducted at all company worksites	<ul style="list-style-type: none"> <li>Manufacturing Plants : Assessed the risk factor management system for major accidents</li> <li>For each quarter of the year, risk factors are selected : Examples include processing safety management, installation company management, and leak danger management</li> <li>The suitability of the regulations imposed at each plant is examined and the status of their implementation is assessed</li> <li>Research Center/Design Center/TOSTEM : An overall assessment is carried out on safety/environment/fire protection</li> </ul>
A special assessment is carried out to select the best case for benchmarking as well as to address specific issues	<ul style="list-style-type: none"> <li>Assessment of equipment maintenance management system, unannounced assessment of emergency response system</li> </ul>
An accident assessment is conducted to prevent the recurrence of accidents.	<ul style="list-style-type: none"> <li>Carry out a detailed investigation of causes when a major accident or same team/type accident occurs</li> </ul>

## Safety Accident Prevention

### Safety Accident Prevention Activities

Our workplace safety/public affairs/production departments are responsible for operating a workplace safety review system. This system consistently works to identify and improve on pinpointing the precise location and timeframe of high risk accidents. This helps us comply with regulatory requirements on workplace safety and to secure the safety of our facilities and workplaces.

Workspace Safety at the Headquarters	<ul style="list-style-type: none"> <li>• Create a joint inspection team across domestic sites and perform theme-based inspections</li> <li>: Appropriate installation of safety devices, best practices adopted by respective sites, etc.</li> </ul>
Workplace Safety at the Plants	<ul style="list-style-type: none"> <li>• Perform inspections on all production teams for their safety/environment/fire safety chemical management (weekly)</li> <li>: Compliance with work standards, management of safety and environmental facilities, and other matters that require specialized expertise</li> <li>• Grasp daily situation of works with fire and perform inspections with staff (daily)</li> <li>: Conduct safety inspections of accident-prone locations and timeframes (toxic substances/hazards, weekends/night)</li> </ul>
Production (Team/Department Heads)	<ul style="list-style-type: none"> <li>• Review mandatory safety management items on the shop floor (monthly by team heads, weekly by department heads)</li> <li>: Compliance with work standards, training, workplace management and other matters that require constant management</li> </ul>

### Preventing Major Occupational Accidents

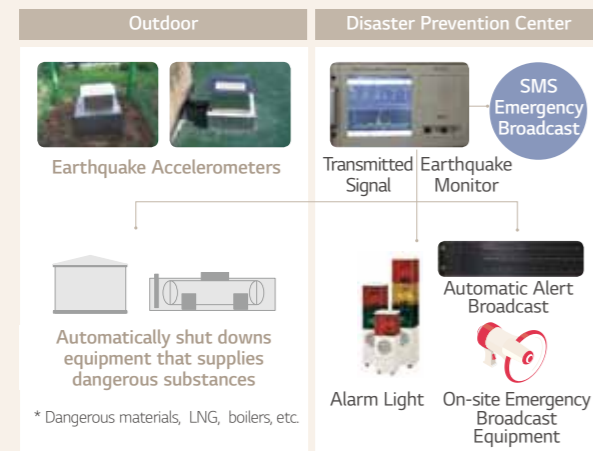
To prevent major occupational accidents, we expanded our fire-fighting devices in areas of high risk and installed leak detection devices near nitrogen-consuming facilities in order to build a choking accident prevention system. Furthermore, we reorganized emergency response manuals across all departments and conducted practical mock drills to prepare for any possible accidents.

## BUSINESS CASE

### Establishment of Earthquake Response System

Since the recent earthquake in the Pohang area, public awareness of Korea's vulnerability to earthquakes has grown. For this reason, there is a strong need to establish a response system for preventing damage to production facilities and human life caused by earthquakes. Such a system would include a scheme for quickly relaying situation information and the deployment of an automatic shutdown system for dangerous facilities. LG Hausys installed earthquake accelerometers that can measure the strength of an earthquake at its manufacturing plants and the intensity of an earthquake at its epicenter. Simultaneously, in 2017, the company established its own response procedures like the proper procedures for evaluating the magnitude of each earthquake, situation relaying, and operation shutdown procedures. LG Hausys will actively operate the emergency response system in natural disaster emergencies that threaten business continuity, and minimize business losses through swift detection and response.

#### Earthquake Measurement and Situation Broadcast System



#### Response According to Earthquake Magnitude

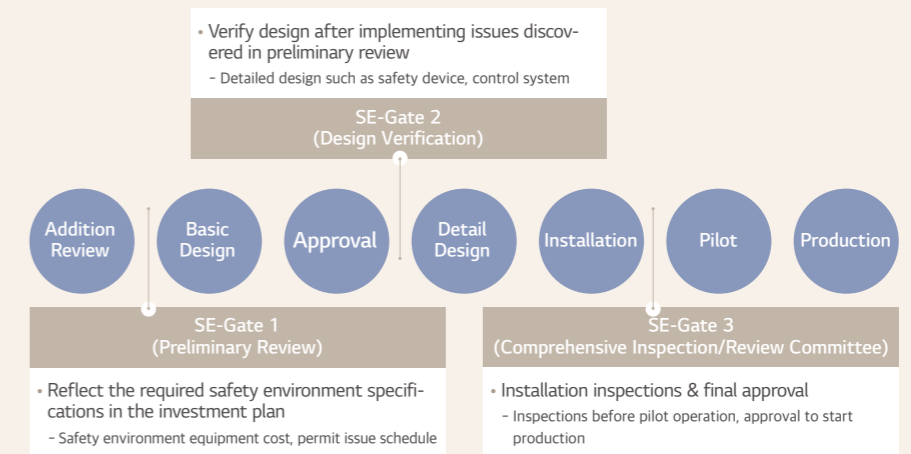
Magnitude	Response
3-5	<ul style="list-style-type: none"> <li>• Send SMS messages to all employees (Warning about tremors, shaking, falling objects, etc.)</li> </ul>
5-6	<ul style="list-style-type: none"> <li>• Send SMS messages to all employees</li> <li>• Emergency broadcasting, work suspended by all installation companies</li> <li>• Report occurrence of earthquake, conduct safety inspections after earthquake</li> </ul>
7 or over	<ul style="list-style-type: none"> <li>• Automatic shutdown of equipment that supplies dangerous substances</li> <li>• Send SMS messages (move to 1st gathering point)</li> <li>• Send emergency broadcast, evacuate installation company</li> <li>• Evacuate from 1st gathering point, depending on the situation, evacuate from 2nd gathering point</li> <li>• Assemble emergency response committee</li> <li>• Report earthquake occurrence, and conduct inspections and recovery activities after the earthquake</li> </ul>

## BUSINESS CASE

### Advance Acquisition of New/Additional Equipment Safety

#### SE-Gate Operation overview

Regarding any new or additional items of equipment, LG Hausys takes into consideration of all of the required safety and environmental specifications from the investment planning stage. Through a detailed review conducted before design and installation, the company has instituted company-wide procedures for ensuring safety. We have verified the suitability of the safety environment permit, safety device, and control system in such stages like the investment review stage, detailed design stage, and post-installation commissioning. We have also verified the adequacy of the safety environment permit; safety devices; and the control system during the investment review stage, detailed design stage, and piloting stage after installation. We also modified the procedures so that after adding the improvements, the next stage could proceed.



#### SE-Gate Operation Case Study in Korea and Overseas Manufacturing Plants

LG Hausys is actively operating the SE-Gate in its domestic and overseas manufacturing plants to enhance the safety of its facilities and the environment. In 2017, when we were expanding our Oksan Insulation Material Plant 2, we obtained the required permits for firefighting, hazardous materials, process safety, atmospheric environment and wastewater discharge facilities in advance. We also incorporated safety devices for pressure response equipment, control systems, and emergency response facilities into the plant's design. In addition, when we were investing in the enlargement of the manufacturing plant for home appliance film in Ulsan, we amended our atmosphere, environment, firefighting, and building permits so that we could deploy the RTO concentrator to improve the efficiency of air pollution prevention facilities.

When we were augmenting our Tianjin manufacturing plant to accommodate equipment for automotive lightweight parts production, we conducted environmental impact and safety and workplace health evaluations in advance. After considering the results of these evaluations, we installed firefighting equipment inside the oven ducts and deodorization devices to eliminate any unpleasant odors. By assessing in advance with the operation of the SE-Gate, the safety and environmental risks in the workplace and the risk factors that could lead to danger in our manufacturing processes have been preemptively managed. LG Hausys is fully confident that a new culture of safety will firmly take root throughout the company.



Investments in improving the Oksan Insulation Material Plant 2

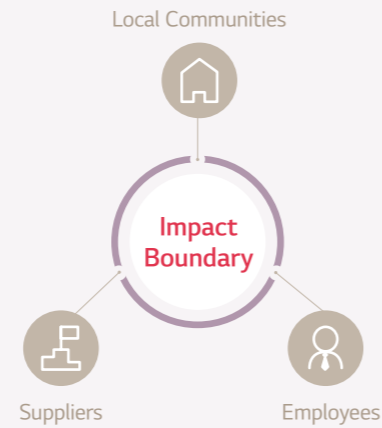
# SHARED GROWTH WITH SUPPLIERS

Suppliers assessed for CSR risks  
(Unit : No. of companies)

## 396

Eco-friendly Materials purchases  
(Unit : tons)

## 25,774



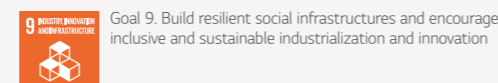
### Our Approach

LG Hausys recognizes our suppliers as partners with whom we will grow together with. We are working hard to build a sustainable industrial ecosystem in which all of the parties concerned can help raise each other's competitiveness. To turn our suppliers into strong competitors, we are specifically focusing on strengthening the capabilities of our suppliers and implementing standardized job procedures. In addition, we are bolstering our CSR management systems in both our domestic and overseas supply chains in order to prepare for CSR risks that may arise in the course of managing our suppliers.

### Our Plan

Tasks	2017 Results	2018 Plans
<b>Build our suppliers' fundamental competitive edge</b>	<ul style="list-style-type: none"> <li>Expanded investment resources for shared growth (from KRW 100mil. → KRW 300 mil.)</li> <li>Expand the scope of supplier CSR management</li> <li>Developed CSR standards for overseas branches</li> </ul>	<ul style="list-style-type: none"> <li>Regularize supplier risk assessment (add risk assessment factors)</li> <li>Expand operation of funds for shared growth fund for 2nd-tier suppliers</li> <li>Support productivity improvements through manufacturing innovation activities</li> </ul>
<b>Promote open communication</b>	<ul style="list-style-type: none"> <li>Increase the number of banks that support the mutually-beneficial payment system (4 → 5)</li> <li>Reward top-performing suppliers with productivity improvement</li> <li>Monitor the status of payment support provided by supporting 2nd tier suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Expand the number of cases in which cash payment is allowed</li> <li>Reflect increases in the minimum wage in the supply unit cost</li> <li>Establish a preliminary notification system before delivery</li> </ul>
<b>Create a fair trade environment</b>	<ul style="list-style-type: none"> <li>Revised the standard subcontracting agreement to increase the rights of subcontractors</li> <li>Preliminary/follow-up reviewcommittee evaluated subcontracts</li> </ul>	<ul style="list-style-type: none"> <li>Step up efforts to prevent unfair trade practices</li> <li>Sign standard subcontracting agreement between 1st and 2nd tier suppliers</li> </ul>

### Link to SDGs



## Shared Growth Strategy

### Supplier Status

LG Hausys trades with more than 1,300 suppliers in order to procure the raw materials and parts that it needs. In 2017, 43% of our total purchases originated from local suppliers situated near our manufacturing plants. LG Hausys recognizes suppliers as partners with whom it will grow together with, and operate a shared growth support system in which all parties enhance each other's competitiveness.

### Shared Growth Program

LG Hausys recognizes that shared growth is a key element of sustainability management and is aggressively pursuing supplier support activities that could produce solid results. In particular, we are building a cooperative system revolving around five mutual support activities for our suppliers: financial support, improvement of payment terms, quality/technology development support, workforce/training support, and management support.

#### | Types of Support |



Project	2017 Outcomes	Description
<b>Financial Support</b>	<ul style="list-style-type: none"> <li>Managed the KRW15 billion LG Partnership Fund (a shared growth fund) and supported 49 suppliers financially</li> <li>Provided network loans worth KRW 3.4 billion to 10 suppliers</li> <li>Provided KRW 300 million to the shared growth fund</li> </ul>	We provide low-interest Network Loans, Family Loans, and LG Partnership Funds to our suppliers to boost their cash flow at low interest rates. We also assist them with improving their financial condition by providing outstanding suppliers with additional support.
<b>Improvement of Payment Terms</b>	<ul style="list-style-type: none"> <li>Fully maintained cash-equivalent payments</li> <li>Made KRW 249.6 billion in cash payments for contracts that did not meet our funding policy criteria</li> </ul>	While our funding policy stipulates that cash payments be made only for contracts valued at less than KRW 3 million, we are increasing the ratio of cash payments made to our suppliers to support their business operations.
<b>Workforce and Training Support</b>	<ul style="list-style-type: none"> <li>Korea Suggestion System Association's quality/productivity improvement training was attended by 21 employees from 14 suppliers</li> <li>Provided recruitment opportunities to suppliers through the Korea Job Fair</li> </ul>	We continue to provide supplier employees with training on compliance management, workplace safety management and quality management, while commissioning external training institutes to offer online training on business management for general and advanced job operations.
<b>Support for Quality and Technology Development</b>	<ul style="list-style-type: none"> <li>Sent 25 technology/quality experts to 91 suppliers</li> <li>Operated a unit dedicated to supplier support to help supplier establish their own quality assurance system</li> <li>Made 13 joint patent applications</li> </ul>	We invested approximately KRW 5.3 billion in assisting our suppliers with facility investments and improvements, productivity enhancements/quality stabilization, and system infrastructure support. In addition, we actively make joint patent applications to help our suppliers safeguard their technology.
<b>Management Support</b>	<ul style="list-style-type: none"> <li>Reached KRW 555.5 billion in the price coupling and supply program</li> <li>Hosted five discussion meetings with suppliers in 2017 (160 executives from 152 suppliers attended and engaged in exchange activities)</li> <li>Rewarded top-performing suppliers (Granted Welfare Mall points)</li> <li>Shared benefits through the renovation of old facilities</li> <li>Covered costs to renovate old facilities and were thus able to share the cost savings</li> </ul>	<ul style="list-style-type: none"> <li>Price coupling and support program : In response to fluctuating exchange rates and market conditions concerning raw materials, we operate a price coupling and support program for major chemicals and raw building materials to swiftly reflect such shifting conditions in supply costs.</li> <li>Support for exchange initiatives : Our CEO and purchasing executives attend meetings with our suppliers and visit them on-site to stay current updated on their pending issues, and to reflect their feedback in our business conduct. Included in our broad-ranging management support initiatives are awards granted to top-performing suppliers, etc.</li> </ul>

## Supplier Company's Competitiveness Improvement

### Support for Supplier Company's Competitiveness

LG Hausys is strengthening its cooperation on the manufacturing side in the firm belief that the company's competitiveness will become even better when its suppliers provide products of the highest quality. Therefore, by contributing production equipment to our suppliers, we are hoping to stabilize production and improve the quality of our suppliers' products. For this purpose, since 2014 we have been funding our suppliers using the shared growth investment fund. With this money, our suppliers are improving productivity. Furthermore, by implementing performance sharing measures for effective funds, we are pushing suppliers to introduce innovations to their manufacturing.

#### BUSINESS CASE

#### A supplier improved its productivity with support from LG Hausys

##### Real Wood Manufacturer's Strengthened Manufacturing Competitiveness



To secure the global competitiveness of automotive interior real wood products, we executed a consulting project concerning Duksung Industry, one of our suppliers. The consulting included a diagnosis of its entire manufacturing process, recommendations for improving its productivity, and the rationalization of such recommendations



##### Distribution / Layout Optimization

We have redesigned the distribution flow and layout, calculated the optimal quantities of materials, and maximized spatial efficiency by dividing up the areas set for different materials.

##### Process Improvement / Optimization

We have minimized waste in our operations by improving on product transportation time, deriving the right number of workers for assignment to each job, and improving the way jobs are performed.

##### LG Hausys supports suppliers' manufacturing innovation efforts

We are actively engaged in efforts to raise our suppliers' manufacturing competitiveness, such as carrying out innovation activities at a suppliers' production facilities and automating their equipment. We do this because we understand that successful coexistence with our suppliers is the key to raising our own manufacturing competitiveness. Furthermore, we are sharing the benefits accrued from manufacturing innovations with our suppliers, which takes on the form of a reduction in unit costs, joint patents, and technology transfers.



Supplier	Geumjin	Mozel D&S	Hapseong Chemical Fiber	JJK
Overview	<ul style="list-style-type: none"> <li>Repair and maintenance of wallpaper equipment</li> </ul>	<ul style="list-style-type: none"> <li>Installation of automatic fault detecting equipment</li> <li>Installation of camera equipment for inspecting exterior defects</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of use of compounds through repair and maintenance of equipment</li> </ul>	<ul style="list-style-type: none"> <li>Equipment automation to increase efficiency in component assembly work</li> </ul>
Description of support	<ul style="list-style-type: none"> <li>Installation of automatic defect detection equipment</li> <li>Installation of camera equipment for inspecting exterior defects</li> <li>Installation of heaters for improving productivity</li> <li>Addition of a heater inside print-drying ovens</li> </ul>	<ul style="list-style-type: none"> <li>Installation of automatic fault detector on the inspection line</li> <li>A camera automatically captures reflections cast by LED light on faults created on the exterior surface of a finished good. The position of the fault is then marked by the detector</li> <li>Improve (Reduce) claims filed by altering the inspection method</li> </ul>	<ul style="list-style-type: none"> <li>Use of compounds for reducing costs.</li> <li>Installation of silo for compounds</li> </ul>	<ul style="list-style-type: none"> <li>Equipment automation to increase efficiency in component assembly work</li> <li>Automation equipment (robot arm) used for assembly work</li> </ul>

## Supplier Company's Sustainability Management

#### Checklist Items

- **Safety & Health**  
safety and health management system, industrial safety, industrial accidents
- **Environmental Management**  
environmental management system, harmful chemical management, environmental pollutant management
- **Employee Rights**  
written labor contract, discrimination prevention, wages & working conditions
- **Others**  
customer satisfaction management, ethics management system, fair trade, local community contributions

### CSR Code of Conduct for Suppliers

In 2016, we established the CSR Code of Conduct for all of our suppliers and have since implemented these regulations. This code of conduct defines the responsibilities of suppliers on issues related to labor and work conditions, ethics management, health and safety, and environmental management. We encourage both tier 1 and tier 2 suppliers to abide by this set of regulations. As for overseas suppliers contracted to our manufacturing subsidiaries in Tianjin, Wuxi and Atlanta, Georgia we have included clauses in the signed contracts that stipulate compliance with the CSR code of conduct.

### Supplier CSR Assessments

LG Hausys assesses approximately 396 suppliers from whom it has purchased (in the previous year) at least KRW 100 million worth of supplies, along with all of our automotive parts suppliers, based on a checklist developed from the CSR code of conduct. The CSR assessment is absolutely essential for new candidate supplier companies in particular. The results of the assessments are included as a score in our periodic audits of our suppliers. From 2018 onwards, we plan to divide our suppliers into different groups based on preliminary risk ratings (high / middle / low) and to conduct assessments so that we can implement appropriate improvement measures based on the results. We are also examining the possibility of excluding suppliers who fail to receive at least 70 out of a maximum possible score of 100 points from the CSR assessments.

At the same time, we are managing the CSR efforts of those of our suppliers who are affiliated with some of our major overseas manufacturing plants, namely our Atlanta, Wuxi, and Tianjin subsidiaries. Our Atlanta subsidiary conducts assessments of suppliers with which it has at least USD10,000 worth of traded supplies, and will sign CSR code of conduct agreements with its suppliers in 2018. Meanwhile, the Tianjin, and Wuxi subsidiaries already have any CSR code of conduct stipulations written into their supply agreements, and are presently undergoing CSR assessments.

### On-site Inspections and Corrective Measures

LG Hausys conducted on-site CSR inspections of 396 suppliers who were selected from a pool of companies with significant amounts of purchases, automobile parts suppliers, and suppliers suspected of having environmental and workers' rights issues (based on the need to conduct risk assessments). After performing the on-site inspections in accordance with the CSR Code of Conduct for Suppliers, it was discovered that industrial safety, disaster management, and labor issues in the workplace had been managed far below these standards. The suppliers in question were given instructions on how to write employment contracts for foreign workers, information about minimum wages, and how to join employment benefits programs. In addition, the suppliers were educated and given educational materials on workplace safety regarding issues like how to comply with safe forklift operating procedures, and the wearing of protective gear in the case of emergencies etc. As a part of the CSR violation prevention campaign, CSR education was provided to supplier companies during purchase negotiation meetings, with the CEO of each company in attendance. In the future, we plan to strengthen the monitoring and follow-up measures. For instance, LG Hausys will ask the suppliers concerned to submit a plan for improving their CSR after the assessment.

### Promoting Shared Growth through Green Partnerships

Since 2015, LG Hausys has been involved in the Energy Cooperation Project between Conglomerates and SMEs, which has enabled us to minimize risk factors associated with carbon emissions from our suppliers' production activities. Through sensible energy consumption plans we are helping our suppliers to reduce their greenhouse gas emissions and energy costs.

Professional energy diagnosis service provider	Five suppliers in Gyeongnam/Ulsan in 2016
LG Hausys Facility Team	Five suppliers in Cheongju/Oksan in 2017

- Review the capacity of power receiving/distribution equipment, analyze demand/load factors
- Diagnose major energy-consuming equipment—air compressors, boilers, lighting, etc.
- Identify potential risk factors by building a GHG inventory.
- Develop tools to identify and manage energy consumption and GHG emissions

Discover Energy-Saving Projects

# MANAGEMENT REPORT

- 01 Research & Development
- 02 Environmental Management
- 03 Talent Management
- 04 Social Contributions



# Research & Development

Through our R&D activities, we aim to increase the structural competitiveness of our automotive parts, windows, decorative materials, and surface materials businesses by taking advantage of our excellent processing technologies in polymers as well as inorganic and composite materials. Another objective of our R&D activities consists in using research findings to focus on the task of developing new business areas for future growth and developing products that maximize customer satisfaction.



Focus on the development of lightweight automotive parts and strengthen technological capabilities

2017 Results • Expand line up of glass fiber composite materials

2018 Plans • Internally absorb the core technologies developed by c2i and develop lightweight parts using carbon fiber composite materials

Develop next-generation building materials through research on future residential environments

2017 Results • Developed high-heat-reflecting glass with strong insulation and durability properties (Low-Emissivity)  
• Developed high-performance insulation material in advance to meet new fire and energy regulations

2018 Plans • Enlarge application of Low-E coating with silver protective material  
• Develop fireproof insulation technology that meets government standards

## R&D Overview

We are striving to identify new businesses for future development by making continuous investments in R&D, securing original base technologies, and fusing and consolidating the resources of our affiliate companies. We have selected lightweight automotive materials and next-generation building materials as our next growth businesses, and have concentrated our R&D resources on these areas. These “potential” products will be based on our company’s core platform technologies including functional surface treatment (coating), modeling & simulation, and drive technology. We aim to lead the market by continuing to develop products capable of responding to market changes, such as the enforcement of stricter regulations in Korea and overseas, and innovative products that realize customer value in response to global technology trends. For this purpose we are intensifying our open innovation activities by recruiting top talents from Korea and abroad, collaborating with domestic and overseas research institutes in carrying out joint R&D, and forming strategic partnerships with companies that own important technologies.

## 2017 R&D Achievements

### Development of Low-E glass with high insulation and durability properties

- We succeeded in developing Low-E glass offering powerful insulation and durability properties by using a newly developed material that has a silver-coated heat-reflecting layer

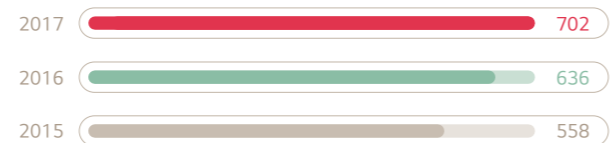
### Development of a high-performance insulation material ahead of the government’s regulation on chemicals and energy

- We have developed a fireproof insulation material for use in fireproof doors, fireproof covers, and interior walls of apartments

### Automotive Materials

- We are expanding our product line and spec-in parts ready for mass production based on our weight-reducing material technology that utilizes carbon fiber composites. (This technology has earned the JEC Technology Innovation Award, a certification of new technology, and the Jang Yeong-sil Award.)
- We are continuously working on reducing the unit manufacturing cost of lightweight parts that utilize carbon fiber composites
- We have created a premium fabric lineup through the development of our PU fabric series and design differentiation research

## | R&D Expenditure | (Unit: KRW 100 million)



\* Discover commercialization projects from the design perspective based on CMF (Color, Material, Finishing)

## R&D Organization

In order to pursue its R&D activities, LG Hausys runs an R&D center and a design center. The R&D center conducts research into core technologies and develops new businesses to prepare for the future. They also develop new differentiated products like automotive parts, windows, decorative materials, and surface materials. The design center researches design solutions and studies design trends. LG Hausys’ two R&D organizations were transferred to the LG Science Park in December 2017, the R&D Center was previously situated in Anyang, Gyeonggi-do, while the Design Center was in Gangnam, Seoul. This merger in the LG Science Park was part of a plan to engender differentiated values and competitiveness by accelerating the creation of synergy among LG Group business entities and fostering closer cooperation between the R&D Center and the Design Center.

## Expanding R&D Investments

In order to recruit and train qualified R&D employees with masters degrees and PhDs from Korea and abroad, we are engaged in a wide range of events and programs, including the LG Techno Conference and industry-academia research projects. We are also cooperating with academia, government-funded agencies, and corporations to further our R&D capabilities.

## Building Relationships with Academia and Research Institutes

LG Hausys has forged collaborative relationships with diverse external organizations, and is engaged in joint industry-academia research with prestigious universities in Korea, such as Seoul National University and Korea University. We are conducting joint research with government-funded research institutes such as the Korea Institute of Civil Engineering and Building Technology, Korea Conformity Laboratories, etc. Through such external collaborations, we are intensifying our R&D efforts to develop new technologies that could serve as powerful growth engines in the future.

## Technology Cooperation Partnership with CNSPPT

In March 2017, LG Hausys signed a joint research and technology partnership agreement with the Center For Nano-Structured Polymer Processing Technology (hereafter referred to as CNSPPT). Currently, CNSPPT and LG Hausys are conducting research into insulation materials and lightweight composite materials. Based on the results of such research, LG Hausys expects to be able to test new technologies in the automotive lightweight parts and insulation materials market to utilize them in its own research efforts.

## | R&D System |





# Environmental Management

In view of the growing public interest in the impact of business activities on the environment and workplace safety, LG Hausys is working to minimize its environmental impact across all stages of its business activities and pursuing beautiful harmony with nature. Our manufacturing plants are putting into practice environmental management to minimize the environmental impact of raw materials procurement, development, production, waste disposal, and distribution and use.



Minimize impacts on the environment caused by business activities and strengthen social responsibilities

- 2017 Results**
- Replaced air pollution control equipment with high-effect models (total investment of KRW 4.1 billion)
  - Expanded share of eco-friendly products and adopted the ISO 14001 regulations
  - Increased environmental monitoring environment and the prevention of environmental accidents

- 2018 Plans**
- Minimize emissions of air polluting substances
  - Improve the chemical substance management system/process

Reduce energy consumption through process innovation and operational optimization

GHG Emission Rights Trading

- 2017 Results**
- Optimized the operation of heavy energy-consuming facilities
  - Began trading GHG emissions

- 2018 Plans**
- Find items with low GHG emissions
  - Manage energy consumption at newly created worksites

## Safe Environmental Management

### Safety/Health/Environment Policies

The LG Management Philosophy of 'Creating Value For Customers' and 'Respecting Human Dignity' lies at the heart of the company's green management activities. The social responsibility and role of big business in protecting the environment and ensuring employee health and safety as espoused by LG's green management is firmly grounded in the LG Management Philosophy. As such, we at LG Hausys are pursuing harmony between business conduct and the environment by establishing health, safety, and environmental policies that are firmly grounded in the principles of LG green management.

1997	2010	2017
<p><b>LG Environmental Declaration</b></p> <p>All employees are required to vow to comply with LG's health, safety, environmental activities</p>	<p><b>LG Green 2020</b></p> <p>LG Group declares its commitment to create customer values and contribute to the nation and society through the protection of the environment</p>	<p><b>LG Workplace Safety Guidelines &amp; 7 Basic Principles</b></p> <p>The LG Workplace Safety Guidelines and the 7 basic principles highlight the importance of health and safety and the environment as the basis for all business operations</p>

### Environmental Investment

We are constantly increasing our investment in environmental improvements through process enhancements and eco-friendly product design, to product production, and to GHG emission/energy consumption reduction and environmental conservation. In 2017, we invested approximately KRW 4.8 billion in environmental preservation, mainly by installing brand new highly effective air pollution control equipment.

## Environmental Pollutant Management

### Atmospheric Environment Management

To improve the atmospheric environment, we actively embrace new technology and switch to new high-efficiency pollution control equipment and systems in order to improve our efficiency in treating air pollutants. We primarily operate Regenerative Thermal Oxidizers (RTO) and electric precipitators as the optimal air pollution control equipment, and we built a monitoring system to prevent air pollution accidents and to monitor the operational status of such equipment in real time.

### Water Environment Management

Across major areas of our worksites, air-water separator tanks are up and running to prevent the spread of pollutants, and emergency storage tanks were installed to prevent pollutant leaks to offset any damage imposed by unintended environmental accidents. All alarms and dikes were also installed to prevent any leakage of liquid pollutants as well as the spread of such pollutants. Our Oksan Plant ensures that its floodgate automatically closes in

response to the leakage of pollutants so that such pollutants are not discharged into the outside environment.

As for the wastewater generated from our manufacturing process, wastewater treatment professionals are stationed at the in-house wastewater treatment facilities of respective plants 24 hours a day to monitor the quality of the treated wastewater. Furthermore, non-point pollution source treatment equipment is under operation to prevent nearby streams from being polluted by these sources.

\* Water intake at the Ulsan Plant : Surface water, tap water  
 \* Water intake at the Oksan Plant : Tap water, industrial water  
 \* Water intake at the Cheongju Window Plant : Underground water, industrial water

### Hazardous Chemicals Management

Our Ulsan and Oksan Plants handle hazardous chemicals—ranging from MEK to acetic acid ethyl. This prompted us to focus on developing alternatives to reduce our consumption of such harmful chemicals. We also installed such safety devices as dykes and gas detectors around the storage facilities of harmful chemicals to prevent fires, explosions, or leaks caused by these chemicals within the workplace. All the while, we appointed managers at each spot in charge of managing hazardous chemicals to thoroughly examine the relevant facilities.

### Ozone-Depleting Substance Management

We do not produce any ozone-depleting substances as defined in the Montreal Protocol nor use such substances in our manufacturing process. Yet, CFC-based substances are contained in a portion of the refrigerants of the freezers used for product freezing and air conditioning. In addition, halon is used in some of our fire extinguishers. We plan to replace such equipment with cleaner and greener ones or to adopt water-based fire extinguishers.

### Minimizing Our Impact on the Ecosystem

Since 1990, our Ulsan Plant has voluntarily conducted quarterly water quality inspections and environmental impact assessments on the Heoya River system as part of its ecosystem conservation initiatives. A total of 13 locations, from the Heoya Dam to Ganggunaru where the river meets the sea, are analyzed and managed for six items (COD, SS, pH, etc.). If deemed necessary, measurement data is provided to the relevant authorities. Our Oksan Plant signed an agreement with the Geum River Basin Environmental Office to improve the water quality of the nearby Miho Stream, and is engaged in such activities as ditch clean-ups, planting, and daily environmental education for local residents.

## Response to Climate Change

### Climate Change Response Strategy

We proactively respond to climate change risks through continued energy conservation and process innovation. We are subject to the GHG emissions trading scheme, and thus will endeavor to reduce our GHG emissions in multiple ways, including the adoption of renewable energy and external heat sources.

### | Climate Change Strategy |

2020 Achieve the best green workplace and green partnerships

- Reduce on the ratio of fossil fuel energy use
- Reduce on the ratio of fossil fuel energy use by increasing the use of renewable energy
- Introduce co-generation and photovoltaics to improve on the ratio of KEPCO power use
- Establish practical partnerships by reducing GHG emissions and energy use

### Reducing Energy Use and GHG Emissions

At LG Hausys, we are carrying out an energy reduction campaign involving all our employees. For this purpose, we have formed an energy reduction TFT aimed at our domestic manufacturing sites. We have been able to realize significant energy reductions by replacing old boilers, compressors, irrigation equipment, and pipes; making system improvements; and enhancing the air-conditioning and refrigerating equipment. The Ulsan plant's coolant piping layout has been modified to make it more efficient, its air-conditioning system has been improved, and its aging transformers have been replaced with high-efficiency transformers. As for the Oksan plant, sources of heat loss have been eliminated throughout the plant, while operating costs have been reduced by KRW 2.39 billion per year and CO<sub>2</sub> emissions by 9,655 tons per year simply by controlling the inverter speed.

### BUSINESS CASE

#### GHG Emission Reductions through the RTO Concentrator

In 2015, shortly after the GHG Emissions Trading Scheme took effect, LG Hausys adopted a technology combining a rotor concentrator with an existing RTO to process VOC gas and thereby reduce GHG emissions. Basically, this technology converts a large volume of low density VOC gas into a small volume of high density VOC gas. Of the twelve RTOs installed in the Ulsan plant, only those capable of being combined with highly efficient concentrators were selected and are being refitted one at a time. The energy source for the internal inside the concentrator uses the circulating heat in the RTO, thus contributing to GHG emission reductions. As a result, the VOC gases' throughput has been reduced when compared to the use of only conventional RTOs in the past. The adoption of this technology has also resulted in the reduction of RTO fuel (City LNG) consumption, thus reducing GHG emissions at the Ulsan plant.

#### Trading in GHG emission rights

- Sales of GHG emissions trading allowance in November, 2017 : 30,000 tons

#### Future Plans

- Sales forecast of 20,000 tons
- Establish a process for the systematic trading of GHG emission rights



2017 CDP\* Award in the "Industrial Material"

\*CDP (Carbon Disclosure Project): Project for disclosing corporate climate change response strategies to investors.

# Talent Management

We stand by our business philosophy of 'Respecting Human Dignity' as a company that grows with its employees. We respect the creativity and autonomy of our employees and fairly evaluate and compensate them.



### Recruit and train top grade talents to improve business competitiveness

- 2017 Results**
- Expanded channels for securing R&D talents in Korea and abroad
  - Developed a training system for experts in R&D and manufacturing
  - Adopted and expanded the leadership transformation program

- 2018 Plans**
- Make improvements to the recruitment and selection process
  - Expand the program for enhancing R&D and manufacturing expertise
  - Establish a company culture characterized by strong execution capabilities

### Strengthen the performance driven mentality through grade level and HR policy reorganization

- 2017 Results**
- Fostered a horizontal and creative culture by adopting a new employee grade level system (5 grade levels → 3 grade levels)
  - Promoted a performance driven mentality with the adoption of the new HR policy

- 2018 Plans**
- Institute a promotion policy centered on jobs and roles
  - Work to improve the acceptance of employee evaluation outcomes
  - Increase compensation based on role and performance

### Operate stable labor relations based on compliance with principles

- 2017 Results**
- Complied with the principles when managing labor-management relations
  - Responded in advance to changes in labor-management relations

- 2018 Plans**
- Establish healthier labor-management relations as soon as possible
  - Work on resolving labor-management issues

## Ideal Employee and HR Management Principles

### The Ideal LG Hausys Employee

The ideal LG Hausys employee "believes in and is capable of practicing the LG Way". As such, we strive to recruit and nurture globally-competent individuals who fall within the parameters of this definition.

### HR Management Principles

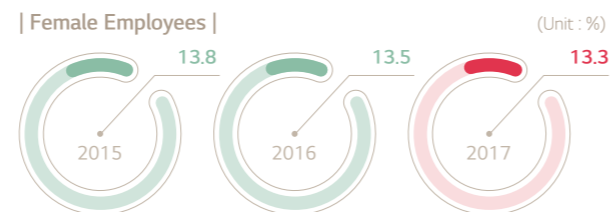
Value is created from individual creativity, while performance is driven by employee capability. At LG Hausys, we provide fair opportunities in accordance with an individuals' abilities and qualifications, fairly evaluate the delivered outcomes, and compensate according to the individual and organizational contributions made. Furthermore, we take a long-term and consistent approach in making all HR management decisions while guaranteeing equal employment opportunities, respecting human rights, and compensating our employees for their performance without any discrimination on the grounds of gender, age, or religion as specified in our Code of Conduct and our employment policy.

### Employee Data

The number of our employees in Korea and abroad amounted to 4,494 on a consolidated basis as of the end of 2017. The ratio of office and production workers was 68% and 32% respectively. In 2017, we hired 229 new employees, and we are now leading the push to create more jobs for young people.

### Expanding and Supporting Female Talent

We operate a wide range of programs designed to ensure the vocational security of our female employees. By providing maternity leave and flexible work hours, we are fully supporting the government's policies for promoting a proper work-life balance. Furthermore, we are continuously managing and supporting endeavors to promote more female employees to leadership positions and working to make sure that women are assigned to appropriate positions.



## Top Talent Acquisition

LG Hausys recognizes that securing and cultivating talented human resources is a prerequisite for becoming a leading company in the market. We are continuously expanding our channels for securing talented individuals at home and abroad, and are launching promotional activities aimed at raising the value of our employment brand.

### Top Talent Acquisition in Korea and Abroad

In order to lead the market, it is important to acquire and nurture talented individuals endowed with the right capabilities at the right time. LG Hausys conducts campus recruitment activities at key universities in Korea, North America, and Japan to secure talents. In addition, we offer customized courses dependent on the field of study, and industry/academy scholarship programs.

### Employment Brand Improvement

With the increasing need to attract top talent, a differentiated employment brand must be built in such a way that top talent can be recruited more effectively. With this objective in mind, we are taking part in the LG Techno Conference, where we explain our R&D talent development plans and our technological innovations to students on PhD and master's degree programs at domestic and overseas educational institutes. We also participate in "LG Day," a pan-LG recruitment event, as well as all the major recruitment events held at prominent universities.

## Talent Nurturing Programs

LG runs a job training program aimed at increasing business performance and job expertise, an entrepreneur program designed to foster people with the ability to incorporate our business strategies into preparations for our company's future, and requisite training on global competencies and core values.

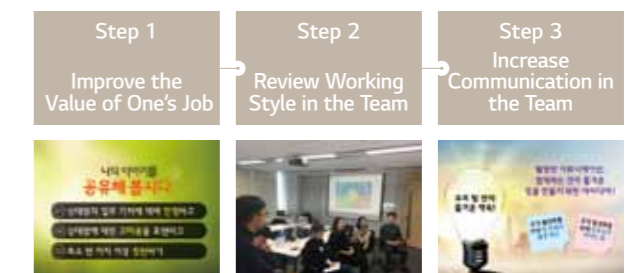
### Strengthened Job-Specific Training

To strengthen the fundamental competitiveness of its business, LG Hausys provides job-specific training programs for all its employees. In the manufacturing sector, we operate a job training program centered on our company's most unique, core technologies. In R&D, we have developed a training system that offers knowledge specific to each area ranging from materials/fabrication and composite materials to building design. In sales & marketing, we focus on increasing expert job knowledge through training in basic marketing concepts and practical training.

### Expanded Leadership Transformation Program

We run a self-initiative leadership strengthening program consisting of a leadership survey for employees in team leader positions to evaluate their present leadership skills, and a leadership enhancement course based on self-examination and leadership letters based on keywords. We also run 'Happy Together Team Workshops' to foster a happy team atmosphere in which team members learn to recognize the full value and significance of their jobs.

#### | Happy Together Team Workshop |



### | LG Hausys Training System |

Category	Position Specific Mandatory Training	Business Leader Training	Specific Job Training	Global Education
Executives	New Executive	MVP V	EnDP Aspiring Business Leaders	Conversation for Executives
General Managers	Team Leader Leadership	MVP IV	Biz/Pro Talent Market leadership seminar D/C* Capability Assessment Young HPI	Advanced Chinese
	New Team Leader	New Team Leader	Mid/Long-term training Global MBA Domestic MBA LG MBA Job-specific overseas training R&D Design Course	
Managers		MVP III	Trend Seminar	Advanced Chinese
		MVP II	Area Marketing	
Working Level Staff	Refresh Start	MVP I	B2B Marketing	Beginners Chinese
	Jumpup Camp		Engineering Basics	
	Basic Job Skills		Understanding Market Unit Cost Management Production Management	
	New Hire Experienced	New Hire Experienced	MSA Basic	

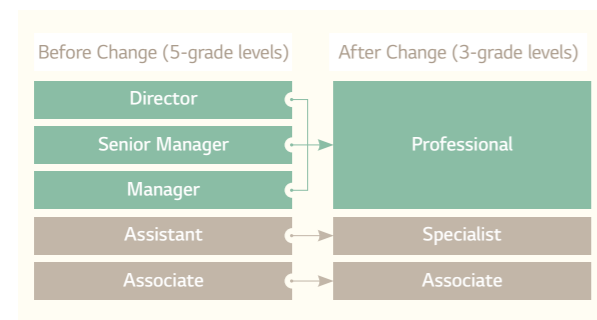
\* D/C : Development Center LG business leader capability assessment program

## Innovation of Organizational Culture

### Adoption of a new employee grade level system

LG Hausys introduced a new employee grade level system in July 2017 as a part of an effort to respond swiftly to changes in the business environment and to foster a horizontal company culture that values creativity and autonomy. The original employee grade level system for office workers (including researchers) was a 5-grade level system based on seniority. It has since been simplified to a role-based, 3-grade level system. The Associate/Assistant level was maintained, but the Assistant Manager level is now the Specialist level, while the Manager/Senior Manager/Director levels have been merged into the Professional level. The new employee grade level system emphasizes roles, capabilities, and performance and facilitates the identification of young talent and the nurturing of their capabilities. LG Hausys hopes that the new system will enlarge growth opportunities for the employees concerned while spreading a horizontal culture that values creativity and individual autonomy. Going forward, we will continue to pursue changes that will enable our employees to work smartly and achieve results in a rapidly changing business environment.

| Changes in the Employee Grade Level System |



## Compensation System

We operate a performance-based employee evaluation system to build a market-leading organizational culture and to reinforce our execution capability to maximize business outcomes. It is based on such performance-oriented HR management principles that respect the creativity and autonomy of individual employees that we provide competitive wages and reward programs.

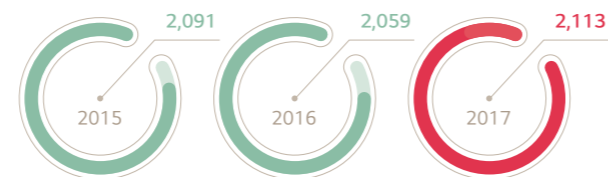
### Fair Assessment System and Continuous Feedback

Our endeavors to ensure fairness in assessing the performance of our employees includes quarterly reviews, the Assessment Review Committee, and evaluator capacity-building training. We conduct quarterly progress reviews to help employees strengthen their execution capability to reach the set goals while offering regular performance feedback and coaching to improve the fairness and acceptability of evaluation outcomes. As a part of the year-end assessments, the Assessment Review Committee performs comprehensive assessment reviews that take into account any contributions to business operations and organizational specificity, in addition to individual performance and competence. We also provide mandatory e-learning to evaluators to improve their capacity in conducting fair and objective assessments.

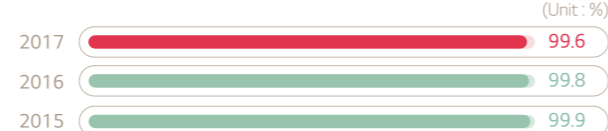
### Performance-based Compensation System

Our compensation system consists of cumulative and non-cumulative components based on performance-driven principles: the cumulative annual salary scheme compensates individuals differently based on their previous year's evaluation results, whereas the non-cumulative scheme is composed of role-based pay, performance pay, on-the-spot incentives that reward exceptional performance, and reward programs operated at the level of unit organization. Furthermore, we hold the R&D Awards, Design Jump, the Innovation Festival, and other project-level programs designed to reward R&D and innovation initiatives. These programs help to consolidate the performance-driven HR principle of "High Performance, High Return."

| Employees subject to evaluations and reviews | (Unit: No. of persons)



| Percentage of employees subject to evaluations and reviews | (Unit: %)



\* Target: Office workers in Korea (Executives, senior-level employees are excluded.)  
 \* Percentage of employees subject to relative evaluations among the total number of employees  
 \* Technical Experts : no regular performance evaluation

## Protection of Labor and Human Rights

### Global Labor Policy

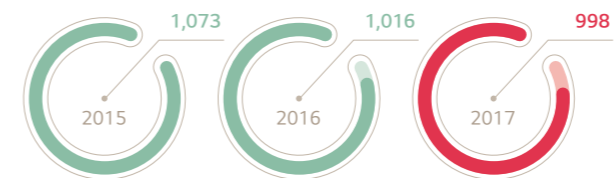
We fully respect the provisions set by the agreements made by the International Labor Organization (ILO), the 'UN Guiding Principles on Business and Human Rights' proposed by the UN Human Rights Commission, and other standards and regulations set by international organizations and groups in the fields of labor and human rights. In 2016, we established the <LG Hausys' Global Human Rights & Labor Policy> which declares our commitment to 'guaranteeing and respecting the right to human dignity, freedom, and happiness as fundamental value.' Its full version is available on our corporate website.



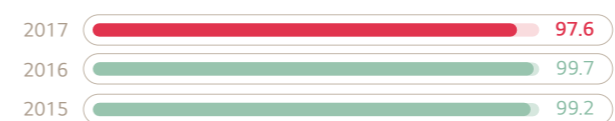
### Labor Relations

LG Hausys is managing a labor-management partnership that has been built to value engagement and cooperation. In doing so, we are generating sustained business results and gaining world-class competitiveness while improving the quality of life of our employees in the process. At the same time, we aim to achieve labor-management relations that are akin to those of a close-knit community and can contribute to society. To achieve this objective, we will operate a 3-dimensional labor relations model based on the 3 pillars of business management, worksite, and collective bargaining to engage with and seek cooperation from our employees. In addition, we are constantly communicating and

| Unionized workers (domestic) | (Unit: No. of persons)



| Percentage of unionized workers | (Unit: %)



faithfully consulting with our labor union in an effort to build a mature labor-management culture based on mutual trust and respect. As of the end of 2017, 97.6% of our production workers were members of a labor union.

### Labor-Management Community

We pursue engaging and cooperative labor relations: labor relations are built horizontally, not vertically, and employees and the top management respect each other's role on equal footing. Our executives host regular dialogues with employees, and quarterly management meetings. Organization revitalization events like the annual sports events held at company worksites also help open up dialogue between management and labor. Furthermore, we host quarterly labor-management conferences to discuss common issues that concern labor and management alike, such as the improvement and expansion of welfare facilities, and greater business performance.

### Occupational Health and Safety Committee

We have signed employee agreements with our labor union, and host quarterly Occupational Health and Safety Committee meetings at which labor and management are represented in equal numbers. In addition to preventive initiatives focused on production departments and blind spot areas, an employee representative attends the committee meetings once every 6 months to inspect the work environment and address health and safety issues.

## Employee Welfare Benefits

LG Hausys runs a host of employee welfare benefit programs designed to create a satisfactory working environment for our employees.

Area of Support	Type of Support	Description
Flexible Employee Benefits		A welfare program in which employees can choose from a wide range of benefit services depending on their lifestyle and preferences
	Residence/Economic Stability Support	Housing fund support: Housing fund support, company housing quarters, and dormitories are provided
	Congratulatory & condolences expense support	Leave is granted on special family occasions such as marriage, 60 <sup>th</sup> birthday celebrations, and deaths in the family, and support is provided for the necessary congratulatory and condolences expenses
Health-care/Health Check-up Support	School tuition support	School tuition is provided for children in middle and high school and university, including registration fees and classroom fees. (There is no limit to the number of children eligible for support.)
	Medical expense support	Medical care expenses are received by the employee, and the employee's spouse and children
	Health check-up support	Regular health check-ups are provided
Leisure Activity Support	Health/psychological counseling support	A counseling service is provided through a welfare manager and an outside professional counseling organization
	Group term life insurance	Insurance benefits are provided in the event of 3 major diseases, death, and accidents
	Reward for long-term employees	Commemorative souvenirs are given to long-term employees, a 6-day paid overseas vacation is offered to employees and their spouse upon their 20th year of employment and upon retirement
Vacations		Summer vacation, and annual leave
	Vacation facilities operation	The company operates four vacation facilities
Informal group support		Support is provided for various informal groups formed by employees for leisure activities

## Social Contribution

At LG Hausys, we pursue mutually-beneficial development with the greater community through our social-giving initiatives that put our employees' capacity into their best use and are closely aligned with our inherent business characteristics. We instigate positive changes in society by preserving cultural heritage and the environment, renovating the historic sites of Korea's Independence Movement, improving the residence for men of national merit and undertaking sharing programs with local communities.



### Facilitate leading programs

- 2017 Results**
- Carried out patriotism-driven social contribution programs
  - Repaired and did maintenance work on Woodang Memorial Hall dedicated to patriot Lee Hoe-young, Patriot An Jung-Geun Memorial Hall
  - Carried out Dokdo Jikimi activities (i.e. guarding Dokdo Island)
- 2018 Plans**
- Carry out patriotism-driven social contribution programs
  - Carry out repair and maintenance work on the Manhae Memorial Hall
  - Improve the donation procedure
  - Establish regulations on donations and the donation review committee

### Diversify social-giving initiatives

- 2017 Results**
- Held employee-participatory activities.
  - Employees participated in "Make A Happy Space" activities with their children
  - Assisted with the efforts to recover the Cheongju area after it was hit by heavy flooding
- 2018 Plans**
- Develop and implement new programs
  - One Company, One Military campaign

### Undertake sharing programs for local communities

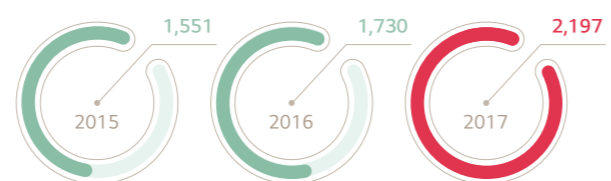
- 2017 Results**
- LG Happy Day
  - Briquettes of Love volunteer program
  - One Company One Village/One Stream/One Mountain campaigns
- 2018 Plans**
- Expand social contribution programs
  - Expand employee participatory volunteer activities
  - Strengthen co-work with outside stakeholders

## Social Contribution Strategy

Social Contribution Activities that Bring Positive Changes to Spaces, Nature and People



### | Investment in local communities | (Unit : KRW 1 million)



## Preserving Korea's Cultural Heritage and Environment

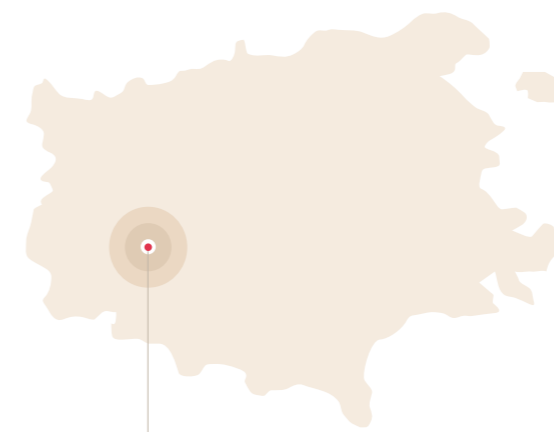
We continue to provide educational youth programs to preserve our natural, historical and cultural heritage and to pass down this legacy to future generations, and are supporting the renovation of the four major palaces in Seoul as a way of safeguarding our splendid cultural heritage.

### Make Dokdo Green

This annual facility improvement initiative has been undertaken in Dokdo since 2009 to improve the quality of life for Dokdo residents while protecting the pristine environment of this natural preservation area.

#### | Ulleungdo |

- Patrol Routes** 2009-2015. Installed and repaired safety fences (Used 'Woozen')



- Ulleung Police Guard**
- 2013. Installed flooring (tiles) and wallpapered (wallcovering) the official Residence and patrol division offices
  - 2014. Installed flooring (tiles) and wallpapered (wallcovering) the official Residence and patrol division offices / Donated heating equipment
  - 2015. Installed flooring (tiles) and windows, and wallpapered (wallcovering) the official residence and patrol division offices
  - 2016. Renovated the flooring at the official residence and patrol division office
  - 2017. Renovated the tiles at newcomer station

#### | Dokdo |

- Dokdo Police Guard**
- 2009. Replaced the flooring (tiles) in the gym, internet cafe and cafeteria
  - 2010. Renovated the flooring (tiles) and walls (wallpaper) in the barracks and donated equipment
  - 2011. Renovated the kitchen facility (tiles and others) and donated cooking equipment.
  - 2012. Renovated the operations room/guest rooms/hall flooring (tiles) and walls (films) Renovated the changing room and donated furniture
  - 2013. Replaced the flooring (tiles) in the situation room
  - 2014. Replaced the flooring (tiles) in the briefing room and donated electronic appliances
  - 2015. Constructed bathrooms/toilets
  - 2016. Replaced the flooring in the gym

- Dokdo Lighthouse**
- 2011. Donated air-conditioning equipment 2013-2017. Donated electronic devices
- Dokdo Residential Housing**
- 2011. Donated construction materials for the expansion of Seodo residential housing (windows/wallcovering/linoleum, etc.)
- Dokdo Management Office**
- 2013-2017. Donated electronic devices

### Dokdo Love Youth Camp

Since 2010, we have selected approximately 20 undergraduates every year to directly/indirectly experience Dokdo through such broad-ranging programs as visits to the island, exchanges with Dokdo keepers, admission to special lectures given by experts, opportunities to engage in Love Dokdo conservation tasks, and nature trekking. In so doing, we help the younger generation understand and disseminate the historic and geographical significance of this island.



## Renovating the Historic Sites of Korea's Independence Movement and the Residence for Men of National Merit

We renovate facilities related to Korea's Independence Movement as well as the residence for men of national merit so that the spirit of this historic movement and the sacrifice and national contribution of our ancestors will be forever remembered by future generations.

### Renovating the Historic Sites of Korea's Independence Movement

Inheriting the spirit of the LG Group founder (the late Chairman Goo In-Hoe) to support Korea's Independence Movement, we used top-quality products including high-insulation windows and eco-friendly flooring in renovating the Seo Jae-Pil Memorial Hall, the Yoon Bong-Gil Memorial Hall, the Lee Hoe-Young Memorial Hall, the An Jung-Geun Memorial Hall, and the Han Yong-Un Memorial Hall. LG Hausys also provided support for the restoration of historic Korean sites situated overseas, such as the building that was home to the provisional government of the Republic of Korea in China which served as the Embassy of the Korean Empire in Washington D.C.

### Renovating the Residence for Men of National Merit

Since 2015, LG Hausys has been renovating the homes of national heroes, Korean War veterans, and descendants of independence fighters. We have renovated the homes of nine persons in Korea and three persons in other countries (U.S. and India), and will continue with our renovation activities in the future.

## Sharing Initiatives for Local Communities

We launch broad-ranging sharing initiatives to demonstrate just how much we care for the less-privileged in our local communities. Such initiatives are undertaken by respective worksites and in cooperation with central and local governments. In doing so, we actively explore and capitalize on opportunities to lend a helping hand to local communities.

### Make a Happy Space

Our Make a Happy Space initiative was launched to encourage our future leaders to dream and hope for a better future by improving public youth spaces with our specialized products and execution and design capabilities. Since the opening of the 1st Happy Space created at the Ilsan Holt Children's Services, we have renovated approximately three public youth spaces every year. In 2017,



1. Repair and maintenance of the Patriot Ahn Jung Geun Memorial Hall  
2. Repair and maintenance of the Manhae Memorial Hall  
3. Support for Korean War Veterans Overseas



LG Hausys signed an agreement with Habitat for Humanity and carried out repair and maintenance work on the Mulden Dongsan Children's Center in the Nangok district of Gwanak-gu, Seoul. Employees and their children also built DIY furniture for donation to the children's center. With the cooperation of the Korea Association of Community Child Centers, our company also carried out environmental improvements at sixteen other children's centers in various regions.

### Key Social-Giving Initiatives by Plant

LG Hausys is engaged in diverse social contribution activities such as cleaning the neighborhoods around its manufacturing plants in Korea and abroad, assisting with the maintenance of facilities in such areas, lending a strong helping hand with the recovery efforts in flood damaged areas, and contributing to the development of local communities.

## Creating Value for Local Communities through Private-Public Partnerships

We cooperate with central and local governments to fully mobilize our business capabilities and infrastructure in renovating old residential facilities in local communities and enabling people to enjoy a more eco-friendly and pleasant living space.

### Engagement in the Green Remodeling Project

The Green Remodeling Project is supervised by the Ministry of Land, Infrastructure, and Transport to improve the energy performance of old buildings whose energy efficiency has degraded. This not only helps in balancing the energy supply/demand, it also serves to reduce energy costs. We provide our high-insulation windows and other high energy-efficiency products to expand the cause of this meaningful project. Under this project, we carried out 1,774 window-replacement works in 2015, 6,299 in 2016, and around 6,800 in 2017, thereby greatly contributing to expanding the Green Remodeling Project

### Renovating Residences for the Socially-Underprivileged with the Ministry of Environment

We offer free assistance in renovating homes for socially-underprivileged groups like low-income families, broken families, children suffering from environmental diseases, and people whose living conditions are often sub-par. We inspect their homes for hazardous factors that cause environmental diseases and, when necessary, install our eco-friendly wallpaper covering and flooring free of charge. Since 2015, the first year of this bold initiative, LG Hausys has installed eco-friendly wallpaper and flooring in around 900 households, markedly improving their indoor environments. For those suffering from atopic diseases, asthma, and other environmental diseases, we have provided free medical treatment in cooperation with the Environmental Health Center. Furthermore, LG Hausys, together with the government, has been a pioneer in improving the indoor environments of underprivileged social groups.

Plant	Initiative	Description
Ulsan Plant	One Company, One Village	Supported the events held in villages near the plant and purchased agricultural produce from these villages
	One Company, One Stream	Inspected the water quality of Hoeya River near the plant and conducted clean-ups along the river
	One Company, One Mountain	Cleaned up Daeun Mountain with Ulsan City and Ulju-gun
	LG Happy Day	Donated kimchi to local children's centers in Onyang and the elderly living alone with funds raised by employees at year-end events
	Labor for Love	Donated TVs, washers, and refrigerators, etc. to three senior welfare centers (Suyun Rehabilitation Center, etc.)
Oksan Plant	One Company, One Military	Formed a partnership with the 37 <sup>th</sup> Infantry Division of the ROK Army, assistance with their military camp environment improvement efforts, donation of appreciation gifts and funds
	One Company, One Stream	Cleaned up Miho Stream in alignment with the Geumgang River Basin Environmental Office
	Support for children from low-income families	Provided minimum living expenses to children from low-income families in alignment with Child Fund Korea
	Delivery of Briquettes with Love	Delivered briquettes to seniors living alone with Chungbuk Briquette Bank
	Delivery of Kimchi with Love	Donated of kimchi to childcare centers and senior welfare centers in the region
	Support for restoration of flood damage	Donated wallpaper and building materials to fifty households in the flood-damaged area of Cheonju



Make a Happy Space



One Company, One Military Activity



Renovating Residences for the Socially-Underprivileged

# GOVERNANCE & ETHICS

- 01 Governance
- 02 Ethics Management
- 03 Fair Trade
- 04 Risk Management

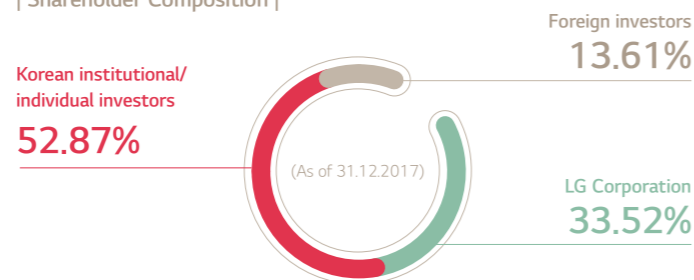


## Governance

### Shareholder Composition and Rights

We established a fair and stable ownership structure to become a sustainable company. Our shareholders are entitled to wide-ranging shareholder rights, and information on major business issues is disclosed through the electronic information disclosure system of the Financial Supervisory Service or on our corporate website.

| Shareholder Composition |



### BoD Composition and Operation

Our Board of Directors (BoD) is responsible for making major decisions regarding our business conduct and for supervising the operations of our board members. The board also votes on matters stipulated by the relevant laws and the Articles of Association, matters delegated at the general shareholders' meetings, and other important business-related matters. The separation of the CEO from the BoD chairmanship and the participation of external directors in the BoD's activities guarantee that decisions are made in a reasonable and transparent manner.

### BoD Composition

As of April 2018, our Board of Directors consists of two executive directors, one non-executive directors, and four outside directors.

### Appointment and Responsibility of the BoD and External Directors

The appointment of the BoD members follows the procedures stipulated by the Commercial Code and other relevant regulations, and must be approved at the general shareholders' meetings. Listed companies with more than KRW 2 trillion in assets must fill more than half of the BoD's seats with external directors. In accordance with this rule, four external directors were selected from among a pool of experts with no vested interests in LG Hausys, bringing with them extensive experience and expertise in the fields of economy, business management, chemical engineering, and automotive engineering. Once appointed, the external directors listen to the company's strategic directions with regard to the economy, society, and environment. They also attend to pending issues, and are then asked to voice their opinions on these matters.

| BOD Composition |

(As of April 2018)

Directors	Name	Position and Career Description	Remarks
Executive Directors	Min Kyeong-Jip	President and CEO	
	Seong Gi-Seob	CFO	
Non-executive Director	Ha Hyeon-Hoe	CEO and Vice-Chairman, LG Corporation	BoD Chairman
External Directors	Kim Young-Ick	Professor, Department of Economics, Sogang University	Member of the Audit Committee
	Kim Jin-Gon	Professor, Department of Chemical Engineering, Pohang University of Technology and Science	
	Bae Zong-Tae	Professor, College of Business, KAIST	Member of the Audit Committee
	Lee Bong-Hwan	Professor, College of Engineering Seoul National University (Industry-Academia Cooperation Expert)	Member of the Audit Committee

### BoD Performance Evaluation

LG Hausys determines the BoD remuneration criteria each year after considering the year-end evaluation of BoD performance, inflation rate, and the competitiveness of external director compensation. The remuneration limit for directors is approved at the general shareholders' meeting in accordance with the set criteria, and any adjustment to the BoD remuneration must be proposed to and approved by the BoD.

### BoD Activities

Our BoD met 7 times in 2017, and the average percentage of directors in attendance was 95.9%. The BoD deliberated on a total of 36 agenda items including the approval of business plans, out of which 26 were approved and 10 were reported.

Meeting	Date of Meeting	Main Agenda Items	Attendance of Directors
1	2017. 1. 25	Approval of the 8th term financial statements and 6 other items	100%
2	2017. 2. 17	Approval of the convocation of the 8th general shareholders meeting and 4 other items	85.7%
3	2017. 3. 10	Approval of the payment of directors' remuneration for 2017 and 4 other items	100%
4	2017. 4. 24	Report on the Q1 2017 business results and 3 other item	100%
5	2017. 7. 18	Report on the Q2 2017 business results and 4 other items	100%
6	2017. 10. 20	Report on the Q3 2017 business results and 2 other items	85.7%
7	2017. 11. 30	Approval of the appointment of executive directors and 6 other items	100%

### BoD Committees

#### Audit Committee

We operate the Audit committee under the BoD to ensure the independence and transparency of our auditing. The committee consists of three outside directors, all of whom are exempt from the disqualification criteria stipulated in the Commercial Code. The Audit Committee is responsible for inspecting LG Hausys' accounting and business practices, and reserves the right to request board members to report on business operations and to investigate the business conduct and assets of LG Hausys. The committee can convene ad-hoc general shareholder meetings to deal with special issues by submitting documents that describe the reason such meetings are required and the purpose of such meetings. The committee also has the right to request business reports from subsidiaries and investigate their operations and assets if deemed necessary.

| Audit Committee Operation and Activity |

Meeting	Date of Meeting	Main Agenda
1	2017. 1. 25	Report on the operational status of the internal accounting management system in 2016 and 4 other items
2	2017. 2. 17	Approval of the 8th term report concerning the 8th term financial statement and business report and 2 other items
3	2017. 4. 24	Report on the Q1 2017 business results
4	2017. 7. 18	Report on the Q2 2017 business results and 1 other item
5	2017. 10. 20	Report on the Q3 2017 business results

#### External Director Candidate Recommendation Committee

LG Hausys operates the External Director Candidate Recommendation Committee to protect the independence of the appointment procedure for external directors. The committee considers each of the candidates' expertise in their respective fields of economy, environment and society, and checks for independence and any conflict of interest, before recommending them for approval at the shareholders' meeting. The committee is composed of three members, more than half of whom must be external directors.

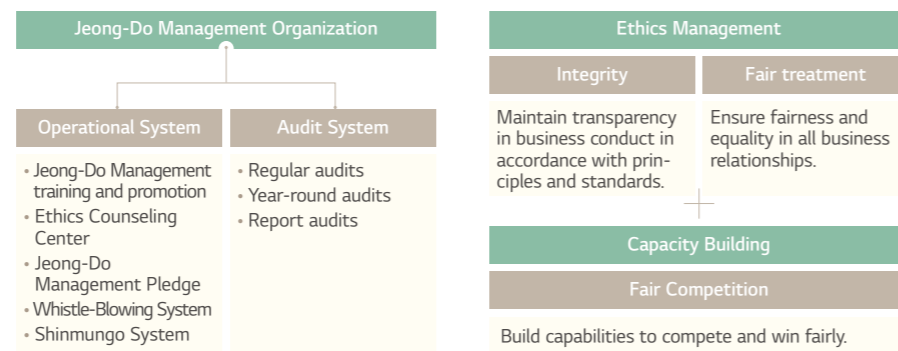
# Ethics Management

## The LG Way and Jeong-Do Management

As LG's unique corporate culture, the LG Way aims to put LG's Management Philosophy of "Creating Value for Customers" and "Respecting Human Dignity" into practice by abiding by Jeong-Do Management principles to ultimately achieve the "No. 1 Vision" of LG. LG's Jeong-Do Management drives us to consistently build capacity and compete in a fair manner, and it springs from the foundation of ethics management.

### LG Code of Ethics

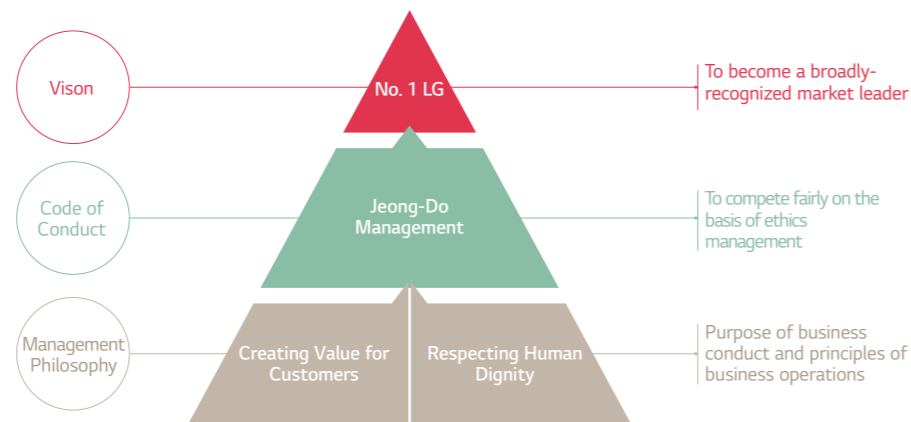
LG established its Code of Ethics and is practicing these ethical norms to help guide the practices and value judgments of its employees. The Code of Ethics Handbook and e-book is available in Korean, English, and Chinese and is distributed to our employees.



### LG Hausys' Jeong-Do Management

At LG Hausys, we are fully aware of the 'importance of Jeong-Do Management not as an option but as a prerequisite for our survival as a company.' Thus, we operate a dedicated Jeong-Do Management organization and ensure that this management philosophy is built into the fabric of our corporate operation so as to prevent any corruptive or illegal behaviors of our employees and to establish a culture of Jeong-Do Management. For us at LG Hausys, Jeong-Do Management means more than a mere ethics management, but forms the basis of our competence to outperform our competitors. To this end, we sharpen our competitive edge through constant innovation to 'Create Value for Customers' while providing equal opportunity and performance-based compensation to our employees to 'Respect Human Dignity', which in turn enables us to offer great customer service that espouses high value and integrity. At LG Hausys, we abide by the philosophy of Jeong-Do Management as well as our Code of Ethics in our business operations while taking the initiative in improving on any irregularities formerly misconceived as customary practices so that Jeong-Do Management becomes an even more vital part of our organizational culture.

#### | The LG Way and Jeong-Do Management |



## Jeong-Do Management Programs

We practice Jeong-Do Management through wide-ranging programs as the Jeong-Do Management Pledge, the Whistle-Blowing and Shinmungo Systems, and Jeong-Do Management training.

### Jeong-Do Management Pledge

All of our employees sign the Jeong-Do Management Pledge online, and our suppliers do the same through signing contract documents upon the start of business relationships. This further serves to commit both employees and suppliers to abide by the LG Code of Ethics and practice Jeong-Do Management.

### Whistle-Blowing System

We at LG Hausys prohibit all our employees from accepting any bribes or rewards from stakeholders under any circumstance. In the case that bribes or gifts are offered, they should be politely refused and returned in accordance with the Code of Ethics. If for any reason this is not possible, the concerned articles should be reported to the Ethics Bureau and be donated to welfare organizations or sold through in-house auctions so that the proceeds can be used for social-giving causes.

### Shinmungo Program

Any violation of the Jeong-Do Management principles is reported via the Shinmungo System. These include unfair practices committed by our employees through the misuse of authority, acceptance of bribes, and any other practices that go against the LG Code of Ethics. In the case that online reporting is unavailable, reports can be made by phone, fax, postal mail, or in person. We guarantee that any information on the informants is strictly protected, and should any individual who has filed a report become disadvantaged as a result, we ensure that restoration or equivalent compensation measures are taken.

### Dissemination of the Jeong-Do Management Culture

Every year, we provide Jeong-Do Management promotion and education to our employees in Korea and overseas branches. The education is designed to reflect the job types and grade levels of our employees. We also make tremendous efforts to communicate regularly with outside suppliers and distributors, providing education on Jeong-Do Management, hosting discussion sessions, and sending them newsletters. In 2017, we produced a web-toon about the basic compliance rules of Jeong-Do Management and set up a promotional channel to send the web-toon to mobile devices. We also developed and launched a Jeong-Do Management Master training program to enable overseas subsidiaries to implement their own Jeong-Do Management initiatives as well as simplifying and revising the contents of the LG Code of Ethics to make them easier to understand. The Jeong-Do Management team plans to continuously upgrade its channel and contents in the future to better reflect changing social values and to maintain close communication with our employees and partners.

#### | Ethics Education Data<sup>1)</sup> |

Category	Region		2015	2016	2017
Number of employees who received education	South Korea	No. of Persons	5,837	3,388	6,075
	USA, China, Europe, Russia	No. of Persons	578	1,112	687
Number of suppliers that received education <sup>2)</sup>	South Korea	No. of Companies	715	687	1,615
	China <sup>3)</sup>	No. of Companies	86	60	-

1) Cumulative number of persons in a given year  
 2) Ethics education for supplier companies: General meeting of suppliers, each business division offers ethics education to individual suppliers.  
 3) During 2015-2017, the focus was on educating domestic suppliers.



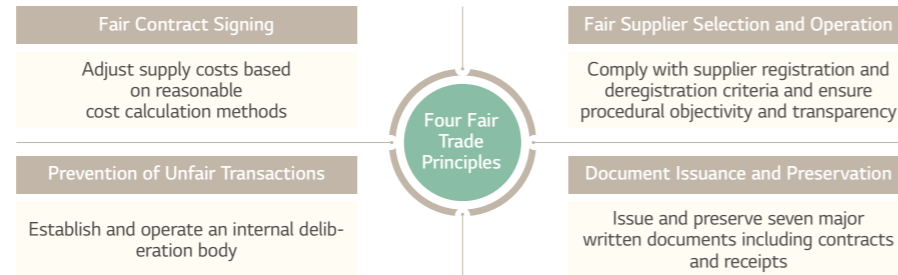
Jeong-Do Management Master Training



## Fair Trade

### Four Fair Trade Principles

To establish fair subcontracting practices between large businesses and SMEs and to pave the way for mutually-beneficial cooperation, we have integrated the action agenda presented by the Fair Trade Commission in our purchasing regulations and have abided by such an agenda to reflect upon our fair trade principles.



### Signing the Fair Trade Agreement

Since November 2008, we have been signing the shared growth and fair subcontracting agreements to comply with subcontracting and other relevant regulations to consistently support our suppliers. We have been subject to shared growth index evaluations since 2012, and our annual progress in promoting shared growth has been objectively assessed by the Fair Trade Commission and the National Commission for Corporate Partnership ever since. In 2017, we were graded 'Excellent' in the win-win index evaluations. Meanwhile, we signed the Fair Trade Agreement with 192 tier 1 suppliers to provide a range of support policies from improving payment terms and offering financial assistance, to providing technology protection and training support as a way to pursue mutually-beneficial growth. Our tier 1 suppliers also signed such an agreement with 56 tier 2 suppliers. This enabled them to join forces in expanding fair trade practices by improving payment deadlines and notifying the concerned suppliers regarding price adjustments.

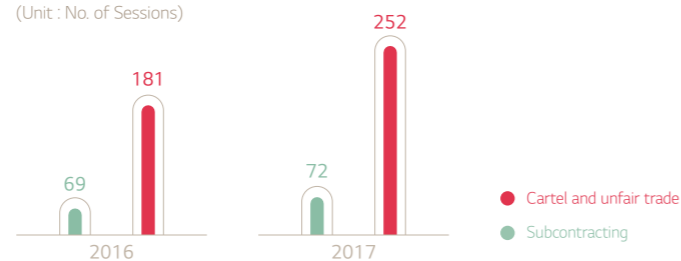
### The Fair Trade Compliance Program

At LG Hausys we established our own fair trade compliance program in 2010. Our CEO declared the company's commitment to voluntarily abide by fair trade regulations and we were registered as an operator of the Fair Trade Compliance Program recommended by the Korean Fair Trade Commission.

Program	Description
Internal inspection	• Inspect major business divisions and plants to monitor their trade practices
Regulatory training	• Raise employee awareness of fair trade and disseminate the culture of fair trade • Distribute fair trade manuals and teaching materials • Offer regular internal/external training
Preliminary review	• Target the entire business operation from planning through sales and marketing to purchasing and financing • Aim to prevent violations of competition regulations • Mobilize internal fair trade experts to conduct reviews prior to initiating business
Internal review of subcontracting transactions	• Build systems to prevent and monitor unfair subcontracting practices in doing business with suppliers • Form and operate the Internal Subcontract Transaction Review Committee attended by purchasing managers

### | Employee Fair Trade Compliance Training Frequency |

(Unit : No. of Sessions)



### Fair Trade Compliance Organization

Our Fair Trade Compliance Program is operated by the dedicated working-level team under the leadership of the executive-level Compliance Program (CP) manager. We also created and are operating the Internal Subcontract Review Committee to ensure fairness in subcontracting with SME suppliers : subcontracts valued above a specific amount are subject to preliminary reviews to examine their legitimacy and to prevent any violation of subcontracting regulations.

### Outcomes of the Fair Trade Compliance Program

Every year we provide fair trade and subcontracting training for our business divisions and manufacturing plants and conduct audits. In 2017, we sent our CEO's message on fair trade to all our employees to express top-management's deep commitment to fair trade practices. Through the Fair Trade Series, we have shared the latest cases of violations of fair trade regulations in order to instill in our employees' minds a greater sense of duty and obligation regarding compliance. In addition, we have held a series of educational sessions for our business divisions and purchasing department employees on the prevention of collusion, subcontracting regulations, and compliance with the Fair Trade Act. We have also continued to educate new team leaders and career employees, while our working-level marketing staff were given external training on the use of advertisements as a channel for reinforcing our compliance-oriented mindset.

Year	No. of Sessions	Descriptions
2017	19	<ul style="list-style-type: none"> <li>• Sent the CEO's message on fair trade and fair trade series to all employees</li> <li>• Offered cartel and unfair trade prevention training to new team leaders and new recruits with work experience</li> <li>• Performed internal fair trade reviews of our business divisions and purchasing department and offered intensive training</li> </ul>
2016	14	<ul style="list-style-type: none"> <li>• Offered cartel and unfair trade prevention training to new team leaders and new recruits with work experience</li> <li>• Performed internal fair trade reviews of our business divisions and offered intensive training</li> <li>• Conducted subcontracting reviews of purchasing departments and offered training</li> </ul>
2015	14	<ul style="list-style-type: none"> <li>• Offered cartel and unfair trade prevention training to new team leaders</li> <li>• Conducted internal fair trade reviews of business divisions and offered intensive training</li> <li>• Reviewed and provided training on misleading labeled advertising</li> </ul>

## Risk Management **Risk Management Strategy**

Due to our broad-ranging business operations, we are exposed to diverse financial risks from market risks and credit risks to liquidity risks. In general, our risk management policy focuses on minimizing any potentially negative impact on our financial outcomes.

### Risk Management System

Risk management is carried out by the central funding department (the company's finance department). The central funding department reviews not only documented policies on general risk management policies but also on such specific areas as currency risks, interest rate risks, credit risks, the use of derivatives and non-derivatives and investments that exceed our available liquidity.

### Market Risk Management

We systematically manage market-induced risks, which include currency risks as well as rate risks.

### Currency Risk

Since our sales operations span the globe, we are exposed to currency risks, and to exchange rate risks related to the U.S. dollar specifically. Currency risks usually occur in relation to net investment to overseas business as well as perceived assets and liabilities. Our top management develops policies so that companies that operate on a consolidated basis can manage the currency risks of their own functional currency, and such companies consult with their central funding department to manage their perceived assets and liabilities along with any possible currency risks related to expected future transactions. Currency risks occur when expected future transactions, as well as perceived assets and liabilities, are denominated in currencies other than functional currency. Meanwhile, we make a specified number of investments at our overseas worksites, and their net assets are exposed to currency translation risks. Such risks are managed by way of loans denominated in relevant currencies.

### Interest Rate Risks

LG Hausys' interest rate risk refers to the risk that interest income and interest expense arise from deposits or loans that will fluctuate as a result of changes in market interest rates in the future. This mainly arises from deposits and loans under variable interest rate terms. The goal of LG Hausys' interest rate risk management is to maximize the value of the enterprise by seeking to minimize uncertainty and net interest expenses due to interest rate fluctuations. LG Hausys minimizes the risk of interest rate fluctuations by reducing high interest rate loans, improving the long-term and short-term loan structure, comparing and analyzing the loan conditions for the fixed loan interest rate versus the variable loan interest rate, as well as monitoring domestic and overseas interest rate trends and establishing countermeasures. Based on these interest rate risk management policies, a change of 0.1% at the end of the reporting period could result in a gain or loss of KRW 166 million (same period last year: KRW 203 million) due to a change in financial income or a loss in variable interest rate loans.

### Tax Strategy

LG Hausys strictly complies with the tax laws and relevant regulations of Korea and those nations where our overseas branches are based, while faithfully meeting our obligation for tax reporting and payment. We implement tax policies to effectively reduce tax payments and prevent double taxation within the boundary of tax laws to strengthen our competitive edge in the global market and to enhance our shareholders' value. We also respond to the requirements of tax authorities in a reasonable manner. Each year, we specify in our audit report information on our corporate tax expenses, deferred corporate taxes, and valid tax rates while externally disclosing such information through the Data Analysis, Retrieval and Transfer System of the Financial Supervisory Commission. In doing so, we vow to sincerely fulfill our responsibility to pay taxes in a transparent and sound manner so that we become a company respected by society and customers.

# APPENDIX

Financial Data

Sustainability and Performance Data

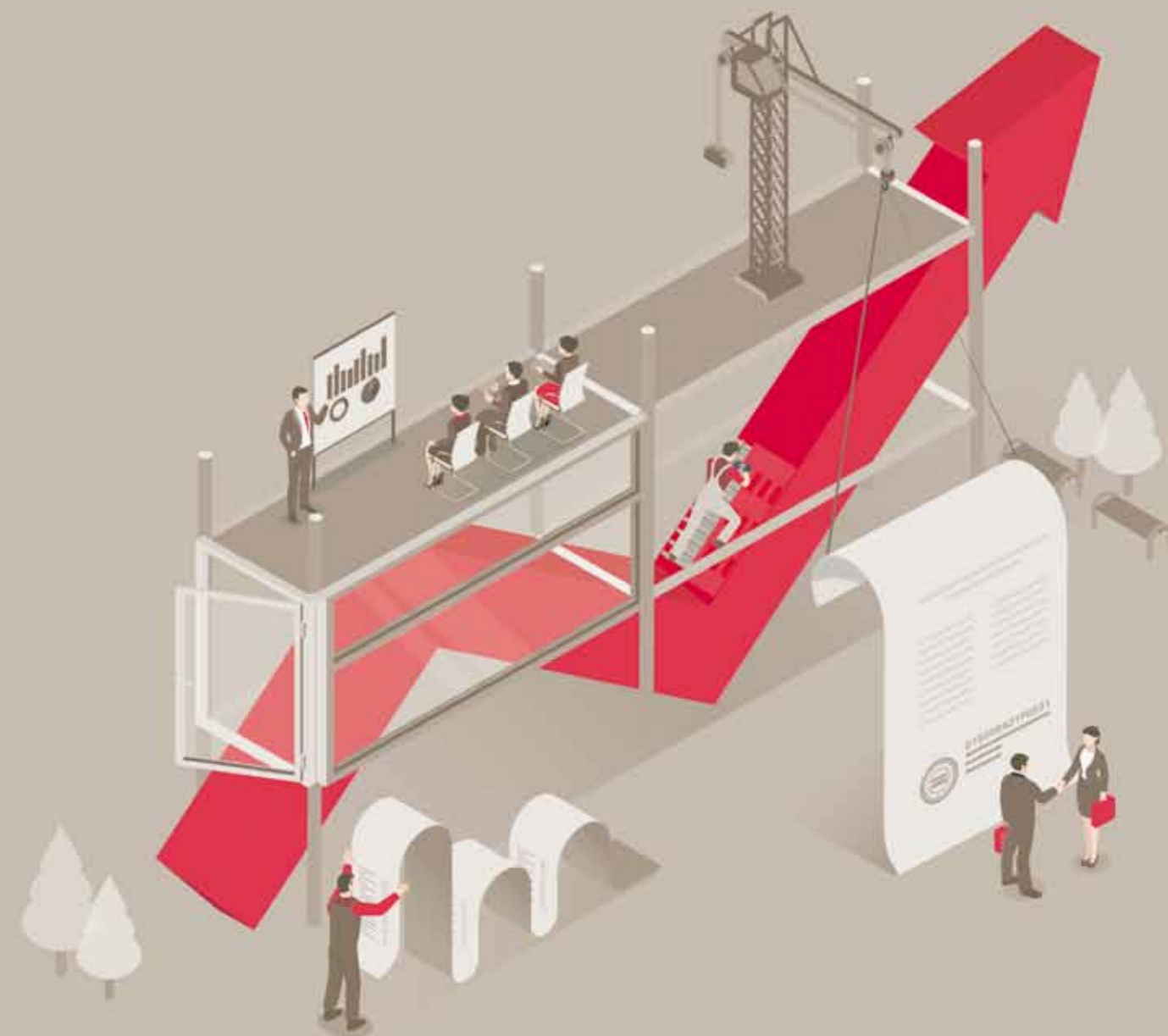
Independent Assurance Statement

GRI Index

UN Global Compact

UN SDGs

Awards and Memberships



## Financial Data

### Profit/Loss Statement

(unit: KRW 1million)

Item	2015	2016	2017
Sales	2,686,952	2,928,337	3,256,451
Cost of Sales	1,947,243	2,133,198	2,461,187
Gross profit	739,709	795,139	795,264
Selling & administrative expenses	584,375	638,148	662,282
Operating income	155,334	156,991	132,982
Non-operating profit & loss	△39,168	△41,808	△41,377
Continuing business profit before tax	116,166	115,183	91,605
Corporate tax	26,588	35,225	23,545
Profit & loss from discontinued operation	△18,416	△5,210	△205
Net income	71,162	74,748	67,855

\*Reflects discontinued operation (PSAA) in 2015

### Balance Sheet

(unit: KRW 1million)

Item	2015	2016	2017
Current assets	1,006,985	1,051,445	1,170,284
Notes and accounts receivable	486,825	604,169	665,121
Inventories	266,776	268,539	288,735
Non-current assets	1,223,571	1,234,451	1,412,147
Tangible assets	1,110,499	1,113,413	1,230,726
Assets held for sale	21,195	0	0
Total assets	2,251,751	2,285,896	2,582,431
Current liabilities	712,261	803,725	804,673
Non-current liabilities	661,901	544,808	792,178
Total liabilities	1,374,163	1,348,533	1,596,851
Paid-in capital	50,000	50,000	50,000
Capital surplus	618,208	616,466	616,466
Other capital items	△8,188	△8,189	△8,189
Aggregate of other universal profit & loss	△12,061	△13,449	△22,578
Retained earnings	226,559	292,535	349,881
Non-controlling interest	3,070	0	0
Total equity	877,588	937,363	985,580
Total equity and liabilities	2,251,751	2,285,896	2,582,431

\* Based on the consolidated financial statement

\*\* Figures with △ sign indicates (-) number

## Sustainability and Performance Data

### Economy

#### Creating and Distributing Material Economic Value

(Unit : KRW billion)



Category		2015	2016	2017
Shareholders & Investors	Dividend per share (KRW) <sup>1)</sup>	1,800	1,800	1,800
	Earnings per share (EPS)(KRW)	7,188	7,524	6,794
	Total dividend payout (KRW 100 million)	180	180	180
Employees	Salary (KRW 100 million)	2,874	3,159	3,073
	Welfare benefits (KRW 100 million)	710	637	668
	Retirement pay (KRW 100 million)	221	257	246
Government	Corporate taxes & other taxes and public utility charges (KRW 100 million)	411	517	403
Suppliers	Purchase of products and services (KRW 100 million)	17,493	17,855	22,262
Local Communities	Investment cost in local communities (KRW 1 million)	1,551	1,730	2,197

1) Common shares

## Society

	Category	Unit	2015	2016	2017
<b>Production</b>					
Environment Certified Product	Environmental Mark	No. of cases	-	-	84
	HB Mark <sup>1)</sup>	No. of cases	40	23	45
	Environment Product Declaration <sup>2)</sup>	No. of cases	73	109	48
	Total	No. of cases	113	132	177
<b>Shared Growth</b>					
No. of regular/general suppliers registered in the management system		No. of suppliers	1,415	1,431	1,373
Purchases from suppliers	Total purchases	KRW 100 million	17,493	17,855	22,262
	Purchases from local suppliers	KRW 100 million	6,999	7,853	9,615
	Ratio of local purchases	%	40	44	43
<b>Shared Growth Support</b>					
Financial support <sup>3)</sup>	Fund size	KRW 100 million	150	150	150
	No. of suppliers funded	No. of suppliers	56	55	49
Payment Terms Improvements	Cash payment level	KRW 1 million	300	300	300
	Cash payment outside of funding level	KRW 100 million	1,617	2,242	2,496
Quality and Technology Development Support	Equipment investment support	KRW 100 million	20	20	53
	Manpower support <sup>4)</sup>	No. of persons	30	47	25
	No. of suppliers supported	No. of suppliers	99	91	91
Manpower & Training Support	No. of supplier employees who received outsourced online training	No. of persons	104	102	21
Management Support	Subcontracting purchase amount <sup>5)</sup>	KRW 100 million	4,902	3,921	5,555
	Supplier association events	No. of suppliers	197	149	152
<b>Supplier CSR Assessments</b>					
New suppliers that received environmental standard evaluation and social impact evaluation	Total no. of new suppliers	No. of suppliers	52	115	101
	No. of new suppliers that received evaluation	No. of suppliers	52	115	101
	Ratio of new suppliers that received evaluation	Ratio(%)	100	100	100
No. of suppliers with negative environmental/ social impact evaluation results	Current suppliers that received evaluation	No. of suppliers	-	192	396
	No. of suppliers with negative environmental/ social impact evaluation results	No. of suppliers	-	0	0
	Ratio of suppliers with negative environmental/ social impact evaluation results	Ratio(%)	-	0	0
<b>Labor Practices</b>					
Ratio of Labor Unionized Workers <sup>6)</sup>	No. of unionized workers	No. of persons	1,073	1,016	998
	Ratio of unionized workers	%	99.2	99.7	97.6

1) The HB Certification Mark is given to eco-friendly building materials that meet regulations

2) Environmental Product Declaration and Carbon Footprint of Products were integrated in 2016

3) Financial support: Network loan, family loan, shared growth fund, etc.

4) Quality · Technology development support manpower: technical experts & quality experts are dispatched to suppliers

5) Subcontracting purchases: PVC, plasticizers and other major chemical raw materials and building raw materials

6) Eligible employees for labor unionization: professional technicians

## Employees

	Category	Unit	2015	2016	2017
Total Employees		No. of persons	4,461	4,424	4,494
Overseas Employees <sup>1)</sup>		No. of persons	1,219	1,284	1,297
Domestic Employees <sup>2)</sup>		No. of persons	3,242	3,140	3,197
<b>Korea</b>					
Type of Employment	Regular	No. of persons	3,157	3,058	3,123
	- Men	No. of persons	2,722	2,643	2,708
	- Women	No. of persons	435	415	415
	Contract based	No. of persons	85	82	74
	- Men	No. of persons	74	72	63
	- Women	No. of persons	11	10	11
By gender	Men	No. of persons	2,796	2,715	2,771
	Women	No. of persons	446	425	426
Socially-underprivileged minorities	People with disabilities	No. of persons	51	46	45
	Men of national merit	No. of persons	90	85	85
By age	20s	No. of persons	573	588	653
	30s	No. of persons	896	817	803
	40s	No. of persons	1,035	1,018	1,009
	50s and over	No. of persons	738	717	732
By job level	Executives	No. of persons	22	23	23
	Employees	No. of persons	3,220	3,117	3,174
By job category	Office workers	No. of persons	2,151	2,121	2,175
	Professional technicians	No. of persons	1,091	1,019	1,022
By region	Headquarters	No. of persons	808	769	756
	Window plant in Cheongju	No. of persons	252	161	137
	Oksan Plant	No. of persons	377	383	437
	Ulsan/Onsan Plants	No. of persons	1,119	1,099	1,081
	Others <sup>3)</sup>	No. of persons	686	728	786
New recruitment		No. of persons	200	224	229
Turnover <sup>4)</sup>		No. of persons	41	54	87
R&D/Design Centers <sup>5)</sup>		No. of persons	309	316	350
Maternal Leave	Employees who took maternal leave	No. of persons	45	23	31
	Reinstatement rate	%	92	82 <sup>6)</sup>	93
	Ratio of employees who worked for more than 12 months following their reinstatement	%	100	92	90
<b>Talent Development</b>					
<b>Hours of training per employee<sup>7)</sup></b>					
By gender	Men	Hour	-	29.8	33.6
	Women	Hour	-	23.8	36.5
By job category	Office workers	Hour	-	30.2	39.3
	Technicians	Hour	-	26.3	22.5
<b>An overseas corporation</b>					
<b>Current status of overseas employment</b>					
United States	Overseas postings	No. of persons	13	16	15
	Local employees	No. of persons	341	435	456
China	Overseas postings	No. of persons	33	34	34
	Local employees	No. of persons	773	749	731
<b>Ratio of senior-level employees among local hires</b>					
Number of locally hired employees		No. of persons	1,114	1,184	1,187
Number of senior-level employees among locally hired employees <sup>8)</sup>		No. of persons	222	250	277
Ratio of senior-level employee		%	20	21	23

1) Refers to locally recruited employees. (Overseas postings from Korea are excluded.) / 2) Includes overseas postings and employees of subsidiary companies. / 3) TOSTEM Ochang Plant is included in others / 4) Voluntary resignation and gomunsil transfers, PSAA & Production Technology Center transfers are excluded / 5) Central Research Center, Design Center, Business Division Research PJT & Design PJT / 6) Number of employees were modified as a result of PSAA business being transferred in 2016 / 7) Data is computed from 2016 onwards, total cumulative training time was divided by the total number of employees / 8) Employees above the Professional (formerly Manager) grade level

**Environment**

	Category	Unit	2015	2016	2017
<b>Production</b>		ton	265,261	298,868	370,856
<b>Raw Materials Consumption</b>	PVC	ton	130,818	136,278	144,119
	Calcium carbonate	ton	89,083	96,131	100,395
	Plasticizer	ton	31,286	31,345	29,600
	MMA	ton	15,904	20,790	24,302
	Consumption of Raw Materials	ton	267,091	284,543	298,416
<b>Recycled Materials</b>	Consumption of Recycled Materials	ton	24,007	21,663	25,774
	Consumption ratio of recycled materials	%	9	8	9
<b>Energy &amp; Greenhouse Gas</b>					
<b>Energy Consumption</b>	LNG	TJ	995.2	959.9	1,017.7
	Diesel	TJ	12.4	12.2	13.5
	Gasoline	TJ	0.4	0.4	2.4
	Electricity	TJ	1,558.9	1,634.3	1,893.5
	Steam	TJ	62.7	67.8	47.8
<b>Annual Saving Achieved</b>	Reduction in energy use	TJ	235	349	275
	Reduction in GHG emissions	tCO <sub>2</sub> eq	15,903	9,612	9,655
	Energy savings made	KRW 1 million	4,348	6,229	2,390
<b>Energy Consumption<sup>1)</sup></b>	Direct Energy	TJ	1,008	973	1,084
	Indirect Energy	TJ	1,622	1,748	1,894
	Total energy consumption	TJ	2,630	2,721	2,978
<b>GHG Emissions<sup>2)</sup></b>	Scope 1	tCO <sub>2</sub> eq	51,403	49,604	52,949
	Scope 2	tCO <sub>2</sub> eq	77,134	82,694	93,182
	Scope 1 + Scope 2	tCO <sub>2</sub> eq	128,537	132,298	146,123
	Scope 3	tCO <sub>2</sub> eq	-	131,807	118,387
	Intensity-based emissions	tCO <sub>2</sub> eq/ton	0.49	0.44	0.40
<b>Environmental Investment</b>					
<b>Environmental Investment Amount</b>		KRW 1 million	7,961	4,450	4,865
<b>Environmental Pollutants</b>					
<b>Water consumption</b>		ton	863,232	917,822	648,818
<b>Emission of air pollutants (NOx)</b>		ton	55.1	63.73 <sup>3)</sup>	56.941 <sup>4)</sup>
<b>Intensity-based consumption of toxic substances (consumption/production of toxic substances)</b>		ton/ton	0.0248	0.0317	0.0345
<b>Discharge of water pollutants (Waste water discharge)</b>		m <sup>3</sup>	53,686	11,520	22,869 <sup>5)</sup>
<b>Persistent Organic Pollutants (POP)</b>		Kg	0	0	0
<b>Volatile Organic Compound (VOC)</b>		Kg	82	82	233
<b>Hazardous Air Pollutants (HAP)</b>		Kg	1,351	2,523	2,303
<b>Dust Particles (PM)</b>		ton	40	37	30
<b>Discharge of Waste</b>					
<b>General Waste</b>	Recycled	ton	25,149	27,841	32,361
	Converted to fertilizer	ton	181	135	101
	Incinerated	ton	3,604	3,459	3,294
	Buried	ton	1,148	1,527	1,415
<b>Designated Waste</b>	Reused	ton	-	-	5
	Recycled	ton	851	798	432
	Incinerated	ton	365	469	443
	Buried	ton	-	8	18
<b>Total Wasted Discharged</b>		ton	31,298	34,237	37,424
<b>Total Waste Recycled</b>		ton	26,181	28,773	32,636
<b>Waste Recycled Rate</b>		%	84	84	87

**Health Safety**

		Category	Unit	2015	2016	2017	
<b>Accident Rate</b>							
<b>Employees<sup>6)</sup></b>	Accident Rate		%	0.31	0.29	0.22	
	Injury Occurrence Rate (Injury Frequency Rate) <sup>7)</sup>			2.69	2.92	2.72	
	Occurrence rate of work related illness <sup>8)</sup>			0.44	2.90	0.19	
	Absentee Rate (AR) <sup>9)</sup>		%	0.00	0.15	0.79	
	No. of deaths related to work		No. of persons	0	1	0	
<b>Number of indirect employees<sup>10)</sup></b>	<b>Male</b>	No. of accidents		No. of cases	1	1	5
		Injury Occurrence Rate		%	1.81	1.72	1.72
		No. of deaths related to work		No. of persons	0	0	0
	<b>Female</b>	No. of accidents		No. of cases	1	1	1
		Injury Occurrence Rate		%	6.41	5.81	4.96
		No. of deaths related to work		No. of persons	0	0	0
<b>Ratio of Employees Diagnosed with Specific Medical Conditions<sup>11)</sup></b>			%	30.6	31.86	30.64	
<b>Number of employees represented by joint labor-management health and safety committee<sup>12)</sup></b>			No. of persons	18	18	18	

1)2) Expanded reporting of energy use and greenhouse gas emissions from 2017. In addition to existing Ulsan, Oksan and Cheongju plants, emissions include headquarters, sales office, distribution center, retail store, design center, and Magok Research Center  
3) Cheongju plant NOx measurements 5.33 tons, Oksan plant installation is excluded  
4) Beginning in 2017 Cheongju, Oksan plants are excluded from measurements because these plants are exempted from installation of protection facilities  
5) Waste water increase due to the merger with Hausys Interpane in 2016 and the expansion of boiler wastewater discharge facility in 2017  
6) Applies to domestic situation, for female workers, the injury frequency rate, severity rate, absentee rate, number of deaths is zero.  
7) Injury frequency rate: (no. of accidents × 1,000,000) / total number of working hours in a year  
8) Severity rate: (no of working days lost × 1,000) / total number of working hours in a year  
9) Absentee rate : (no of absent days at work × 100) / total number of working hours in a year  
10) Due to PSAA division business restructuring at Cheongju and Oksan plants in 2015, 2016 respectively, data are excluded. Only includes Ulsan plant suppliers  
11) Rate of suspected illness : no of persons suspected of having a disease from medical examination results – persons with grade C (needs further observation) or grade D (patient) according to Korea Occupational Safety and Health Agency standards (applies to employees in Korea only)  
12) Oksan/Cheongju 8 persons, Ulsan 10 persons.

# Independent Assurance Statement

## Introduction

LG Hausys Ltd. ("LG Hausys") commissioned DNV GL Business Assurance Korea Ltd. ("DNV GL"), part of DNV GL Group, to undertake independent assurance of the LG Hausys Sustainability Report 2018 (the "Report"). The directors of LG Hausys have sole responsibility for the preparation of the Report. The responsibility of DNV GL in performing the assurance work is to the management of LG Hausys in accordance with the terms of reference. DNV GL's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been prepared in good faith.

## Scope of assurance

The scope of assurance includes a review of non-financial data and sustainability activities and performance data over the reporting period from 1<sup>st</sup> January to 31<sup>st</sup> December 2017. This also includes:

- Evaluation of the adherence to the AccountAbility principles set forth in AA1000 AccountAbility Principles Standard (APS) 2008.
- Review of the process for determining material topics for reporting, the management approach to material topics and the process for generating, gathering and managing the data in the Report.

## Basis of our opinion

We performed our work using AA1000AS(2008) and DNV GL's assurance methodology VeriSustain™ (Version 5), which is based on our professional experience, international assurance best practices. We provide Type 1 and the moderate level of assurance. The assurance was carried out from April and till June 2018. The site visits were made to LG Hausys' Headquarters in Seoul, Korea. We undertook the following activities as part of the assurance process:

- challenged the sustainability-related statements and claims made in the Report and assessed the robustness of the underlying data management system, information flow and controls;
- interviewed representatives from the various departments;
- conducted document reviews, data sampling and interrogation of supporting databases and associated reporting system as they relate to selected content and performance data;
- reviewed the materiality assessment report.

## Limitations

The engagement excludes the sustainability management, performance and reporting practices of LG Hausys' subsidiaries, associated companies, suppliers, contractors and any third-parties mentioned in the Report. DNV GL did not interview external stakeholders as part of this Assurance Engagement. Economic performance based on the financial data is cross-checked with internal documents, the audited consolidated financial statements and the announcement disclosed at the website of Korea Financial Supervisory Service (<http://dart.fss.or.kr>) as well as LG Hausys' website (<http://www.lghausys.co.kr>). These documents, financial statements and the announcements are not included in this Assurance Engagement. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. The baseline data for Environmental and Social performance are not verified, while the aggregated data at the corporate level are used for the verification. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

## Conclusion

On the basis of the work undertaken, nothing comes to our attention to suggest that the Report does not properly address the adherence to the AccountAbility Principles in AA1000APS(2008) nor is prepared 'in accordance' with GRI Standards Core option. Further opinions with regards to the adherence to the Principles are made below;

## Foundation Principle of Inclusivity

LG Hausys has identified internal and external stakeholder groups such as Shareholders and Investors, Employees, Customers, Suppliers, and Local Communities. LG Hausys engages with the stakeholders at the company and business unit levels through various channels. Stakeholder definition and stakeholder engagement methods are described in the Report. The assurance team reviewed the stakeholder engagement process with which LG Hausys understands the impact on stakeholders. In the future, LG Hausys could present the reasonable expectations and interests of respective stakeholders in detail.

## Principle of Materiality

LG Hausys has conducted the materiality assessment to prepare the Report. Various topics have been derived by analysing the topics covered in various global initiatives and standards, industry peer review and media. The topic pools were used on internal and external stakeholder survey to rate the material topics. 7 material topics are prioritized accordingly. The assurance team has reviewed the materiality assessment process and noted relevant material topics prioritized from the process are addressed in the Report. LG Hausys has grouped the material topics into four key issues. The Report presents the management approaches for the respective key issues, the key achievements in 2017, the implementation plan for 2018, and mid- and long-term goals.

## Principle of Responsiveness

The Report helps stakeholders understand LG Hausys' sustainability management by explaining LG Hausys' key performance in sustainability management. In addition, the Report discloses 2017 major achievements and 2018 plans on material topics in terms of sustainability during the reporting period. In the future, LG Hausys could present the corresponding actions taken toward reasonable expectations and interests of stakeholders in the future report.

In addition, the evaluation of the adherence to the principles related to report quality is as follows.

## Accuracy and Reliability

The assurance team has tested data and information on a sampling basis. The intentional error or misstatement is not noted from the data and information disclosed in the Report. Data owners were able to demonstrate the origin and interpretation of the data in a reliable manner. The data was identifiable and traceable.

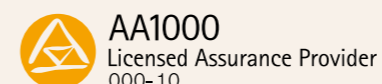
DNV GL reviewed Other indirect greenhouse gas emissions (Scope 3 emissions) in 2017 for purchased goods and services, Downstream leased assets, Upstream and downstream transportation and distribution, Waste generated from operations, employee commuting and overseas business trip. The emission is calculated in the GHG accounting tool (MS-Excel based) developed by LG Hausys. Nothing comes to our attention that would cause us to believe that the Scope3 emissions presented in the Report have any intentional error or material misstatement. As part of the verification process, the audit team:

- Reviewed formula and emission factors applied in LG Hausys' Scope 3 accounting tool (MS-Excel based)
- Interviewed data owner of LG Hausys' for the emission information and data collection process

## Competence and Independence

DNV GL applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011-Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have complied with the DNV GL Code of Conduct during the assurance engagement and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV GL was not involved in the preparation of statements or data included in the Report except for this Assurance Statement. DNV GL maintains complete impartiality toward stakeholders interviewed during the assurance process. DNV GL has provided greenhouse gas emission verification in 2018. In our opinion, this does not affect the independence or impartiality of our work.

June 2018  
Seoul, Korea



In Kyoon Ahn | Country Representative

# GRI Index

## General Disclosures

Classification	Index	Description	Page	Note
Organizational Profile	102-1	Report the name of the organization	6-7	
	102-2	Report the primary brands, products, and services		
	102-3	Report the location of the organization's headquarters		
	102-4	Report the region where the organization operates		
	102-5	Report the nature of ownership and legal form	58	
	102-6	Report the markets served	6-7, 12-13	
	102-7	Report the scale of the organization	6-7, 12-13	
	102-8	Report information on employees and workers	48, 69	
	102-9	Describe the organization's supply chain	39	
	102-10	Report any significant changes in the supply chain	11, 39	
	102-11	Report prevention principles and approach	64	
	102-12	List external initiatives	76-77	
		101-13	List memberships of associations	78
Strategy	102-14	Provide a statement from the most senior decision-maker of the organization	4-5	
	102-15	Provide a description of key impacts, risks and opportunities	10-11	
Ethics and Integrity	102-16	Describe the organization's values, principles, standards and norms of behavior	60-61	
Governance	102-18	Report the governance structure	58-59	
Stakeholder Engagement	102-40	Provide a list of stakeholder groups engaged by the organization	15	
	102-41	Report percentage of total employees covered by collective bargaining agreements	51	
	102-42	Report the basis for identification and selection of stakeholders with whom to engage	15	
	102-43	Report the organization's approach to stakeholder engagement		
	102-44	Report key topics and concerns that have been raised through stakeholder engagement	20, 28, 34, 38, 44, 46, 48, 52	
Reporting Practice	102-45	List all entities (subsidiaries and joint ventures) included in the organization's consolidated financial statements	6-7	
	102-46	Define report content and topic Boundaries	15	
	102-47	Report list of material topics		
	102-48	Report any restatements of information	2	
	102-49	Report changes in reporting		
	102-50	Report the reporting period for information provided		
	102-51	Report the reporting date of most recent previous report		
	102-52	Report the reporting cycle		
	102-53	Provide the contact point for questions regarding the report or its contents		
	102-54	Provide reporting methods in accordance with the GRI Standards	74-76	
	102-55	GRI Index		
	102-56	External assurance	72-73	
Management Approach	103-1	Explanation of the material topic and its boundary	16-17	
	103-2	The management approach and its components	10-13, 20, 34, 38, 46	
	103-3	Evaluation of the management approach		

## Topic-Specific Disclosures

Classification	Index	Description	Page	Note
<b>GRI 200 Economy</b>				
Economic Performance	201-1	Direct economic value generated and distributed	67	
	201-2	Financial implications and other risks and opportunities for the organization's activities due to climate change	20-27, 47	
	201-3	Coverage of the organization's defined benefit plan obligations	67	
Market Presence	202-2	Proportion of senior management hired from the local community	69	
<b>GRI 300 Environment</b>				
Materials	301-1	Weight and volume of used raw materials	70	
Energy	302-1	Energy consumption within the organization	70	
	302-2	Energy consumption outside of the organization	70	
	302-3	Energy intensity	70	
	302-4	Reduction of energy consumption	47, 70	
	302-5	Reductions in energy requirements of products and services	20-27	Manages Product energy efficiency through certifying related with Government Green Architecture and comparing with products within industries
Water	303-1	Water withdrawal by source	70	
	303-2	Water sources significantly affected by withdrawal of water	46	
	303-3	Water recycled and reused	70	
Emissions	305-1	Direct (Scope 1) GHG emissions	70	
	305-2	Energy indirect (Scope 2) GHG emissions	70	
	305-3	Other indirect (Scope 3) GHG emissions	70	
	305-4	GHG emissions intensity	70	
	305-5	Reduction of GHG emissions	47	
	305-6	Emissions of ozone-depleting substances (ODS)	47	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	46	
Effluents and Waste	306-2	Waste by type and disposal method	70	
Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	70	
Supplier-environmental-assessment	308-1	New suppliers that were screened using environmental criteria	41, 67	
<b>GRI 400 Society</b>				
Employment	401-1	New employee hires and employee turnover	69	
	401-3	Parental Leave		
Occupational Health and Safety	403-1	Workers representation in formal joint management-worker health and safety committees	51, 71	
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	35, 71	
	403-4	Health and safety topics covered in formal agreements with trade unions	51, 71	
Training and Education	404-1	Average hours of training per year per employee	69	
	404-2	Programs for upgrading employee skills and transition assistance programs	48-51	
	404-3	Ratio of employees receiving regular performance and career development reviews	50	
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	52-55	
Supplier Social Assessment	414-2	Negative social impacts in the supply chain and actions taken	41, 68	
Customer Health and Safety	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	20-21, 30	Haven't been brought to legal sanctions such as fine and penalties by reason of product defect

## UN Global Compact

Category	Principle	Report Contents	Page
Human Rights	Principle 1 : Businesses should support and respect the protection of internationally proclaimed human rights	LG Hausys has established the Global Human Rights and Labor Policy, which guarantees and respects the rights of human dignity, freedom, and happiness and has established and implemented CSR Code of Conduct for all supplier companies.	41, 51
	Principle 2 : Businesses should make sure that they are not complicit in human rights abuses		
Labour Standards	Principle 3 : Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	In accordance with our code of conduct and hiring rules, we do not discriminate on the basis of gender, age, and religion when we hire new employees. We practice equality of employment and respect for human rights and apply the same standards when compensating our employees for their services.	48-50
	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		
Environment	Principle 7 : Businesses should support a precautionary approach to environmental challenges	We are implementing environmental management that minimizes environmental impact throughout the entire product life cycle. In particular, we are striving to reduce energy consumption and GHG emissions through process innovation and operational optimization. We are also expanding the development of eco-friendly products through energy-efficient products.	46-47
	Principle 8 : Businesses should undertake initiatives to promote greater environmental responsibility		
	Principle 9 : Businesses should encourage the development and diffusion of environmentally friendly technologies		
Anti-Corruption	Principle 10 : Businesses should work against corruption in all its forms, including extortion and bribery	Recognizing that Jeong-Do Management is a prerequisite for corporate survival, we conduct ethical management education and operate an ethics violation reporting system. In addition, in order to establish fair subcontracting practices, we have included rules for fair subcontracting in our procurement regulations.	60-63

## UN SDGs (Sustainable Development Goals)

Category	Goal	Report Contents	Page
	<b>Goal1.</b> End poverty in all its forms everywhere	Distributing Material Economic Value	We reported the economic value and distributing status per stakeholders in 2017 through business strategy and performance and distributing material economic value. 10, 67
	<b>Goal2.</b> End hunger, achieve food security and improved nutrition and promote sustainable agriculture		
	<b>Goal3.</b> Ensure healthy lives and promote well-being for all at all ages	Safety Environment Operational System	We set and manage company-wide workplace safety goals. To establish a 'preventive workplace safety management system' we perform a wide array of self-reviews to ramp up our system and management and make large-scale investments. 34
	<b>Goal4.</b> Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Talent Nurturing Programs	We run a job training program aimed at increasing business performance and job expertise, an entrepreneur program designed to foster people with the ability to incorporate our business strategies into preparations for our company's future, and requisite training on global competencies and core values. 49
	<b>Goal5.</b> Achieve gender equality and empower all women and girls	Expanding and Supporting Female Talent	We operate maternity leave and flexible work hours to ensure the vocational security of our female employees and are continuously managing and supporting endeavors to promote more female employees to leadership positions and working to make sure that women are assigned to appropriate positions. 48
	<b>Goal6.</b> Ensure availability and sustainable management of water and sanitation for all	Water Environment Management	Across major areas of our worksites, air-water separator tanks are up and running to prevent the spread of pollutants, and emergency storage tanks were installed to prevent pollutant leaks to offset any damage imposed by unintended environmental accidents. 46
	<b>Goal7.</b> Ensure access to affordable, reliable, sustainable and modern energy for all	Reducing Energy Use and GHG Emissions	To improve the atmospheric environment, we actively embrace new technology and switch to new high-efficiency pollution control equipment and systems in order to improve our efficiency in treating air pollutants. We primarily operate Regenerative Thermal Oxidizers and electric precipitators as the optimal air pollution control equipment, and we built a monitoring system to prevent air pollution accidents and to monitor the operational status of such equipment in real time. 47
	<b>Goal8.</b> Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Top Talent Acquisition in Korea and Abroad, Global Labor Policy	We are continuously expanding our channels for securing talented individuals at home and abroad, and established and are carrying out the <LG Hausys' Global Human Rights & Labor Policy>. 48-51
	<b>Goal9.</b> Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Shared Growth Program, Support for Supplier Company's Competiveness	We are building a cooperative system revolving around five mutual support activities for our suppliers: financial support, improvement of payment terms, quality/technology development support, workforce/training support, and management support. Therefore, by contributing production equipment to our suppliers, we are hoping to stabilize production and improve the quality of our suppliers' products. 39-40
	<b>Goal10.</b> Reduce inequality within and among countries	Sharing Activities for Local Communities	We are running sponsoring projects for the underprivileged members of society. For instance, the Make a Happy Space and the 1 Company, 1 Village, 1 Stream, 1 Mountain campaigns, as well as aiding teenage breadwinners, impoverished children and elderly to live by themselves. 55
	<b>Goal11.</b> Make cities and human settlements inclusive, safe, resilient and sustainable	Creating Value for Local Communities through Private-Public Partnerships	Through Green Remodeling Project, we improve the energy performance of old buildings whose energy efficiency has degraded, inspect homes for hazardous factors that cause environmental diseases and install our eco-friendly wallpaper covering and flooring free of charge for socially-underprivileged groups. 55
	<b>Goal12.</b> Ensure sustainable consumption and production patterns	Development of Products with Environmental & Social Values	We reduce energy consumption through the use of high-efficiency and lightweight materials based on the eco-friendly materials and develop products that address pressing social issues and provide user convenience. 20-27
	<b>Goal13.</b> Take urgent action to combat climate change and its impacts		
	<b>Goal15.</b> Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Minimizing Our Impact on the Ecosystem, Make Dokdo Green	<ul style="list-style-type: none"> <li>- We have voluntarily conducted quarterly water quality inspections and environmental impact assessments on river system conservation initiatives and are engaged in such activities as ditch clean-ups, planting, and daily environmental education for local residents.</li> <li>- Through the activities of Dokdo Jikimi, our leading social contribution program, we are striving to preserve the natural and cultural heritage of Korea and to educate Korean youth about their heritage.</li> </ul>
	<b>Goal16.</b> Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	Renovating the Historic Sites of Korea's Independence Movement and the Residence for Men of National Merit	<ul style="list-style-type: none"> <li>- We are taking the lead in passing on the patriotic spirit of the independence movement by supporting to sites related with the independence movement and memorial halls. We have signed an agreement with the Ministry of Patriots and Veterans Affairs to restore the building that was once home to the provisional government of the Republic of Korea in China. We have also remodeled the Philip Jai Sohn Memorial Hall and the Maehun Yun Bong-Gil Memorial Hall.</li> <li>- We have carried out repair work at the home of national heroes and their descendants to enable them to enjoy better lives in a more pleasant environment.</li> </ul>



## Association Memberships

Korea Chamber of Commerce and Industry	Korea Air Cleaning Association	The Korean Society of Rheology
Korea Vinyl Environmental Council	Korea Fire Protection Association	The Korean Union of Chemical Science and Technology Societies
Korea Listed Companies Association	Korea Environmental Preservation Association	The Korean Institute of Chemical Engineers
Korea Packaging Recycling Cooperative	Korea Fair Competition Federation	The Korean Society for Life Cycle Assessment
Korea Industrial Safety Association	Korea Employers Federation	The Polymer Society of Korea
Korean Industrial Health Association	Green Company Council	Center for Nano-structured Polymer Processing Technology (CNSPPT)
Korea Products Safety Association	Korean Association of Occupational Health Nurses	Korea Industrial Technology Association (KOITA)
Korea Specialty Construction Association	Korea Fire Safety Association	
Korea Economic Research institute	Korean Society for Engineering Education	

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