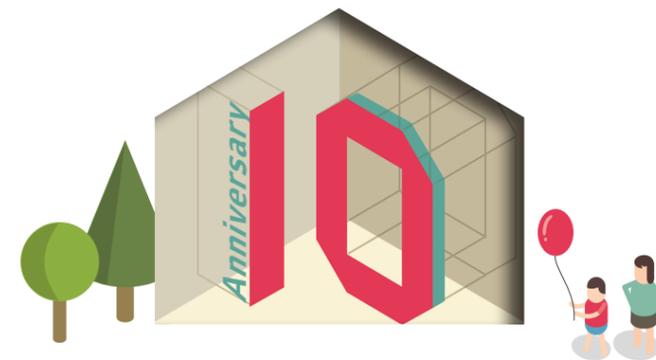


# NATURE, HUMAN AND SPACE

LG HAUSYS SUSTAINABILITY REPORT 2019





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



## ABOUT THIS REPORT (8<sup>th</sup>)

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<b>Reporting Principles</b>	GRI Standard (Core Option), UN Global Compact (UNGC) Index
<b>Reporting Period</b>	January 1, 2018 ~ December 31, 2018 (including results from the first half of 2019)
<b>Reporting Scope</b>	Economic, environmental, social activities and achievements of all domestic workplaces and subsidiaries, as well as certain overseas subsidiaries
<b>Reporting Criteria</b>	Figures for the past three fiscal years
<b>Report Verification</b>	Third-party verification opinion (Korea Productivity Center)
<b>Reporting Cycle</b>	Once per year (first publication in 2012)
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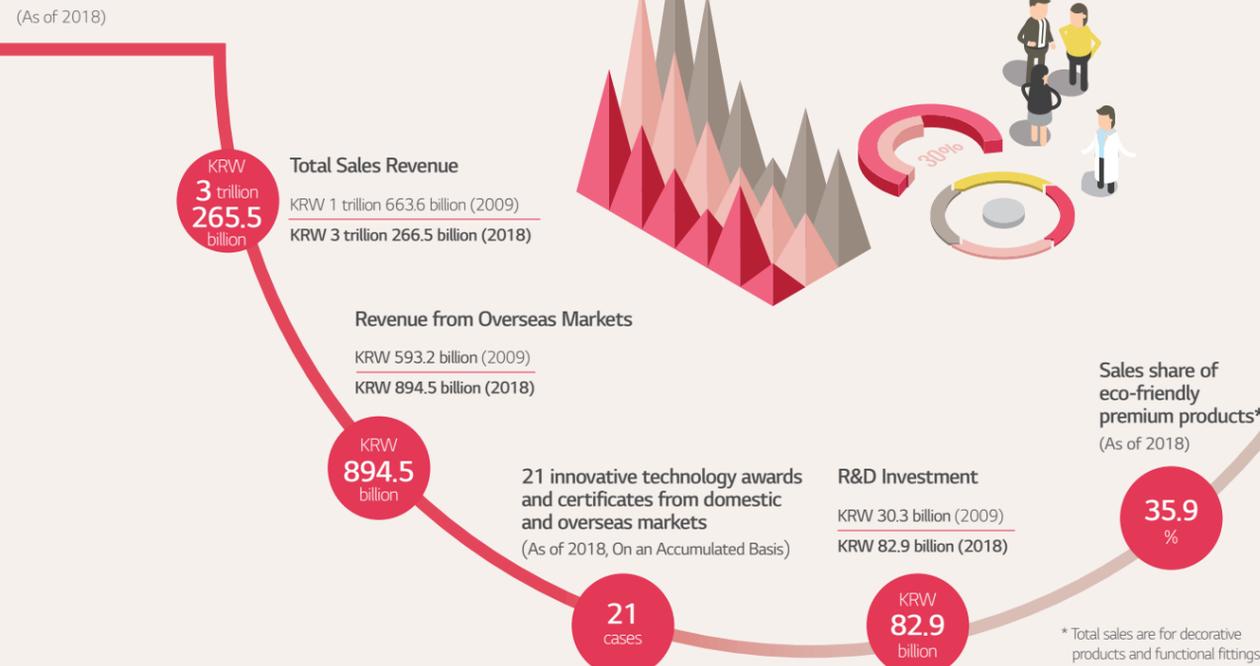
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# LG HAUSYS 2019 SUSTAINABILITY REPORT

# 10<sup>th</sup> Anniversary of LG Hausys

Ten years have passed since the launch of LG Hausys on April 1<sup>st</sup> of 2009. For the last ten years, LG Hausys has been extending their presence in domestic and international markets by committing to broaden our business area, invest in research and development, and launch various products satisfying the expectation of customers and dynamically engaging in CSR activities for the environment and locals. For the next decade, LG Hausys will endeavor to be a steadfast company respecting social responsibilities.

## Business Performance and Key Investment Profits



## Key Achievements in CSR



1) A sum of money paid to the company's shareholders, investors, employees, and local communities  
 2) Korea Eco-Label, HB Mark, Carbon Reduction Label  
 3) As of 2018, On an Accumulated Basis



- 2009**
- Launched LG Hausys along with demerger from LG Chem.
  - Established LG-Toestem BM Co., Ltd.
  - Established the subsidiary company called Hausys Eng Co. Ltd.

- 2011**
- Completed an engineered stone (Viatera) plant in the U.S.
  - Completed an automotive skin plant in Tianjin, China
  - Completed an aluminum plant in Ochang, South Korea
  - Launched Z:IN Window Plus as an exclusive window and door offline store

- 2013**
- Produced Korea's first 6.0mm flooring
  - Produced ZEA Sorijam flooring
  - Completed an insulation board factory for construction

- 2014**
- Opened the flagship store "Z:IN Square"
  - Included on the list of China's "top 10 green construction materials brands" for the first time as a Korean company
  - Placed in the world's first highest Baby-Class category under a European certification for the quality of green textile products
  - Included on the list of <East Asia 30> companies with outstanding CSR performance in Korea, China, and Japan, published by the Hankyoreh Economic Research Institute

- 2016**
- Completed an automotive skin plant in the U.S.
  - Merged with Hausys Interpane Ltd.

- 2017**
- Purchased shares of c2i, a Slovak automobile parts company
  - Awarded "Carbon Management Sector Honors" in the industrial materials sector by CDP

- 2018**
- Completed a second insulation board factory for construction
  - Merged with Hausys Eng Co. Ltd.

# CEO Message

Dear Stakeholders!

We at LG Hausys published our eighth sustainability management report this year, covering the diverse activities and performance in the economic, environmental, and social categories. The report hopes to inform you of our sustainability management activities, and to serve as a channel to receive opinions to be reflected in our management activities.

LG Hausys achieved KRW 3,266.5 billion in sales and KRW 70.4 billion in operating profit in 2018. The 2% sales growth rate is similar to 2017, while the operating profit declined, worsening the profitability marginally. The future macroeconomic outlook is not bright not only in the domestic market, but in the major overseas markets including U.S.A. and China. The front industries of our current major businesses also offer alarming signals.

We vow to tide over the challenging 2019 business environment and to concentrate all our resources and capabilities on the entire business process from development to marketing of customer-centered products so that we can deliver 'the surprise touching joy that can change the lives of our customers. We commit to creating a close-knit business structure. In continuing to offer customer values, we vow to improve the R&D productivity, to innovate manufacturing directly related to our performance, to convert the business into a profitable one, and to spur cost innovation from the companywide perspective.

Further, we will consolidate the foundation of our sustainable growth and development through the communication with our diverse stakeholders – customers, shareholders, suppliers, communities, and so on – with the following plan for sustainability management activities.

## First, we will continue to develop the products that satisfy our customers.

We will develop products with environmental and social values so that we can contribute to resolving the various problems surrounding our society such as climate change, anxiety about chemical substances, air pollution, and natural disaster. Our environmental and social solution products include eco-friendly floorings and wallpaper, energy-efficient windows/doors and glass, and semi-fireproof insulation products. In 2018, we produced the 'recycle furniture film' using recycled PET (polyethylene terephthalate) as raw material and offered it to our customers. Our recycled furniture film has attracted a great deal of attention from customers amid disposable plastic and emerging reduction campaigns due to environmental issues such as the massive plastic garbage disposal and the garbage collection and recycling across the globe. We will continue to produce products that can proactively respond to market changes domestically and globally. We will also lead the markets in response to global technology trends.

## Second, we will reinforce the quality and safety of products.

In order to provide the best value to our customers, we strive to provide stable products and services from the customer's point of view, from product planning to service stages. In particular, before purchasing raw materials, we review the environment and safety through the 'chemicals preliminary review' process. Further, we review the environmental performance at all stages of the purchase through the company-wide 'chemical IT system' In the case of new products, the new product development quality assurance system (Q-Gate) is used to verify customer requirements and environmentally certified products. In addition, we analyze unidentified substances that may be found in the development stage, and proactively prevent hazardous products from being released.

## Third, we will ensure the safety management of workplace.

Due to small and large accidents from corporate activities, the social interest for a safe workplace is increasingly being heightened. In order to prevent accidents, every year we diagnose and improve the operation system of the entire workplace. We are making every effort to reduce disasters by investing in the improvement of equipment such as firefighting equipment and buildings, as well as safety equipment for high-risk facilities. In particular, recognizing that it is necessary to change 'the human consciousness and behavior habits' for the better in order to prevent accidents, we are actively responding to accident prevention activities by evaluating the level of safety culture for the establishment and internalization of employee safety culture from 2018.

## Fourth, we will reinforce the competitiveness of suppliers to practice the shared growth.

We recognize our suppliers as win-win partners and strive to build a sustainable industrial ecosystem by raising mutual competitiveness. We focus on strengthening our suppliers' capabilities through support for productivity improvement through manufacturing innovation activities, support for shared growth investment funds, and the expansion of win-win funds for secondary suppliers. In addition, in order to prevent risks to work and working conditions, ethical management, safety and health, and environmental management that may arise in the course of operations, we have established the CSR Code of Conduct for Suppliers to ensure that the suppliers comply with it to fulfill our social responsibilities.

LG Hausys will contribute to the creation of customer and social values through the development of innovative products. We will also become a company that earns the trust and respect of our stakeholders through the strengthened safety environment management and the practice of shared growth.

Thank you very much for your continued support and patronage.



LG Hausys, President & CEO  
Min Kyung-jip

# About LG Hausys

LG Hausys is a company specializing in the production of decorative materials for buildings, automotive materials and components, and industrial film. The company's main products are building materials such as windows and doors, flooring materials and imitation marble, automotive components and fabrics, interiors, and industrial films such as home appliance surface materials.

LG Hausys operates six overseas sales subsidiaries, three overseas production subsidiaries, and five overseas branches, mainly in the US, China and India, aside from the domestic main office and manufacturing plants.

Sales (Unit : KRW 100 million)

**32,665**



Profits (Unit : KRW 100 million)

**704**



Employees in Korea (Unit : No. of persons)

**3,243**



Overseas sales (Unit : KRW 100 million)

**8,942**



Ratio of overseas sales (Unit : %)

**27**



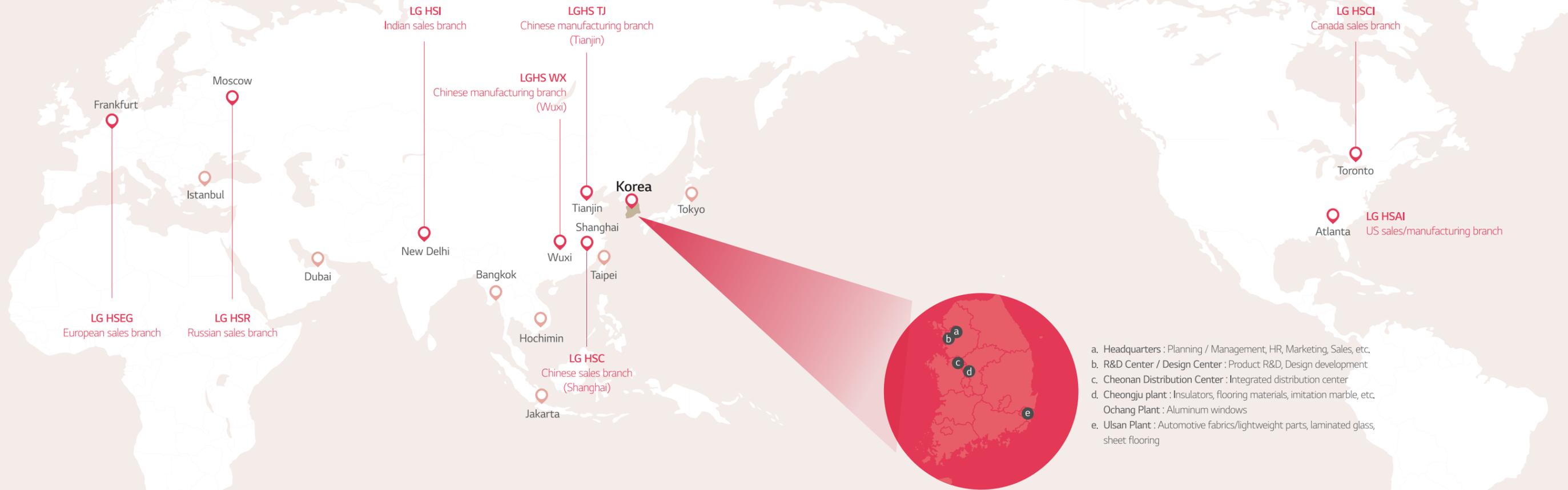
Employees abroad (Unit : No. of persons)

**1,234**



\* As of year-end closing 2018

## Global Network



## History The mother company of LG Group Since 1947

1952	1958	1976	1984	1995	1997	2005	2006	2010	2011	2012	2013	2015	2016	2017	2018
Manufactured Korea's first synthetic resin formed products	Manufactured vinyl flooring	Produced PVC windows	Produced plastic automotive parts	Produced solid surface HI-MACS	Established a production branch in Tianjin, China	Completed a HI-MACS plant in the U.S.	Launched ZIN as a premium interior design brand	Produced the world's first combased PLA wood flooring	Initiated the operation of an engineered stone plant in the U.S.	Began producing coating glass	Began producing building materials	Began operating the Wuxi manufacturing plant in China.	Initiated the operation of an automotive skin plant in the U.S. and expanded the engineered stone plant in the U.S.	Acquired shares of c2i, the Slovakian automotive parts company	- Began producing building insulators. - Completed construction of its second plant. - Merged with Hausys ENG Co., Ltd.

# Product Portfolio

## Building & Decorative Materials

To create safe and vibrant interiors, we create windows and laminated glass with exceptional insulation and durability, green flooring, 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, Building insulators, Wood polymer composite (WPC), Interior stone and Interior film



## 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



## 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 interior and exterior of vehicles to create safer and more comfortable auto interiors.

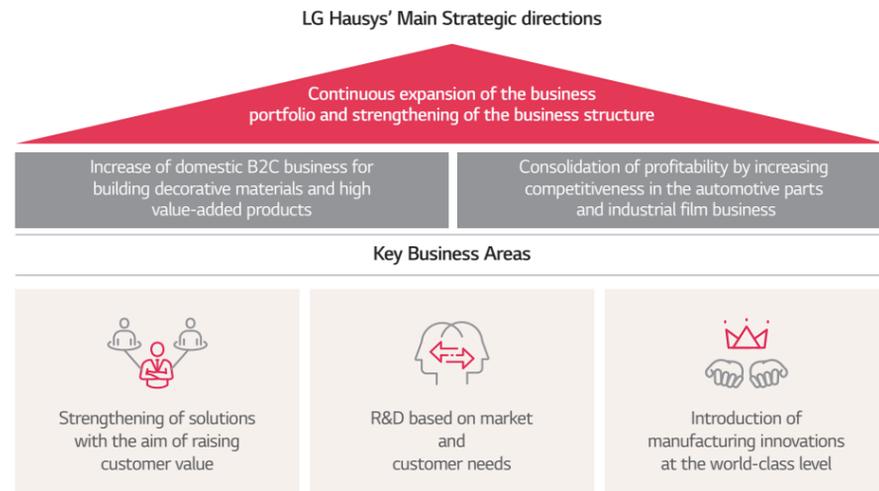
### Main Products

Automotive Fabrics, Lightweight Parts, Automotive Parts

# Management Strategy & Performance

## Management Strategy

LG Hausys conducts its business according to two main strategies aimed at expanding its business portfolio and improving its business structure. Regarding its building decorative materials business, LG Hausys will expand its domestic B2C business and continue to sell high value-added products. For its automotive materials/components and industrial film businesses, LG Hausys will focus on increasing competitiveness and improving profitability. LG Hausys will prepare for a changing market and achieve steady growth by strengthening its solutions to enhance customer value, conducting R&D based on market and customer needs, and concentrating on producing world-class innovation activities.



## Achievements & Goals

In 2018, LG Hausys recorded sales of KRW 3,266.5 billion, a 1.8% increase over the previous year. However, its operating profit stood at KRW 70.4 billion, a 48% year-on-year increase. Because of inhibiting factors such as the downtrend of the forward industry and an increase in base material prices, LG Hausys will improve its profitability by further introducing products, cost and sales innovations; strengthen the B2C competence of the building decorative materials business; and concentrate on developing high value-added products in response to market changes. Regarding its automotive materials and components business, LG Hausys will continue striving to secure greater global competitiveness.

Task	Key achievements in 2018	Plans for 2019	Mid-to-long term goals
Strengthening the domestic B2C business	<ul style="list-style-type: none"> <li>Increased the B2C sales channels (company operated stores, home shopping, complex events, etc).</li> <li>Developed new products by reflecting customer value.</li> </ul>	<ul style="list-style-type: none"> <li>To expand products and services in order to propose a total internal solution.</li> <li>To increase the share of the B2C sales channel.</li> </ul>	<ul style="list-style-type: none"> <li>To maintain leadership of the building decorative materials market by securing interior business competence.</li> </ul>
Increasing the high value added to its building decorative materials business	<ul style="list-style-type: none"> <li>Released new functional products with differentiated designs.</li> <li>Liquidated low-profit business lines for efficient operation (vacuum insulators, etc).</li> </ul>	<ul style="list-style-type: none"> <li>To increase premium design, new functional and eco-friendly products at home and abroad.</li> <li>To improve profitability by introducing new manufacturing innovations.</li> </ul>	<ul style="list-style-type: none"> <li>To achieve steady growth with profitability.</li> <li>To expand overseas business.</li> </ul>
Automotive materials and components Securing business competitiveness	<ul style="list-style-type: none"> <li>Developed fabric differentiated products.</li> <li>Laid solid foundations for growth of the business of interior parts.</li> </ul>	<ul style="list-style-type: none"> <li>To strengthen the global competitiveness of the fabric business and accelerate localization.</li> <li>To secure the profitability of lightweight parts.</li> </ul>	<ul style="list-style-type: none"> <li>To expand the company's presence in the global market for automotive fabrics.</li> <li>To secure the competitiveness of the lightweight components business.</li> </ul>
Strengthening R&D competitiveness	<ul style="list-style-type: none"> <li>Developed insulators with improved insulation and construction performance.</li> <li>Developed next-generation windows and doors integrated with the IoT.</li> <li>Developed a surface treatment technology with enhanced functionality.</li> <li>Developed differentiated automotive fabrics.</li> </ul>	<ul style="list-style-type: none"> <li>To develop insulators with enhanced fire resistance to respond to tightened regulations.</li> <li>To develop next-generation building decorative materials.</li> <li>To develop future window solutions.</li> <li>To develop functional automotive fabric products.</li> </ul>	<ul style="list-style-type: none"> <li>To develop next-generation building decorative materials suitable for future residential environments.</li> <li>To introduce 'Open Innovation' to secure core original technologies and prepare for the future.</li> <li>To secure global technical skills for the production of automotive fabrics.</li> </ul>

# Business Performance and Strategy

## Building & Decorative Materials

### Introduction

The Building & Decorative Materials business of LG Hausys produces windows and decorative materials by applying a process including expressing out, calendaring, and casting raw materials such as plastic. Key products of windows are made with plastic and aluminum for both residential and commercial locations and coated glass with remarkable insulation. For decorative items, there are eco-friendly flooring, wallcovering, and mock marble for indoor and outdoor ornamentation. Furthermore, LG Hausys has been leading the industry by developing insulation products for construction with fire-proof and energy saving technology.

### Market Trend

The building decorative materials business is closely linked to the real estate market trend. The domestic construction industry market has been decreasing in sales and volume since 2015. As the number of older buildings increase, the demand for housing renovation is forecast to rise. However, the quantity of housing transactions has dwindled and the growth rate has been slower. With new rigorous construction and safety regulations, the call for high performance insulation and eco-friendly products is on the rise. The growth rate of the real estate market overseas such as the U.S., China, and Europe has dropped, but the need for premium eco-friendly interior materials are expected to rise.

### Strategy

The business sector concentrates on satisfying the customer and diversifying the product series to strengthen the interior field in accordance with the increasing renovation demands. LG Hausys has been extending communication channels such as offline stores, online shopping malls, events at apartment complexes, and home shopping. With exclusively professional window and door offline franchises, we offer all-in-one solutions from the sole item to construction for the customer's convenience. With the new thorough standards on energy efficiency of building materials and safety, LG Hausys is committed to developing and delivering high-performance insulation items and remarkably functional products such as Low-E glass. In particular, we are leading the industry as we focus on technology development for improved window functions to enhance the residential environment. To satisfy customer demand for high-quality and distinctive designs, LG Hausys will continue to pursue differentiated performance and design of decorative items including flooring and wallcoverings.



Source: New apartment (Ministry of Land, Infrastructure and Transport (MOLIT))  
Old Buildings (Korea Appraisal Board)

## Automotive Components and Industrial Film

### Introduction

The automotive components sector produces automotive skins and lightweight components. The automotive skin delivers innovative designs and eco-friendly surfaces which can be used for seat covers and door panels. The lightweight parts contribute to improved fuel efficiency by reducing vehicle weight while maintaining the steel's conventional strength and it is predicted to rise in demand. The general parts are adopted for the exterior, engine, and interior use. The industrial film helps materialize the furniture, windows, and other appliances as well as deco film, home appliances film, and sign and graphic film. In accordance with the function, films are high-performance items with weatherproof and durable technology and are recognizable for their unrivaled designs.

### Market Trend

The automotive components and industrial film sectors are closely connected to the up and coming industries such as automobile and home appliance markets. The demand for new cars has been dropping in overseas markets including the U.S, Europe, and China. However, the need for lightweight parts, eco-friendly interior materials, and unique designs are expected to increase considering the electric motor vehicle consumption trend. Even though the interest in industrial films is rising, the competition on material selection has intensified among companies regarding their customer's discrete requirements. In the home appliance industry, one of the up and coming industries, the call for luxurious premium products is forecast to increase.

### Strategy

To cope with the exceptional quality demand for interior parts, improvements on fuel efficiency and stricter environmental regulation, LG Hausys has been contributing to research and development on state-of-the-art interior items and lightweight technology. For the automotive skins, we are actively engaged in the new materials technology and well treated high-quality surface products development to enhance indoor air quality. For the automotive components, we are creating lightweight items for electric cars. The industrial film area is securing its competitiveness by providing home appliances, furniture, and signs and graphic films based on differentiated new product generation capacity and processing technology. Particularly, we are leading the industry with advanced eco-friendly technology by making PET deco film with PET materials for furniture. The home appliance film was acknowledged by global markets with its astonishing surface finish and excellent design.

# Overseas Business

LG Hausys is implementing customer-centered market strategies not only in Korea but also in key markets such as North America, China, and Europe. In particular, LG Hausys has secured the leading position for e-Stone, imitation marble, automotive fabrics, and home appliance films in the global market. LG Hausys has also established manufacturing and sales bases in China and North America, and is now focused on expanding its global network through product localization.

The company has increased its market share of e-stone and imitation marble by securing various sales channels including distributors of building materials, and developing the commercial market more intensively. LG Hausys plans to increase the supply of tiles and sheets mainly in North America, Europe, and Australia, where demand for flooring materials is shifting from carpet and floor materials to PVC.

For automotive fabrics, LG Hausys is focusing on increasing the market share of the big 3 in North America and its share among complete car manufacturers in Japan, as well as on securing new global customers in Europe. In addition, LG Hausys is exporting various building materials including imitation marble, flooring materials, and wallpaper to emerging markets such as India and Southeast Asia, and plans to increase supplying to the window, door, and interior film manufacturers.

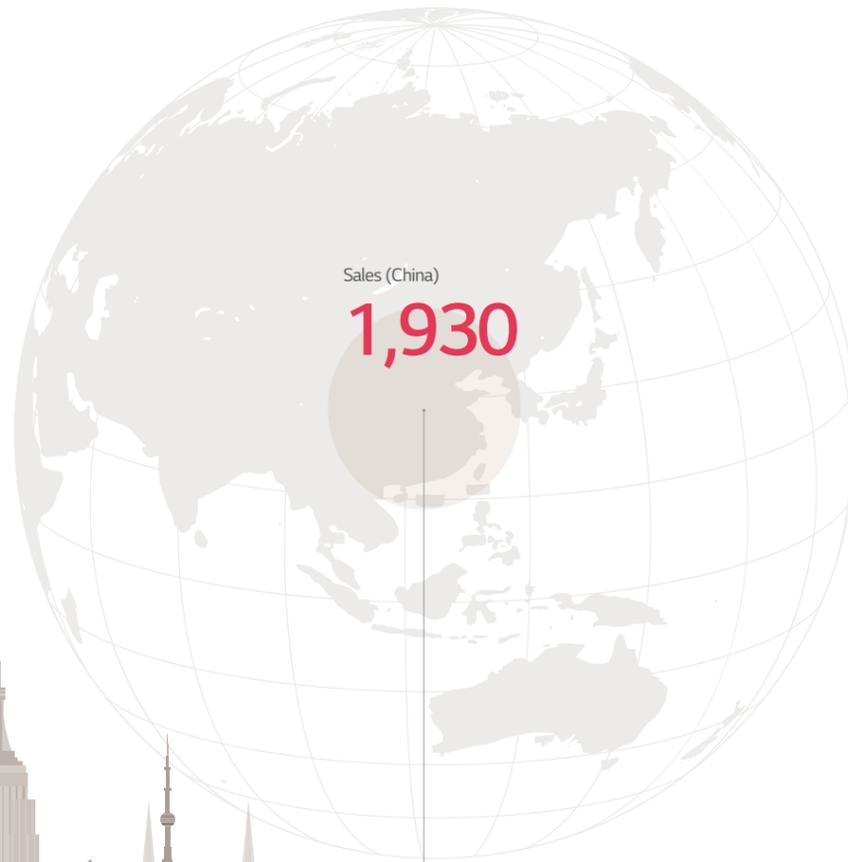
## North America

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. In 2017, a sales subsidiary was established in Canada to lay a solid foundation for the provision of services throughout the entire North American market. LG Hausys is increasing its e-stone line No. 3 to respond to the e-stone market, which has high growth potential, and is expected to enjoy continued high growth based on the development of differentiated products and enhanced production capacity.

## Europe

LG Hausys is expanding its B2B business with the focus on a sales subsidiary in Germany. LG Hausys has established a secure business foundation for the sustainable growth of various product families such as imitation marble, furniture films, automotive materials and components, and flooring materials in a strategic partnership with major furniture makers, distributors, and global automakers. LG Hausys will develop the European market with products whose quality will surpass customer expectations and requirements.

\*As of the end of Dec. 2018  
(Unit : KRW 100 million)



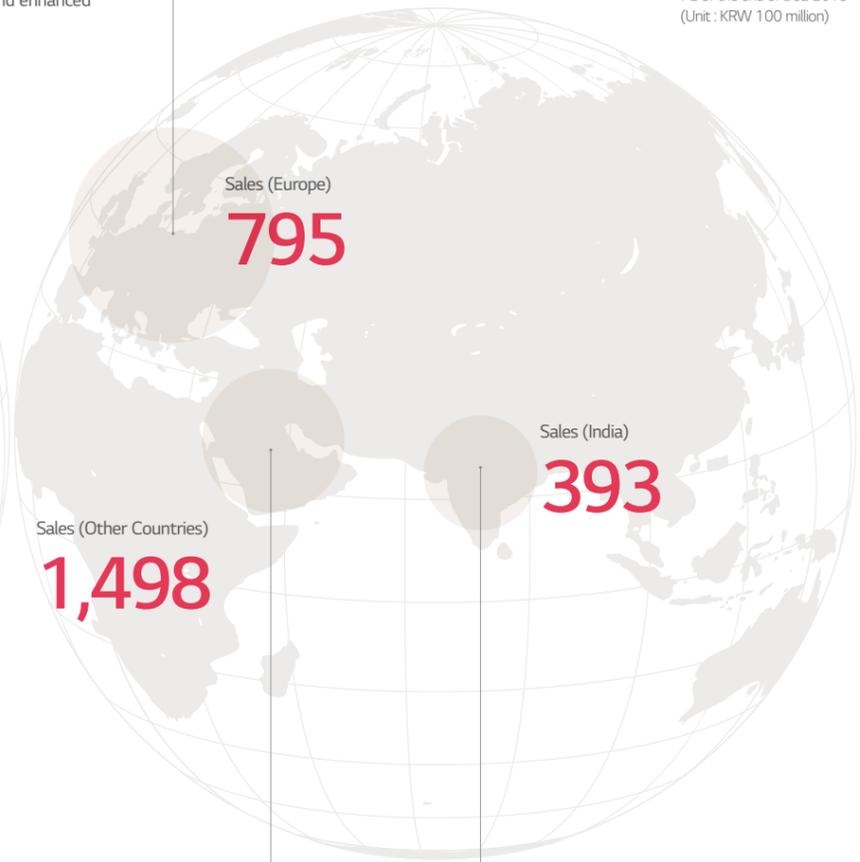
## China

In China, the emphasis is on flooring materials, automotive materials and components, and industrial films. LG Hausys has secured a large market share in flooring materials such as tiles and sheets, and highgloss films for home electric appliances, in which continuous growth is expected. The Tianjin and Wuxi plants are being operated as a part of the company's localization strategy with the aim of providing differentiated products and services from production to distribution. Meanwhile, safe environmental management is realized by continuously improving environmental/safety facilities at both the Tianjin and Wuxi plants.



## Other Countries

The surface material, industrial film, and flooring material markets are rapidly growing in emerging countries such as the Middle East and Southeast Asia. As such, LG Hausys is supplying products that meet the needs of various markets by strengthening its local marketing activities, including customer seminars.



## India

LG Hausys is enjoying steady growth in the Indian market, where its main focus is its home electronics film and surface materials business. LG Hausys is attempting to develop India's automotive materials and components, as well as the windows and doors markets to achieve a new growth momentum, while raising brand awareness by strengthening customized its design and marketing activities to the local market.



# Sustainability Management

It is 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 Implementation System



## Key Achievements of Sustainability Management in 2018

LG Hausys has published this year's report with the focus on the four main sustainability management issues that its internal and external stakeholders were found to be most interested in, namely, the development of products that achieve a high level of customer satisfaction; efforts to ensure product quality and safety; the establishment of a safe environment in each workplace; and the pursuit of joint growth with the suppliers. (Please see page 54-55 for further information on how the main issues were identified.)

Main Issue	Task	Key Achievements in 2018	Plans for 2019	Page
Developing products that satisfy the customers	To identify and develop next generation building materials through R&D on the future residential environment.	<ul style="list-style-type: none"> <li>• Extensive application of low-E by applying silver-protected new materials.</li> <li>• Development of non flammable and insulation technology that complies with government regulations.</li> </ul>	<ul style="list-style-type: none"> <li>• To change residential environments and develop future windows and doors to improve customer convenience.</li> <li>• To comply with government regulations and to continuously develop ecofriendly building decorative materials.</li> </ul>	20-25p
	To concentrate on lightweight automotive components and strengthen technological competence.	<ul style="list-style-type: none"> <li>• Internalization of the core C2I technology, development of lightweight components based on carbon fiber composite materials.</li> </ul>	<ul style="list-style-type: none"> <li>• To develop large-area lightweight components for future cars.</li> <li>• To develop a battery carrier module for electric vehicles.</li> </ul>	
Ensuring product quality and safety	To conduct a quality assurance system level-up.	<ul style="list-style-type: none"> <li>• Performance of a quality audit by product line on a regular basis.</li> <li>• Increase of the risk management of developed product quality, including the verification of toxic substances and long-term reliability.</li> </ul>	<ul style="list-style-type: none"> <li>• To tighten the quality management of suppliers, including auditing of major toll processing suppliers.</li> <li>• To increase investment in the infrastructure for intelligent manufacturing.</li> </ul>	26-29p
	To increase the application of Six Sigma management.	<ul style="list-style-type: none"> <li>• Introduction of FMEA<sup>1)</sup> for demonstration when conducting Q-Gate (new product quality verification procedure).</li> <li>• To increase the validation of development effectiveness through dispersion testing.</li> </ul>	<ul style="list-style-type: none"> <li>• To using big data more widely and effectively when carrying out improvement tasks.</li> </ul>	
Establishing a safe environment in each workplace	To impose stricter control of chemical substances.	<ul style="list-style-type: none"> <li>• Performance of a preliminary review in the purchasing plan phase with a view to removing the legal risk of chemical substances.</li> <li>• Development of an integrated enterprise chemical substance management system.</li> </ul>	<ul style="list-style-type: none"> <li>• To increase the monthly preliminary review/monitoring of chemical substances.</li> <li>• To improve operational efficiency by linking the safety environment and purchasing systems.</li> </ul>	30-33p
	To conduct activities aimed at raising Paise employee awareness of safety issues.	<ul style="list-style-type: none"> <li>• Raise safety awareness by conducting TFT activities with to form a safe culture companywide.</li> <li>• Evaluation of level of safety awareness among employees in each workplace and performance of improvement activities.</li> </ul>	<ul style="list-style-type: none"> <li>• To conduct improvement activities based on the results of the safety culture evaluation.</li> <li>• To provide training aimed at raising employee understanding of the safety operation system and improving their basic understanding.</li> </ul>	
Pursuing joint growth with suppliers	To improve management system facilities.	<ul style="list-style-type: none"> <li>• Strengthening inspection by establishing an inspection system such as regular, special and accident, at the headquarter.</li> <li>• Precision assessment and improvement for high-risk equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Inspection based on the managerial level to standardize work procedures</li> <li>• Special inspection on emergency response to enhance the capacity it has on anti-slip function on the surface to absorb sudden shocks as well as preventing-child injury and knee joint ailments.</li> </ul>	34-37p
	To enhance the fundamental competitiveness of suppliers.	<ul style="list-style-type: none"> <li>• Performance of sophisticated assessment such as reflecting on risk sensitivity when evaluating the CSR risks of the suppliers.</li> <li>• Expansive operation of mutual funds for secondary partners.</li> <li>• Provision of support aimed at improving productivity such as carrying out manufacturing innovation activities.</li> </ul>	<ul style="list-style-type: none"> <li>• To increase the number of suppliers to support productivity improvement by carrying out manufacturing innovation activities.</li> <li>• To increase investment fund support for joint growth (300 million won → 500 million won).</li> <li>• To create an industry ecosystem that supports continued growth by enhancing mutual competitiveness.</li> </ul>	
	Open Communication	<ul style="list-style-type: none"> <li>• More support for target of cash payment.</li> <li>• Reflection on the increase of minimum wage in the delivery unit price.</li> <li>• Development of a system of prenotification before delivery.</li> </ul>	<ul style="list-style-type: none"> <li>• To reward suppliers that make excellent productivity improvements.</li> <li>• To monitor the status of payment support for secondary suppliers.</li> <li>• To strengthen the foundations for joint growth and establish a healthy collaborative culture.</li> </ul>	
	To create a fair transaction environment.	<ul style="list-style-type: none"> <li>• Increase of unfair transaction preventive activities.</li> <li>• Conclusion of a standard subcontracting contract between 1<sup>st</sup> and 2<sup>nd</sup> suppliers.</li> </ul>	<ul style="list-style-type: none"> <li>• To add evaluation points when concluding a standard subcontracting contract between 1<sup>st</sup> and 2<sup>nd</sup> suppliers.</li> <li>• To encourage the conclusion of Fair Trade Commission agreements between 2<sup>nd</sup> and 3<sup>rd</sup> suppliers.</li> <li>• To establish fair and reasonable transaction practices by complying with the relevant laws and guidelines.</li> </ul>	

1) FMEA (Failure Mode and Effect Analysis)

# Distribution of Major Economic Value

## Creation and Distribution of Important Economic Value

(based on consolidation at the end of 2018, Unit : KRW 100 million)

Shareholder dividends <b>25</b>	<b>Shareholders and investors</b> • LG Hausys constantly strives to maximize value for shareholders who are the true owners of the company. We return profits we generate to our shareholders via cash dividend payout.
Purchasing goods and services <b>23,192</b>	<b>Suppliers</b> • LG Hausys purchases goods and services from its suppliers and maintains a fair ongoing relationship with them through purchasing. In 2018, LG Hausys purchased goods and services worth a total of 2,319.2 billion won from 1,538 suppliers, of which 42% was purchased directly from the local communities in which it operates.
Wages, welfare benefits, severance payments <b>3,835</b>	<b>Employees</b> • LG Hausys pays wages, welfare benefits, and severance payments, and will increase its distribution of economic value to its employees based on the fair and equitable distribution of achievements and various welfare programs.
Corporation tax, other taxes, and public utility charges <b>174</b>	<b>Government</b> • LG Hausys discloses the achievements of its management activities transparently and pays various taxes to the national and local governments such as corporate tax, income tax, and real estate tax.
Investment in the local community <b>14</b>	<b>Local community</b> • LG Hausys returns a portion of the fruits of its economic achievements to the local communities in which it operates by carrying out a variety of social contribution activities including cultural heritage and environmental preservation activities improve-ment activities for historic sites of the independence movement and nationally meritorious men, and local community sponsorships.

		2016	2017 <sup>2)</sup>	2018
Shareholders and investors	Dividend per share (KRW) <sup>1)</sup>	1,800	1,800	250
	Earnings per share (EPS)(KRW) <sup>1)</sup>	7,524	6,796	Δ 5,327
	Total dividend (KRW 100 million)	180	180	25
Employees	Wages (KRW 100 million)	3,159	3,043	2,922
	Welfare benefits (KRW 100 million)	637	658	687
	Severance payments (KRW 100 million)	257	243	226
Government	Corporation tax, other taxes, and public utility charges (KRW 100 million)	517	402	174
Suppliers	Purchase of goods and services (KRW 100 million)	17,855	22,262	23,192
Local community	Investment in local communities (KRW 100 million)	17	22	14

1) Based on common stock.

2) Vacuum insulation projects were suspended in 2018 and its profit and loss were not included.

3) Δ is a negative (-) figure.





# FOCUS ISSUES

- Development of Products that Satisfy the Customers
- Ensuring Product Quality and Satisfaction
- Guarantee a Safe Workplace
- Share Growth with Suppliers

# DEVELOPMENT OF PRODUCTS THAT SATISFY THE CUSTOMERS



R&D cost  
**82,891**  
(as of the end of 2018, Unit: KRW 1 million)

Technology certifications and awards received at home and abroad  
**21**  
(Cumulative as of the end of 2018)



## Sustainability Approach Method

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 graceful harmony with nature. Our manufacturing plants are putting into practice environmental management to minimize the environmental impact of raw material procurement, development, production, waste disposal, distribution and use.

## Achievements and Plans

Goals	Achievements in 2018	Plans for 2019
To identify and develop next-generation building decorative materials through R&D on the future residential environment.	<ul style="list-style-type: none"> <li>Extensive application of low-E by applying silver-protected new materials.</li> <li>Development of non-inflammable and insulation technology that comply with government regulations.</li> </ul>	<ul style="list-style-type: none"> <li>To transform the residential environment, and develop future windows and doors to improve customer convenience.</li> <li>To comply with government regulations and continuously develop ecofriendly building decorative materials.</li> </ul>
To concentrate on lightweight automotive components and strengthen technological competence.	<ul style="list-style-type: none"> <li>Internalization of the core C2I technology; development of lightweight components based on carbon fiber composite materials.</li> </ul>	<ul style="list-style-type: none"> <li>To develop large-area lightweight components for future cars.</li> <li>To develop a battery carrier module for electric vehicles.</li> </ul>

## Research & Development

### R&D Organization

The research department was divided into two teams; R&D center and design center. The research center plays a central role in conducting research on resources and discovering new business areas to prepare for future needs. The center implements ecofriendly product development and satisfies the customer demands in the window, decorative materials, surface substances, and automotive component fields. The design center leads customized design solution studies by predicting changing market trends.

LG Hausys is committed to finding new business fields with continuous investments in R&D, resources, and base technology security and affiliate cooperation. In particular, based on our core technology such as surface finish (coating), rheology processing, and analysis reliability research, we concentrate on empowering the R&D ability by adopting future-oriented construction materials and lightweight automotive items as sustainable growth areas. LG Hausys will lead the industry by launching new products which can actively handle market changes such as intensified restrictions in domestic and overseas markets and innovative items responding to global technology trends and exceeding the customer expectations. For realization, we hire outstanding and qualified people from both Korea and overseas, and are vigorously involved in open innovation activities including conducting national assignments with government institutes or research centers and forming partnerships with key domestic and international technology suppliers.

### Expanding R&D Investments

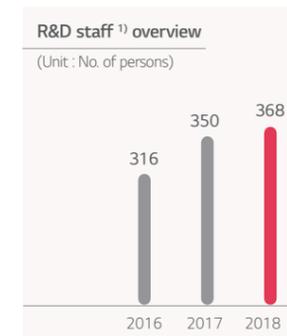
In order to recruit and train qualified R&D employees with masters degrees and PhDs from Korea and abroad, we are engaged in a wide range of events and programs, including the LG Techno Conference and industry-academia research projects. We are also cooperating with academia, government-funded agencies,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



1) Research Center, Design Center, Business Division Research PJT & Design PJT

## Major Research Achievements in 2018

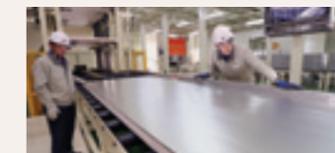
### Release of "Prestige," a commercial tile flooring material

The texture of wood and marble are expressed realistically using the "Continuous Emboss In Registered" (C-EIR) construction method. LG Hausys has developed differentiated technology that can express patterns naturally by matching the design and embossing while minimizing pattern repetition.



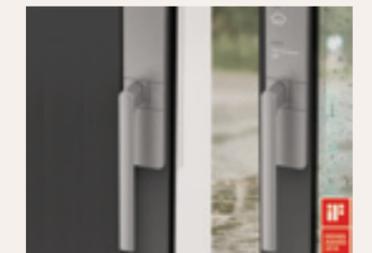
### Completion of the second plant for building insulators, acquisition of U.S. FM certification

In 2018, LG Hausys completed the construction of its second plant (at Cheongju) for PF insulators with an annual production capacity of 6 million square meters for an investment of KRW 54 billion, thereby increasing its total annual production capacity to 9 million square meters. About 70,000 apartment houses (based on 84m<sup>2</sup>) can be built on this area. LG Hausys' "PF board" obtained the "FM certification," an international fire safety certification granted by FM (Factory Mutual) Global, a global disaster insurance company of the U.S., for its firefighting equipment and building materials.



### Winner of the iF Design Award for Hidden Display Handle

The company's Hidden Display Handle received the 2018 iF Design Award (building technology category) awards. The innovative product displays weather forecast and fine dust/indoor air quality information on the display built into the window handle using IoT technology.

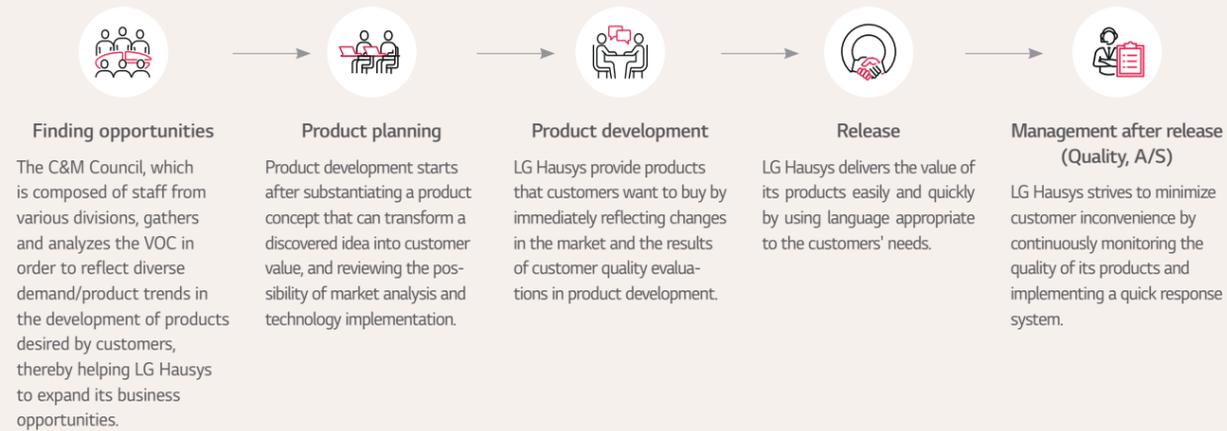


**Product Development Process and Research Focus**

**Product Development Process and Research Focus**

**LG Hausys' Product Development Process**

LG Hausys realizes customer value by developing products that reflect customer voice and tendencies along with trends in design and technology. In particular, LG Hausys releases a stream of new products designed to meet customers' desires and requirements in time based on its system of communication and cooperation between departments, and by reflecting the market response when developing future products.



**Research Area**

At LG Hausys, our product development is based on three guiding principles. First, the 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.

Research Area		Key Research Considerations	
Eco-Friendly	Eco-friendly building & decorative materials	• Use corn-based materials to develop products that are safer for people and the environment	• Development of furniture film using PET bottle-recycled material
	Eco-friendly automotive fabrics	• Develop highly-durable and contamination-resistant ecofriendly fabrics through the use of bio-based plastics	
Energy Saving	Energy efficient window	• Reduce energy consumption in buildings as well as maximizing the insulation performance of windows	
	Lightweight Plastic and Composite Materials	• Develop automotive lightweight parts and conduct research on improving internal-shock absorption performance, thus contributing to improvements in mileage enhancement and fuel efficiency	
Human-Friendly	Human-friendly, decorative building materials	• Develop building decorative materials with user convenience features such as inter-floor noise and fine	
	Semi-fireproof high insulation material	• Secure materials with strong, long-term insulation properties and fire safety	

**Market Trend Analysis**

**Design Trend Research**

LG Hausys analyzes the drivers and flow of design changes based on diverse insights related with various domestic and overseas design environments and consumer needs, and reflects them in the designs of new products and development of new content. In addition, LG Hausys promotes the spread of design trends via various channels including seminars, magazines, press media, and exhibitions in order to share the customer's cultural value and achieve joint growth, rather than conducting simple design research that contributes to business growth and brand value improvement.

**Product Development Activities based on Design Trends**

LG Hausys makes concerted efforts to analyze the space that customers want and formulates its design strategy by conducting various trend analyses including big data research. This direction is linked with product development and the design of various products featuring the same design identity, thus creating a harmonious space.

	Trend Research	Design Theme	Product design development	Proposal of integrated space
Social / Consumer Trend	Based on the analysis of changes in the social environment and consumer lifestyles, we trace the psychology of the base and derive strategic implications from it.	A space theme of merchantable quality is created and applied to all related products, based on the design strategy established through trend research and analysis.	Various product designs tailored to the design theme are developed harmoniously. The unique design identity of LG Hausys is applied to all products by linking each product.	"The space proposed by LG Hausys" is presented to customers by coordinating individual products which are developed according to the Design Theme and adding all elements that composes the space.
Design Trend	Strategies are established by forecasting changes in mid-to-long-term trends through preliminary research on overall design.			
Space Trend	Near future space is forecast by identifying the various drivers that change space, and space is researched from the perspective of integrating LG Hausys' products.			
Big Data Research	Customer needs are collected by data trawling on a wide range of topics from space to products, which are reflected in design development.			

**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 complete interior information, through our Z:IN Mall where customers can purchase our materials, and communicate with customers through our corporate social network channels. In 2018, we successfully provided better services for customers to access to allow customers to indirectly experience our products, information without any difficulties by adding actual implementation cases, our products and communication channels. In 2019, we are planning to create a Z:IN Youtube channel and other various contents.

**Strengthening Offline Customer Contact Points**

LG Hausys is operating 21 offline stores where customers can visit, experience, and purchase our products. In 2019, we are expected to open a renewal store in Incheon, as we are enlarging the opportunity for customers come to us more easily by opening a shop in a large-scale mall and LG Electronics Best Shops besides the existing exhibition locations.

**Prosumer Activity, Z:IN**

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 2018, LG Hausys has expanded the role as a prosumer and increased activities aimed at improving customer satisfaction, such as the suggestion of new ideas for products needed by consumers and the performance of quality evaluation activities before product release.

**Eco – Friendly**

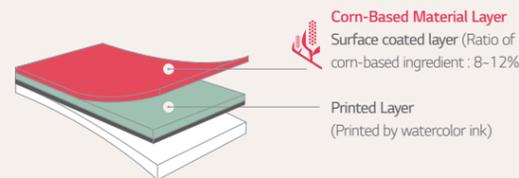
Healthy and Pleasant Living Spaces

**Films for recycled furniture film - Recycled plastic bottle materials**

Campaigns to reduce the consumption and use of 'single-use' plastic are being waged around the world due to pressing environmental problems such as the proliferation of plastic garbage and the 'separate garbage collection' crisis. LG Hausys has produced and released "films for recycled furniture" made with recycled PET (Polyethylene terephthalate) as the main raw material. Films for furniture are surface finishing materials that can express various designs by attaching them to the surface of plywood, which is a common furniture material. This material is applied to various types of furniture including kitchen sinks, closets and desks, as it allows various patterns ranging from wood to marble or metal, and gloss/matte texture to be expressed freely. LG Hausys also produces films for furniture that are made with recycled materials, and for the first time in Korea have solved the problems associated with recycling of plastic bottles, such as peeling-off and quality variation.

**Eco-friendly building decorative material - Use of Corn-derived Raw Material**

Sick building syndrome is a recognized medical condition where chemical substances excreted from the preservatives and adhesives used to build a house or furniture causes 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 decomposes harmful substances inside a room, is a product suitable for customers who are sensitive to air conditions that cause ailments such as eczema and sick house syndrome. 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 products ecofriendliness and safety. Furthermore, ZEA Fresh wallpaper has been awarded the environmental product declaration certification, the HB mark, the eczema safety mark and was also selected as a "Green Product of the Year" by consumers.



**Automotive fabric - Can reduce harmful substances in vehicle interiors**

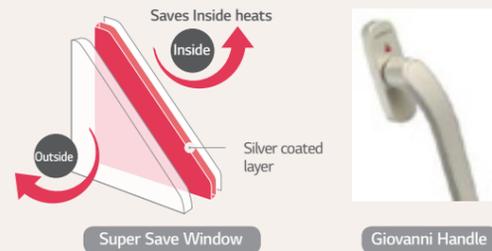
As the number of customers who prefer environmentally-friendly materials has increased, LG Hausys has continued to conduct R&D activities aimed at finding novel ways of reducing the discharge of toxic substances that end up in the human body. We have introduced environmentally-friendly fabrics by minimizing 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 passenger.

**Energy – Saving**

High Efficiency Product and Lightweight Materials

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

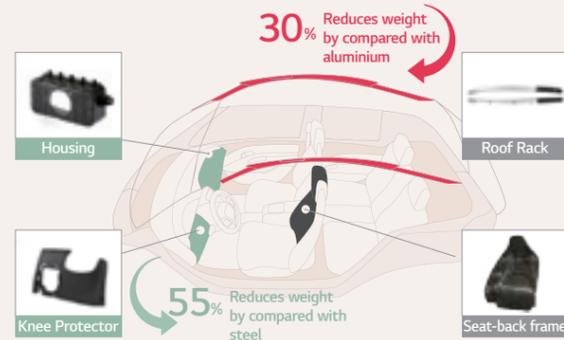
Increasing energy efficiency indoors during the winter season is critical as it results in a reduction of both energy cost and carbon emission generated by heating. LG Hausys' Super Save Window is made with Low-e glass, which reduces heating and cooling costs by up to 40% compared to aging windows. Low-e 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 insulation. 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.



\* The type of glasses is the option and according to the type of glass, the grade of energy consumption efficiency and the cost of air conditioning and heating reduction effect can be different.  
\* Compared to grade 5 functional fitting, grade 1 functional fitting and how it is used can change the resident environment. (Result by simulation inside a 99m<sup>2</sup> standard house.)

**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. The company's lightweight plastic roof rack has seen its weight reduced by 30% compared to conventional aluminum materials, and customer satisfaction has been further enhanced by diversifying the design as well as reducing the weight. In addition, the existing steel product was converted to plastic so the weight of the knee protector is reduced by 55%. As a result, LG Hausys contributing to vehicle safety and fuel efficiency.



**Human – Friendly**

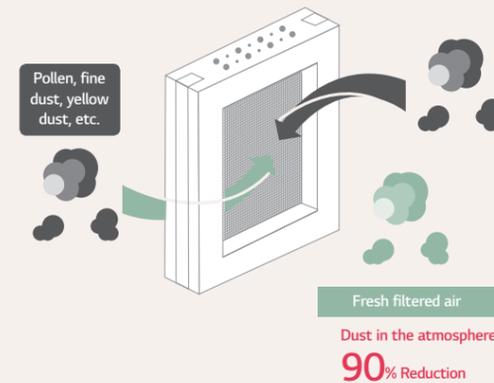
Resolve Social Issues & Provide Customer Convenience

**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 combined with environmentally-friendly foam gas minimizes impact on the ozone layer as well as the generation of toxic gas in the event of a fire. As a result of these efforts, LG Hausys' PF insulation materials contributed to the activation of green building establishments and the excellence was highly regarded in four sectors of certification for green buildings (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**

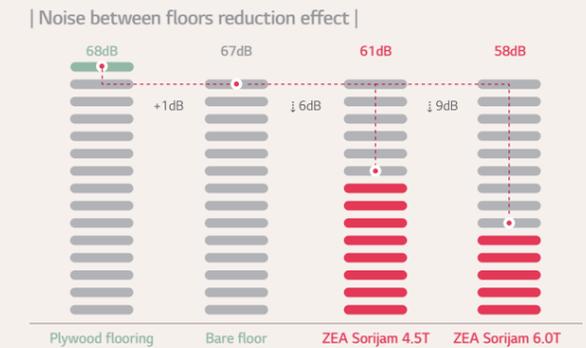
LG Hausys introduced windows equipped with harmful dust reduction filter screens to address the growing need for products capable of dealing with fine dust. The harmful dust reduction filter network has a nano-fiber filter with a thickness equal to 1/230 of the diameter of a human hair. This special thickness enables it to be capable of filtering out insects, fine, 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  
※ Note: Refers to the performance of the filter net, not the window set. The test result was published by the FITI Testing & Research Institute (ASHRAE Standard 52.1, weight method, tested with dust composed from 0.97 -176 PM). The performance may vary slightly when used in real life, and there is a small possibility of dust inflow.

**ZEA Sorijam Flooring - reduces noise between floors**

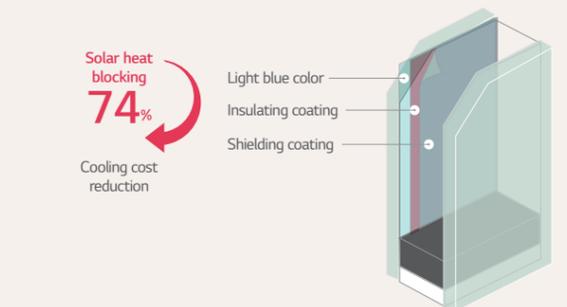
The problem of noise between neighboring households in apartment complexes has grown from minor feuds between neighbors into a serious social issue, leading to an increasing number of civil complaints. ZEA Sorijam is the first functional residential flooring product with extra thickness. It has an anti-slip function on the surface to absorb sudden shock and it can prevent child injury and knee joint ailments. In particular, the parts where the skin touches is made with corn-based substances and minimizes the use of harmful substances such as formaldehyde and heavy metals. With the mark from the Ministry of Environment and our certified products and services lower greenhouse gas emission the during process of collecting raw materials, production, transportation and distribution, utilization and disposal, LG Hausys received the carbon reduction label.



\* 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 double low-E glass - One single sheet provides superior insulation performance and shielding performance at the same time**

During the winter months, the cold external temperature increases the heating load because it takes away the heat generated in the room. Therefore, it is very important to manage indoor temperature during the winter. However, during the summer hot sunlight causes excessive radiant heat to flow into the room, thereby increasing the cooling load, degrading the durability of exterior decorative materials of the building, which causes bleaching and discoloration in interior finishing materials and furniture. Therefore, it is important to block the inflow of external heat energy during the summer by using the shielding function. The company's "Super double low-E glass" delivers the best insulation performance and shielding performance in Korea due to the use of two layers of silver coating, and reduces cooling costs by blocking the inflow of heat during the summer by 74%<sup>1)</sup>. Super double low-E glass is a doublelayer low-E glass for all seasons that can provide both the solar heat blocking effect in summer and superior insulation performance in winter.



1) Solar heat inflow rate = 1 - solar heat acquisition rate (%)  
Based on super double low-E double-layered glass 24mm (result of the solar heat acquisition rate test, windows and doors performance test laboratory, LG Hausys)

# ENSURING PRODUCT QUALITY AND SATISFACTION



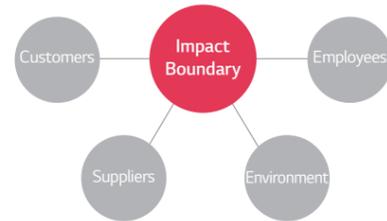
Certified green products\*

# 170

\* Korea Eco Label, HB Mark, and Environmental Declaration of Products (As of 31.12. 2018, Unit : No. of products)

Korea Eco-Label	106
HB Mark <sup>1)</sup>	36
Environmental Declaration of products <sup>2)</sup>	28
<b>Total</b>	<b>170</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



## Sustainability Approach Method

Social demand for materials that are not harmful to human health and the environment is increasing, and environmental regulations are becoming stricter in order to provide only the safest products to its customers, LG Hausys is increasing its quality and product safety activities throughout the entire process of production, sales, and use.

## Achievements and Plans

Goals	Achievements in 2018	Plans for 2019
Quality assurance system levelup	<ul style="list-style-type: none"> <li>Increased role as a gatekeeper in the quality area</li> <li>Performance of regular quality audits by product line.</li> <li>Increase of risk management of quality of developed products.</li> <li>Verification of toxic substances and longterm reliability.</li> </ul>	<ul style="list-style-type: none"> <li>To tighten the quality management of suppliers.</li> <li>To audit major toll processing suppliers.</li> <li>To expand investment in intelligent manufacturing infrastructure.</li> <li>To develop a real-time production/process management system.</li> </ul>
Six Sigma	<ul style="list-style-type: none"> <li>Advance prevention activities in the development phase</li> <li>Introduction of FMEA<sup>1)</sup> for demonstration purposes when conducting Q-Gate (new product quality verification procedure).</li> <li>Increased validation of development effectiveness through dispersion testing.</li> </ul>	<ul style="list-style-type: none"> <li>To expand the use of big data in the performance of improvement tasks.</li> <li>To carry out big data strategy tasks by business unit.</li> <li>To improve analysis capability through internal/external training.</li> </ul>
Advance review of chemical substances	<ul style="list-style-type: none"> <li>Performance of a preliminary review in the purchasing plan phase to remove the legal risk of chemical substances.</li> <li>Performance of activities aimed at raising the awareness of all employees about the prevention of chemical substance risks.</li> <li>Increase of user's responsibility for direct chemical substances management</li> </ul>	<ul style="list-style-type: none"> <li>To increase monthly preliminary review monitoring of chemical substances.</li> <li>To increase the number of targets of monitoring, such as MRO and paid/free samples.</li> <li>To improve the process related to monitoring.</li> </ul>
Chemical substance management system	<ul style="list-style-type: none"> <li>Development of an integrated enterprise chemical substance management system.</li> <li>Integrated management of base materials and components.</li> <li>Increase of management efficiency by automatically complying with chemical substances control regulations.</li> </ul>	<ul style="list-style-type: none"> <li>To promote improvements in the operational efficiency of the company's systems.</li> <li>To improve the practical use of employees.</li> <li>To link the workplace safety environment and purchasing systems.</li> </ul>

1) FMEA (Failure Mode and Effect Analysis)

## Product Quality Control System

LG Hausys strives to implement a consistent and customer-centered viewpoint, from product planning to the provision of services. We reflect on customer complaints and needs at every stage of all 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)

## Operating the Development Quality Verification System

All new products are managed by Q-Gate (the company's new product quality verification procedure) from the initial planning phase to the mass production stage. As it is the core foundation for preventing accidents and improving productivity, the technology/production/quality/research center division are concentrating their capabilities on QGate. Efforts are made to release products that can satisfy the customer by setting clear quality goals that reflect customer requirements in the product planning phase and by checking whether the quality level requirement is satisfied by holding the quality verification committee three times.

## Strengthening Long-term Reliability Verification

In order to provide products that customers trust and can use indefinitely, LG Hausys verifies their long-term reliability by considering the environment of each product. A dedicated department is operated under the management of the research institute composed of experts, and product safety is verified by developing an accelerated test method to verify long-term use quality for several years and reflecting it in the regular inspection items. LG Hausys accurately measures and manages how well products exposed in a user environment maintain their quality, and provides quality products with reinforced durability.

## Operating the Quality Information Management System "QAS (Quality Assurance System)"

LG Hausys has established an IT system that prevents changes that may occur in the production procedure from influencing product quality, and verifies whether the products satisfy the quality criteria. Uniform quality products are provided to customers after verifying new products and checking how changes in the base material/facility/process affect quality. LG Hausys is also investing in IT/facilities for managing all quality information in an integrated manner, so that the base material, production history, and process conditions of each product can be traced in the event of customer complaints. LG Hausys is strengthening the base of its manufacturing quality management by applying the MES (Manufacturing Execution System),<sup>1)</sup> which can manage production plan establishment and the manufacturing history systematically, and the UMS (Utility Management System),<sup>2)</sup> which can monitor process conditions and equipment status in real time. LG Hausys is continuously securing technology by reflecting the automated test system,<sup>3)</sup> which uses various sensors to increase the competitiveness of appearance quality, in its annual tasks.

1) MES (Manufacturing Execution System): A production management system that controls everything from the establishment of production planning to manufacturing execution.  
2) UMS (Utility Management System): A system that monitors process conditions and facility status in real time.

## Increasing Quality Assurance Activities at the Point of Customer Contact

## Ensuring Product Environment and Safety

### 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 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 relevant personnel of the overseas subsidiaries.

### Train Quality Experts

LG Hausys understand customer needs by internalizing Six Sigma. It then trains MBB, the internal troubleshooting experts for efficient quality improvement measurements. Since 2016, we implemented 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.

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

### Construction Quality Check Department

LG Hausys runs a construction quality check department to provide excellent and consistent construction services. LG Hausys visits the main sites in Korea and checks the quality of each construction team, and standardizes and spreads expertise of excellent construction teams. Construction quality will be controlled more thoroughly so that all construction teams can provide the best service by coping with various construction environments and overcoming unexpected field variables.

### The NPS Survey

LG Hausys introduced the NPS (Net Promoter Score) in 2016 to supplement discrimination based on the existing customer satisfaction survey results and manage service quality more systematically. Efforts are continuously being made to increase customer satisfaction by identifying loyal customers (recommended customers) and enhancing the product expert system by area. LG Hausys also collects the opinions of non-loyal customers (non-recommended customers) and reflects them in product development and production.

LG Hausys is maintaining its efforts to reduce harmful environmental factors in the product life cycle in order to provide customers with safe and healthy products.

### LCA : Life Cycle Assessment

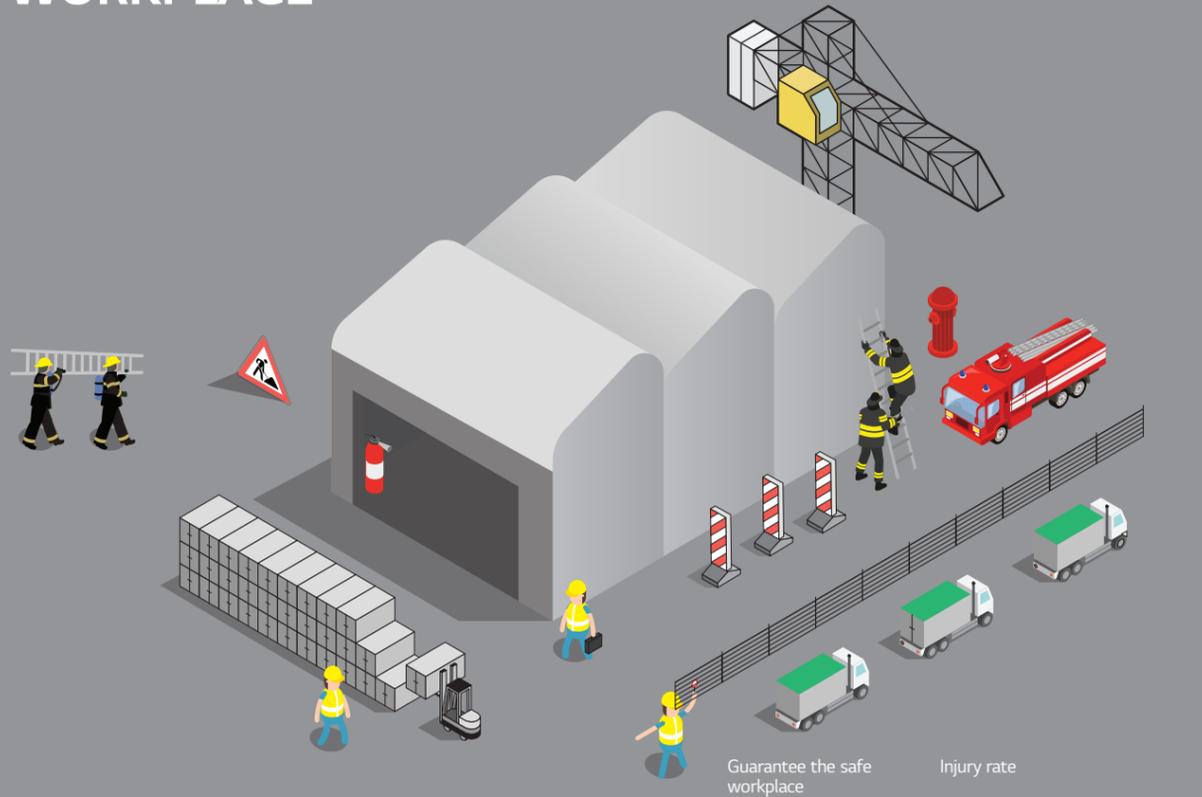
LG Hausys provides quantified environmental information for each phase of the product life cycle (manufacturing, distribution, use, and disposal) through the LCA (Life Cycle Assessment). Data on six environmental factors (resource consumption, global warming, ozone layer effect, acidification, eutrophication, photochemical oxide generation) were accumulated for a broad range of products including windows and doors, Sumtiles, flooring materials (sheets for export, tiles), insulators for the construction industry, wallpaper (ZEA Fresh), Econo, and KANGGREEN. LG Hausys will analyze and manage the environmental impacts of these products while increasing the corresponding product family.

## Product Environment and Safety Management by Value Chain

LG Hausys reviews environment and safety before purchasing base materials using the "advance chemical substances review" process. Environmental characteristics are reviewed in the whole purchasing phase using the enterprise-integrated "chemical substances IT system". Customer requirements and eco-friendly-certified products are verified using Q-Gate, the new product development quality assurance system. LG Hausys also analyzes non-recognized materials that can be produced in the development phase, and control has been strengthened to block harmful products in advance. Finished products are tested and analyzed by the national authorized agency or the internal laboratory up to two times a year to determine whether the legal standards of regulatory items are being complied with. In addition, LG Hausys revised the crisis management manual to respond to product and quality defects in 2018, and to prepare for emergencies.

 <b>Product development</b>	<p><b>Mandatory hazard checks when developing new products</b>          LG Hausys requires the verification of product hazards in the new product quality verification phase, and checks the emission of hazardous substances - from the base material to the finished product. All newly developed products should pass the verification process without omission, and any production process suspected of generating toxic emissions is controlled by rejecting the development completion approval. LG Hausys will continue to manufacture products that customers can use with peace of mind by blocking harmful substances at the source during the new product development phase.</p> <p><b>Operating a dedicated department in the research institute to analyze toxic substances</b>          LG Hausys has established a dedicated research department within its research institute to increase the reliability of the verification of serious toxic substances such as TVOC and formaldehyde, and to secure the safety of new toxic substances and non-recognized harmful substances that may be generated during the process. The department dedicated to toxic substances blocks harmful substances at the source during the development phase, and continuously monitors toxic substances that could be generated by unintended chemical reactions or routes other than the base material.</p>
 <b>Base material warehousing</b>	<p><b>Advance chemical substances review</b>          LG Hausys has established a system of reviewing safety environmental characteristics using the "chemical substances management system" in the phase that the customer wants to use chemical substances. LG Hausys has minimized the risks posed by any harmful chemical substance content in its products by reviewing the safety environmental characteristics and ensuring that its workers can safely handle chemical substances in the purchasing process.</p> <p><b>Operating the chemical substances management system</b>          As the regulation and supervision of chemical substances have been strengthened, a strong response to compliance risks is needed for enterprise chemical substances management. Accordingly, LG Hausys provided the relevant regulations information on chemical substances and developed the "chemical substances management system" on the Web in 2018 in a bid to systematically control chemical substances throughout the entire process of procurement, inspection, use, storage, and disposal.</p>
 <b>Finished product verification</b>	<p><b>Operating a toxic substance analysis room for each plant</b>          LG Hausys has established a hazardous substance analysis infrastructure (test equipment/inspector) at its domestic manufacturing plants and is constantly testing for major toxic substances such as TVOC and formaldehyde. All products are controlled according to stringent standards within the legal standards, and all non-conforming products that exceed the standard are disposed of, and recurrence prevention activities are performed on the basis of a thorough causal analysis. LG Hausys has improved the capability of its inspectors and the reliability of its analysis results by holding regular exchange meetings with relevant departments.</p> <p><b>Operating the radon (radioactive material) test system</b>          As relatively high amounts of radon (first-level cancer-causing agent) are emitted by beds and marble, it has become a pressing social issue. LG Hausys installed precision analyzers in the company research institute and formed an analysis system even before the issue was reported by the press. A radon analyzer is being installed at each domestic plant this year, and tests are being performed on a regular basis. LG Hausys will emphasize customer safety first and foremost, and actively respond to new toxic substances endlessly.</p> <p><b>Acquired official product safety certification</b>          LG Hausys holds various product safety certifications according to the characteristics of its products, ranging from the domestic "Eco Label" and the HB Mark to OEKO-TEX, a European textile product quality certification. LG Hausys will secure product safety that can be trusted in the domestic and foreign markets by renewing its certification periodically.</p> <p>1) Eco Label: Government-certified certification issued by the Korea Environmental Industry and Technology Institute, Ministry of Environment, which certifies the eco-friendliness of the whole process from product manufacturing to consumption and disposal.          2) HB Mark (Healthy Building Material): A certification related to the organic compound emissions (TVOC, HCHO) of building materials, issued by the Korea Air Cleaning Association.          3) OEKO-TEX (European textile product quality certification; an association of 18 textile institutes in Europe and Japan): Eco-friendly certification that evaluates the harmlessness of a product.</p>
 <b>Product shipping-out</b>	<p><b>Securing the basis of tracking and managing causative agents</b>          LG Hausys has established a system for tracking a product's manufacturing history (base materials, working conditions, etc.) by linking IT systems such as the MES (production management system) and the WMS (warehouse management system). LG Hausys will operate the tracking management system continuously to respond to unexpected toxic substance issues by identifying the cause accurately and estimating the extent of any damage.</p>

# GUARANTEE A SAFE WORKPLACE



Guarantee the safe workplace

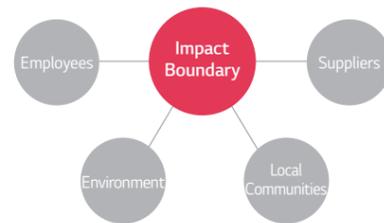
# 12

(As of 31.12. 2018, Unit : KRW 100 million)

Injury rate

# 0.46%

(As of 2018, 0.22% in 2017, Unit : %) \* The injury rate increased in certain areas including processing and worker behaviors violating the safety regulations



## Achievements and Plans

Goals	Achievements in 2018	Plans for 2019
Strengthened the awareness for workplace safety	<ul style="list-style-type: none"> <li>Established a safety culture by TFT activity and strengthened the awareness for it</li> <li>Operated a safety awareness assessment at all plants and implemented improvement activities</li> </ul>	<ul style="list-style-type: none"> <li>Conducted improvement activities based on the safety culture awareness results</li> <li>Offered safety system training</li> </ul>
Management system Facility improvement	<ul style="list-style-type: none"> <li>Establishing the inspection system such as regular, special and accident at the headquarter to strengthen the inspection</li> <li>Precision assessment for high-risk equipment and its improvement</li> </ul>	<ul style="list-style-type: none"> <li>Inspection based on the managerial level to standardize work procedures</li> <li>Special inspection on emergency response to enhance the capacity</li> </ul>

## Sustainability Approach Method

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 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.

## Safety Environment Operational System

### Safe Workplace Management System

LG Hausys has been operating a safe workplace management system under ISO 14001, OHSAS 18001, KOSHA 18001 and announced the dedication to safety management both internally and externally. We have been conducting guidance on workplace safety based on a safe and healthy environment policy for consistency.

### 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. In addition, there is a safe work environmental council meeting hosted by the CEO monthly and the participants discuss and agree on the goal, analyze the current state, and investment situations related to a safe workplace.

### Management System and Facility Improvement Activity

#### Risk Factors Improvement Activity

LG Hausys always monitors each system and risk factor to prevent accidents such as fire and injuries and commits to enhancement activities.

#### Safe Workplace Inspection

LG Hausys has categorized safety inspections into regular inspection, special inspection and accident inspection and checks all our plants regularly following the standards. The regular inspection is performed once a year in all business sites including manufacturing plants and research centers. The special inspection will be done frequently when the site has internal or external issues concerning accidents. In addition, when an injury happens at a location or occurs again in the same workplace, we analyze the reason and conduct accident diagnosis. In 2018, LG Hausys made inspections in all plants on environment safety-related areas such as system, injury, process safety, chemicals and fire, and special investigations to the facilities or products with a high risk of accidents nine times. Twelve partner companies supported us for joint inspection and gave us recommendations on 113 risk factors. In 2019, LG Hausys will conduct emergency response inspections without prior notice to optimize the emergency response system in the workplace.

### | Current State of Risk Factor Inspections |

Initiative	Description
Fire Prevention	<ul style="list-style-type: none"> <li>Define management items—power, use of LNG, and over-heated 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, 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>

### | Detailed Information on Inspections |

Item	Object	Period	Details
Regular Inspection	All plants	Once a year	Perform all safety-related area inspection and review results.
Special Inspection	The department in charge	Frequency	Check on similar risk factors, inspections ordered by the board of directors, joint inspections with affiliates and emergency response training diagnosis when an injury happens.
Accident Check	The department in charge	Frequency	<ol style="list-style-type: none"> <li>Serious accident</li> <li>The same accident occurs at the same location or accidents happen more than three times per year</li> <li>Any issues which can lead to middle and large scale accidents occurrence</li> </ol>

### | Current State of the Inspection and Future Plans |

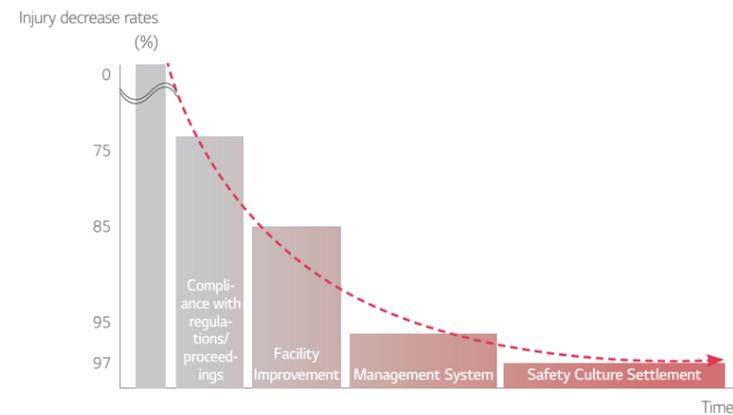
Regular inspections in 2018	Regular inspections in 2019
<ul style="list-style-type: none"> <li>Conducting inspections in all areas related to safety</li> <li>Safety areas including the safety system, injury, process, chemicals, fire prevention and environment</li> <li>Conducting inspections focusing on risk factors in plants</li> </ul>	<ul style="list-style-type: none"> <li>Specific item management state and past inspection checks</li> <li>Specific item management state checks selecting certain items and establishing an inspection system based on the reason for any accidents and repetitive indications</li> <li>Checks on past LG affiliates and LG Hausys inspections</li> </ul>

## Establish a Culture of Safety and Strengthen Awareness

### The Stage of Accident Prevention and the Current Activity State of LG Hausys

In accordance with each stage of accident prevention, LG Hausys created company rules, invested in facility improvement, stabilized the inspection system and has been conducting safety activities since its launching in 2013. In compliance with the regulations and proceedings, we have prepared the basic accident prevention policy and procedures by establishing company rules on safety, health and environment issues and standards on safe practices and emergency response manuals. In addition, LG Hausys invested in firefighting equipment, facility renovation, safety devices for high-risk equipment, etc. and have seen the positive effects of accident control. We reinforce the safety management system with inspections on the system in all plants including overseas plants and research centers as well as safety improvement activities. LG Hausys realizes the importance of people's thoughts and behavioral change for fundamental prevention. Since then, we have been establishing a culture of a safe workplace and expanding it.

#### | Development Stages of the Accident Prevention |



### Safety Culture Strengthening Activity

LG Hausys conducted an assessment of the safety culture for executives and workers to remember the safety culture in 2018. Hosted by Korea Occupational Safety and Health Agency (KOSHA), we surveyed employees in Ulsan plant and Chungju plant and interviewed the person in charge, manager and laborer of the plants. According to the results, LG Hausys will draw indications and create a training session for all workers to learn and internalize the culture.

#### [Empowerment] Enhancement in Understanding of the Operating System

We should clarify the role and purpose of executives, managers and staff to enlarge their understanding of the safety culture. We will set clear action items for the safety for each position and let them keep the action. We will establish an IT system for safety in all plants to maximize the understanding of all executives and employees. Through the system, we can conduct a supervisor management program, share information about the operating system and check safety signs on the wall, safety environment rules, accident cases and improvement after inspection at all times.

#### [Communication/Engagement] Level Up via Training

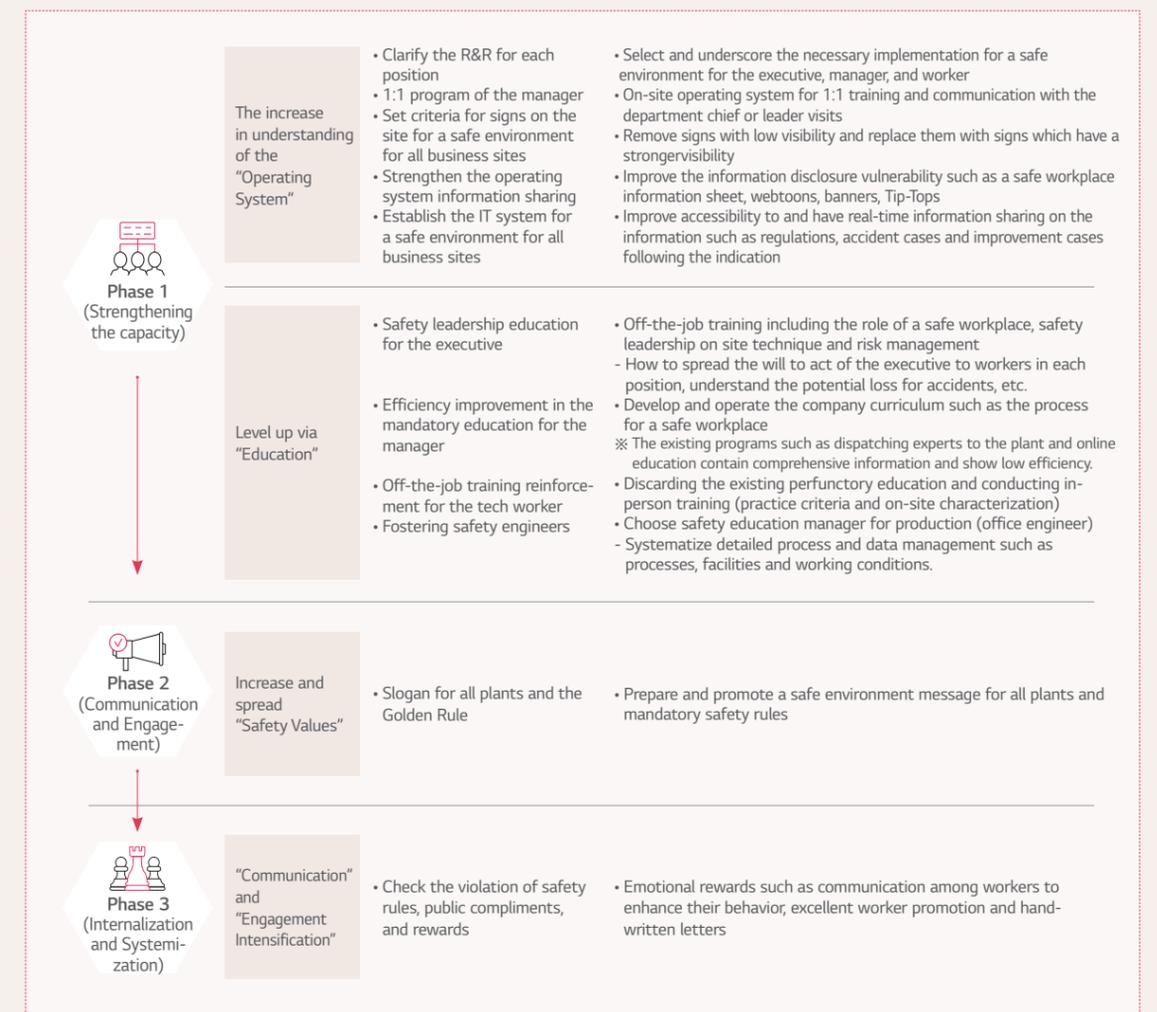
LG Hausys will conduct different training sessions for each position and extend the opportunity to communicate with our executives and workers. For executives, we will have an off-the-job training for the role of the culture, mandatory leadership and risk management while there will be a separate educational program with our curriculum on the safety standards of each stage for managers. In addition, for engineers, we will provide personal training. Through the training program, we will encourage the office engineer to systematize detailed processes and data management such as facilities and working conditions.

### The Plan for Strengthening the Safety Culture and the Detailed Activity for each Stage

#### | The Plan for Strengthening the Safety Culture |



#### | Activity Details on each Phase |



# SHARE GROWTH WITH SUPPLIERS



Suppliers assessed for CSR risks

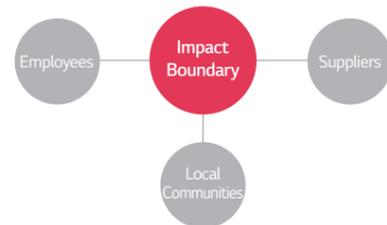
# 340

(Unit : No. of companies)

Eco-friendly Materials purchases

# 23,142

(Unit : tons)



## Sustainability Approach Method

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.

## Achievements and Plans

Goals	Achievements in 2018	Plans for 2019
Build our suppliers' fundamental competitive edge	<ul style="list-style-type: none"> <li>Sophisticated assessment - such as reflecting risk sensitivity when evaluating the CSR risk of suppliers.</li> <li>Expand operation of funds for shared growth fund for 2<sup>nd</sup>-tier suppliers</li> <li>Support productivity improvements through manufacturing innovation activities</li> </ul>	<ul style="list-style-type: none"> <li>To increase the support productivity improvement by carrying out manufacturing innovation activities.</li> <li>Increasing investment funds support for joint growth (300 million won → 500 million won)</li> <li>To create an industry ecosystem that supports continuous growth by enhancing mutual competitiveness.</li> </ul>
Promote open communication	<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>	<ul style="list-style-type: none"> <li>To reward suppliers for making excellent productivity improvements.</li> <li>To monitor the status of payment support for secondary suppliers.</li> <li>To strengthen the foundations for joint growth and establish a healthy culture of collaboration.</li> </ul>
Create a fair trade environment	<ul style="list-style-type: none"> <li>Step up efforts to prevent unfair trade practices</li> <li>Sign standard subcontracting agreement between 1<sup>st</sup> and 2<sup>nd</sup> tier suppliers</li> </ul>	<ul style="list-style-type: none"> <li>To add evaluation points when concluding a standard subcontracting contract between 1<sup>st</sup> and 2<sup>nd</sup> suppliers.</li> <li>To encourage the conclusion of Fair Trade Commission agreements between 2<sup>nd</sup> and 3<sup>rd</sup> suppliers.</li> <li>To establish fair and reasonable transaction practices by complying with the relevant laws and guidelines.</li> </ul>

## Supplier Sustainability Management

### Supplier Status

LG Hausys trades with more than 1,530 suppliers in order to procure raw materials and parts that it needs. In 2018, 42% 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.

Project	2018 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 41 suppliers financially</li> <li>Provided network loans worth KRW 1.1 billion to 5 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>KRW 376.4 billion in cash payments</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 24 employees from 4 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 54 technology/quality experts to 52 suppliers</li> <li>Made 4 joint patent applications</li> </ul>	We invested approximately KRW 15 billion in assisting our suppliers with facility investments and improvements, productivity enhancements/quality stabilization, and system infrastructure support. In addition, we actively create joint patent applications to help our suppliers safeguard their technology.
 <b>Management Support</b>	<ul style="list-style-type: none"> <li>Reached KRW 563.4 billion in the price coupling and supply program</li> <li>Hosted five discussion meetings with suppliers in 2018 (124 executives and employees from 124 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 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>

## Fair Trade

### 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 2019, we were graded 'Excellent' in the win-win index evaluations. Meanwhile, we signed the Fair Trade Agreement with 189 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 46 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.

#### | Major Program |

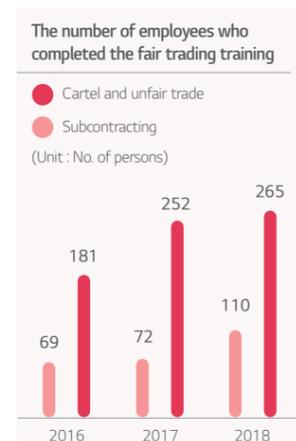
Program	Description
 Internal inspection	<ul style="list-style-type: none"> <li>Inspect major business divisions and plants to monitor their trade practices</li> </ul>
 Regulatory training	<ul style="list-style-type: none"> <li>Raise employee awareness of fair trade and disseminate the culture of fair trade</li> <li>Distribute fair trade manuals and teaching materials</li> <li>Offer regular internal/external training</li> </ul>
 Preliminary review	<ul style="list-style-type: none"> <li>Target the entire business operation from planning through sales and marketing to purchasing and financing</li> <li>Aim to prevent violations of competition regulations</li> <li>Mobilize internal fair trade experts to conduct reviews prior to initiating business</li> </ul>
 Subcontracting transactions	<ul style="list-style-type: none"> <li>Build systems to prevent and monitor unfair subcontracting practices in doing business with suppliers</li> </ul>
 Internal review	<ul style="list-style-type: none"> <li>Form and operate the Internal Subcontract Transaction Review Committee attended by purchasing managers</li> </ul>

### 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 2018, 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.

#### | Employee Fair Trade Compliance Training Frequency |

Category	2016		2017		2018	
	Subcontracting	Cartel and unfair trade	Subcontracting	Cartel and unfair trade	Subcontracting	Cartel and unfair trade
The number of people who completed the training (person)	69	181	72	252	110	265
Implementation of the training (number of times)	4	10	4	15	7	12



## Supplier Company's Risk Management

### 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 340 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. Starting in 2018, 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.

#### | Checklist Items |



### 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.

#### | New and existing suppliers that have passed the environmental standards review and the social impact assessment<sup>1)</sup> |

	Unit	2016	2017	2018
All new suppliers	Count	115	101	207
Evaluated new suppliers	Ratio (%)	100	100	100
Evaluated existing suppliers	Count	192	400	340
Suppliers with confirmed high risk <sup>2)</sup>	Ratio (%)	0	0	0

1) Supplier evaluation target  
 - New supplier: Evaluating all new suppliers as of the corresponding year  
 - Existing supplier: Evaluating suppliers over 100 million won purchase as of the previous year, or suppliers handling items with high strategic importance.  
 2) Risk classification by supplier  
 - High: Less than 75 points in the LG Hausys CSR checklist item score.  
 - Middle: 75 - 85 points in the LG Hausys CSR checklist item score.  
 - Low: More than 85 points in the LG Hausys CSR checklist item score.

#### New and existing suppliers that have passed the environmental standards review and the social impact assessment





# 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 |

(An ordinary share as of 31<sup>st</sup> December 2018)



- Korean institutional/individual investors 57.58%
- LG Corporation 33.54%
- Foreign investors 8.88%

## 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. As of April 2019, our Board of Directors consists of two executive directors, one non-executive directors, and four outside directors.

## Appointment 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 2019 <sup>8</sup> )			
Directors	Name	Major Career	Remarks
Executive Directors	Min Kyung-jip	(Current) CEO of LG Hausys (Former) Director of the Automotive Materials & Components Business Manager Division, LG Hausys (Former) Director of the LG Hausys Research Center (Former) Director of the Industrial Materials Research Center, LG Chem	BoD Chairman
	Kang In-sik	(Current) CFO of LG Hausys (Former) Director in charge of accounting, LG Chem (Former) Director in charge of finance, LG Chem	
Non-executive Director	Kang Chang-Beom	(Current) Manager of the LG Chemical Team (Former) Director in charge of management strategy, Battery Business Division, LG Chemical (Former) LG Business Administration Team (Chemical)	
External Directors	Kim Jin-Gon	(Current) Professor, Department of Chemical Engineering, Pohang University of Science and Technology (Current) Regular member of the Korean Academy of Science and Technology	
	Bae Zong-Tae	(Current) Professor, College of Business, KAIST (Former) Chairman of the Korean Association of Small Business Studies (Former) Chairman of the Korean Society for Innovation Management & Economics	Member of the Audit Committee
	Kim Young-Ick	(Current) Adjunct professor, Department of Economics, Sogang University (Former) Director of the Research Center, Hana Daetoo Securities (Former) Director of the Research Center, Daishin Securities	Chairman of the Audit Committee
	Lee Bong-Hwan	(Current) Non-executive director, LG Hausys (Former) Professor, Industry-University Cooperation concentration, Graduate School of Engineering Practice, Seoul National University (Former) Director of R&D Headquarters, Hyundai Mobis	Member of the Audit Committee

\* For further details, please visit the website. (<http://www.lghausys.co.kr/hausys/investment/council/organization.jsp>)

## BoD Activities

Our BoD met 8 times in 2018, and the average percentage of directors in attendance was 92.9%. The BoD deliberated on a total of 36 agenda items including the approval of business plans, out of which 28 were approved and 8 were reported.

Meeting	Date of Meeting	Main Agenda Items	Attendance of Directors
1	2018.1.23	Approval of the 9th term financial statements and 9 other items	85.7%
2	2018.2.21	Approval of the convocation of the 9th general shareholders meeting and 3 other items	71.4%
3	2018.3.9	Approval of the payment of directors' remuneration for 2018 and 6 other items	85.7%
4	2018.4.27	Report on the Q1 2018 business results and 3 other item	100%
5	2018.6.1	Approval of merger finishing notification	100%
6	2018.7.26	Report on the Q2 2018 business results and 3 other item	100%
7	2018.10.24	Report on the Q3 2018 business results and 1 other item	100%
8	2018.11.28	Approval of the appointment of executive directors and 3 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	2018.1.23	Report on the operational status of the internal accounting management system in 2017 and 4 other items
2	2018.2.21	Resolution of the audit report for the 9th financial statement and the business report and 2 other items
3	2018.3.9	Appointment of external auditors
4	2018.4.27	Report on the Q1 2018 business results
5	2018.7.26	Report on the Q2 2018 business results and 2 other item
6	2018.10.24	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.

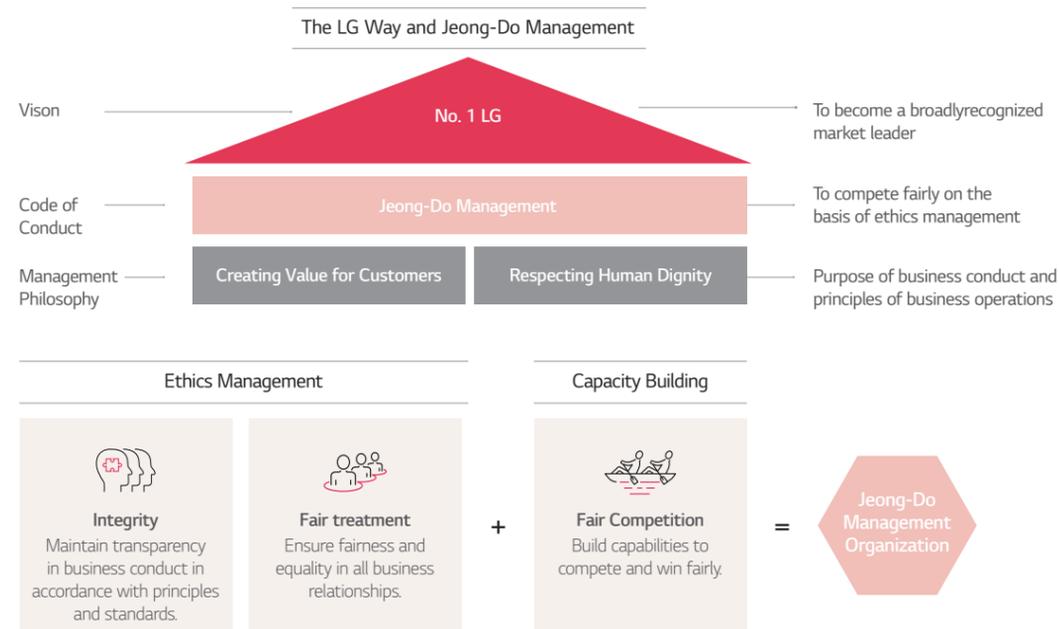
## Evaluation and Compensation for Directors

LG Hausys determines the BoD remuneration criteria each year after considering the yearend 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.

# Jeong-Do 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 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 any irregularities formerly misconceived as customary practices so that Jeong-Do Management becomes an even more vital part of our organizational culture.

## LG Hausys Jeong-Do Management



## Jeong-Do Management Programs

We practice Jeong-Do Management a wide range of programs such as the Jeong-Do Management Pledge, the Whistle-Blowing and Shinmungo Systems, and Jeong-Do Management training.

### Jeong-Do Management Pledge

All 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 charitable work.

### 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

LG Hausys is making concerted efforts to communicate with its employees (including overseas subsidiaries) and suppliers by implementing the Jeong-Do Management training program and sending promotional materials to all concerned every year. LG Hausys provides training for employees by layer (new team leaders, sojourning employees, new recruits/experienced employees) and dispersion training led by each business division/department. Employees of overseas subsidiaries are provided with continuous training through videos and training materials produced in the local languages.

Webtoons are produced and distributed to mobile devices of employees and suppliers to enhance their understanding of the Jeong-Do management program. Its main themes include the LG Way, code of conduct, complying with the basics, and fair transactions.

The Jeong-Do Management Division will continue making efforts to establish the Jeong-Do Management culture to prevent employee risk factors related to Jeong-Do Management and ensure compliance with the basics and principles to avoid recurrence of risk factors. The division will also continue to communicate with the suppliers to establish fair and transparent trade connections.

## | Jeong-Do Management Education Data <sup>1)</sup> |

Category	Region		2015	2016	2017	2018
Number of employees who received education	South Korea	No. of persons	5,837	3,388	6,075	3,060
	USA, China, Europe, Russia	No. of persons	578	1,112	687	934
Number of suppliers that received education <sup>2)</sup>	South Korea	No. of companies	715	687	1,615	2,012 <sup>3)</sup>
	China <sup>4)</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) Communication methods with affiliates changed from the existing training completion to mobile webtoons and sending messages in 2018.

4) During 2015-2018, the focus was on educating domestic suppliers.

# Talent Management

## HR Management Principles

### Employee Data

The number of our employees in Korea and abroad amounted to 4,477 on a consolidated basis as of the end of 2018. The ratio of office and production workers was 68% and 32% respectively. In 2018, we hired 211 new employees, and we are now leading the push to create more jobs for young people.

### 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 individual's ability 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.

## Compensation System

### Fair Assessment System and Continuous Feedback

We endeavor 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 capabilities 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 noncumulative 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."

## Securing Outstanding Individuals

### Securing outstanding individuals at home and abroad

In order to secure outstanding individuals, LG Hausys holds job fairs and carries out recruitment activities in major universities in Korea as well as in North America and Japan. In addition, LG Hausys is trying to secure talented individuals in the early stages by operating an industry university scholarship system comprising tailor-made courses for each department according to the major.

### Improving the employment brand

The creation of a differentiated employment brand is needed to secure outstanding individuals and communicate with them. To that end, LG Hausys participates in the "LG Techno Conference," which introduces the current status of technical innovation to outstanding individuals who are studying for a master's or doctoral degree at home and abroad, and explains the plan for nurturing talented R&D personnel, and the hosting of "LG Day," a joint recruitment activity of LG Group.

## Outstanding Individuals Nurturing Program

### Strengthening core job competence

To nurture R&D and manufacturing experts systematically, LG Hausys develops and runs practical business courses for the R&D field, which include actual development cases of LG Hausys from the basic theory of each field such as polymer materials/processing, inorganic materials, composites, and architectural design/energy. As regards the manufacturing field, courses are developed with the focus on LG Hausys' underlying technologies - such as car rendering, extrusion, injection, coating, printing, and foaming - and are implemented in phases.

### Increasing leadership change programs

To increase the "lead by example" aspect of leadership competence, LG Hausys runs programs designed to diagnose the current level of leadership competence by conducting a leadership survey on the company's leaders every year, and to enable leaders and members to understand and communicate with each other by letter, with the focus on core leadership keywords. The company also runs leadership coaching program designed to help directors set and achieve their targets individually through diagnosis, using the courses of the LG Leadership Academy and professional external coaches.

### Increasing and supporting outstanding female individuals

LG Hausys actively participates in government policies for creating a family-friendly corporate culture and achieving a healthy work-life balance, such as the promotion of childcare leave. In addition, outstanding female individuals are identified for each job, then managed and nurtured to help them grow into core leaders of the organization.

## | LG Hausys Training System |

Category	Position Specific Mandatory	Business Leader Training	Specific Job Training	Global Education
Executives	New Executive	Aspiring Business Leaders	ENDP	Conversation for Executives
General Managers	Team Leader Leadership	MVP V	Biz/Pro Talent	Advanced Chinese
	New Team Leader	MVP IV	Market leadership seminar D/C* Capability Assessment	R&D Building Design & Energy
Managers	MVP III	Young HPI	Global MBA	Advanced Chinese
	MVP II	4th Year: Corporate Innovation 3rd Year: Management Strategy 2nd Year: Corporate Operations 1st Year: Marketing	Domestic MBA LG MBA Job-specific overseas training R&D Design Course	Beginners Chinese
	Refresh Start	MVP I	Design Expert Management Strategy Expert Marketing Expert	Composite Materials Inorganic Materials Polymers Factory OJT Introductory Class for Researchers
Working Level Staff	Jumpup Camp		Trend Seminar	
	Basic Job Skills		Area Marketing	
	New Hire Experienced	New Hire Experienced	B2B Marketing	
			Production/Engineering Technology Seminar Six Sigma MBB Six Sigma BB TRIZ course	
			Understanding Market Unit Cost Management Production Management	
			MSA Basic	
			Best Engineer	

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

## Innovating the Organizational Culture

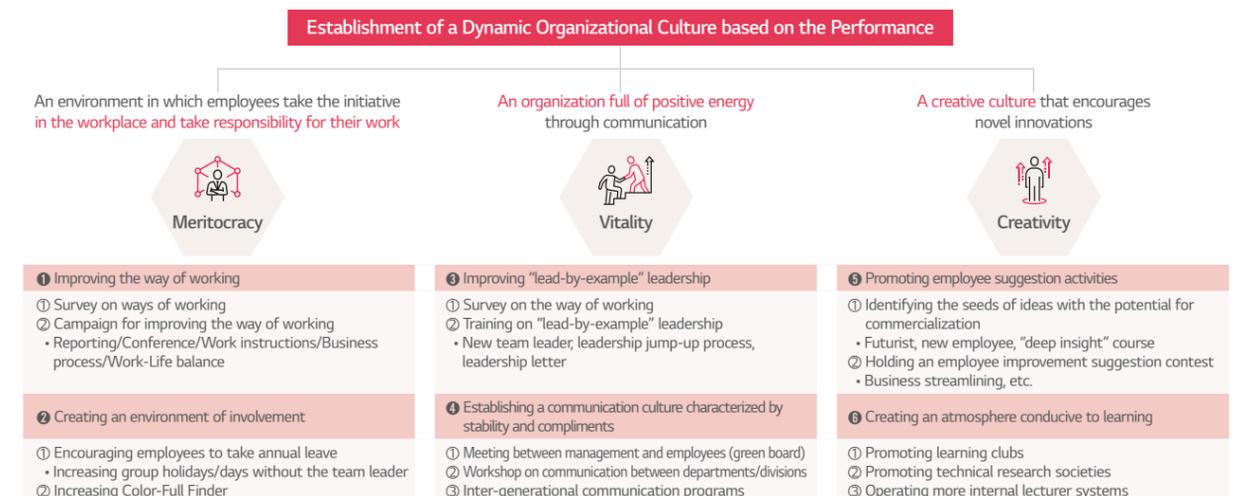
### Improving the way of working

In July 2018, LG Hausys introduced the flexible time system which allows employee to choose their working hours after agreeing with the leader, in order to respond quickly to changes in the external environment including legislation to reduce the amount of working hours. LG Hausys also introduced the working-hours management system for office jobs so that employees can manage their business hours independently, and is conducting activities aimed at changing the leader-centric work style.

### Creating a dynamic organizational culture

In 2019, LG Hausys aims to establish a dynamic organizational culture in which employees take the initiative and assume full responsibility (meritocracy) for their work, with performance as its focal point, a communicative culture that is full of positive energy (vitality), and a creative culture (creativity) that encourages novel innovations. LG Hausys will continue making positive changes so that employees can work resourcefully and achieve excellent results in line with the changing business environment.

## | Organizational culture of LG Hausys |



## 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 a fundamental value.' Its full version is available on our corporate website.



### Labor Relations

LG Hausys is managing a labor-management partnership that is 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 closeknit 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 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 2018, 68.1% of the total employees joined the trade union.

### | Unionized workers<sup>1)</sup> (domestic) |

Category	Unit	2016	2017	2018
The number of trade Union admission	No. of persons	1,016	998	1,024
The rate of the admission	%	67.1	64.7	68.1

1) Percentage of unionized workers = (Unionized workers / Under the company regulations, the number of people eligible to join the labor union) x 100

### 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	Housing fund support	A welfare program in which employees can choose from a wide range of benefit services depending on their lifestyle and preferences
	Congratulatory & condolences expense support	Housing fund support, company housing quarters, and dormitories are provided
	School tuition 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
Residence/Economic Stability 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
	Health/psychological counseling support	A counseling service is provided through a welfare manager and an outside professional counseling organization
Healthcare/Health Check-up Support	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
Leisure Activity Support	Informal group support	Support is provided for various informal groups formed by employees for leisure activities

## Environmental Management

### Safety/Health/Environment Policies

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

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 embraced 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.

### 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 2018, we invested approximately KRW 5.6 billion in environmental preservation, mainly by installing brand new highly effective air pollution control equipment.

### Controlling Environmental Pollutants in the Workplace

#### 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 monitored 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 barriers were also installed to prevent any leakage of liquid pollutants as well as the spread of such pollutants. Our Cheongju 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 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 Cheongju Window Plant : Underground water, industrial water  
\* Water intake at the Oksan Plant : Tap 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 barriers and gas detectors around the storage facilities of harmful chemicals to prevent fires, explosions, or leaks caused by these chemicals within the workplace. Meanwhile, 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.

### 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 Cheongju 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 reconditioning, planting, and daily environmental education for local residents.

### Response to Climate Change

#### Climate Change Response Strategy

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



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

### Energy consumption/greenhouse gas reduction activities

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. Ulsan Plant improved its energy efficiency by improving RTO ceramics, installing thickeners, and replacing dilapidated equipment. Cheongju Plant utilized energy storage systems (ESS) and installed power saving devices. This enabled LG Hausys to reduce a total of 7,090 tons of CO<sub>2</sub> emissions in 2018.

### Cases and achievement of energy consumption/greenhouse gas reduction

#### 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. Essentially, 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, VOC throughput has been reduced compared to the use of RTO only, and the consumption of RTO fuel (city gas LNG) use has been reduced, resulting in a GHG reduction of 1,000 tons in just one year at the Ulsan plant.

#### Trading in GHG emission rights

- Sales of GHG emissions trading allowance in June, 2018 : 28,262 tons
- Future Plans : To conduct activities aimed at reducing workplace GHG emissions due to the lack of Certificated Emissions Reduction (CER).

### Winner of the CDP (Carbon Disclosure Project) Award \*

- 2012, Special Carbon Disclosure Award
- 2017, Honors in the Carbon Management Sector ("industrial materials" category)

\* Carbon Disclosure Project: A project that discloses the corporate strategy for responding to climate change to investors.

### Promoting joint growth through green partnerships

"LG Hausys has supported improvement activities since 2015 to reduce greenhouse gas emissions and energy costs by minimizing and removing risk factors related to carbon emissions by the production activities of suppliers using "Conglomerate/Small and Medium-sized Business Energy Accompanying Project" and draw up plans for reasonable energy utilization.



### Operating "Green Store"

A total of seventeen shops were designated as "Green Stores" in 2018 by the Ministry of Environment for the first time in the interior industry, including sixteen direct management exhibition centers across the country aside from Z:IN Square. Green product interior showrooms are separately prepared in the exhibition center to advertise and sell green products to consumers. LG Hausys is also taking the initiative in reducing power consumption in the store, and strives to operate eco-friendly spaces by using green product consumables in the operation of its stores. In the future, LG Hausys will promote green products that contribute to the health and safety of consumers, and continue to increase green products, green store certifications, and customer guidance.



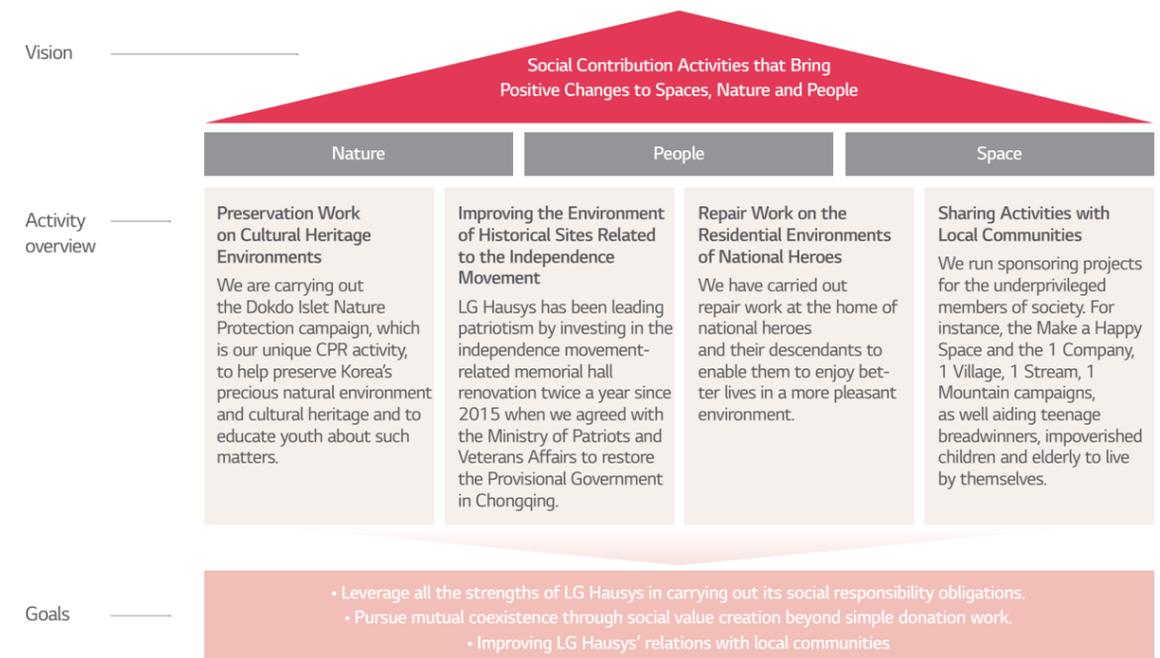
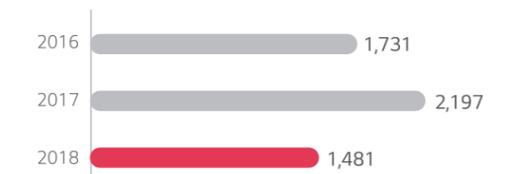
## Social Contribution

### Strategy for Implementing Social Contributions

The company and its employees coexist with the local communities in which it operates. In particular, LG Hausys brings about "joyous" changes in the local community by conducting major projects such as cultural heritage and environmental conservation activities, activities aimed at improving the environment surrounding historic sites of the independence movement, housing environment improvements for nationally meritorious men, and community sharing activities. LG Hausys will also produce positive changes within its local communities by fulfilling its social responsibilities through various contributions in the future.

### 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.

### Dokdo Love Youth Camp

Since 2010, we have selected approximately 20 undergraduates every year to directly/indirectly experience Dokdo through broad-ranging programs such 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.

Ulleung Police Guard	Dokdo Police Guard	Dokdo Residential Housing
2013. Installed flooring (tiles) and wallpaped (wallcovering) the official Residence and patrol division offices	2009. Replaced the flooring (tiles) in the gym, internet cafe, and cafeteria	2011. Donated construction materials for the expansion of Seodo residential housing (windows/wallcovering/linoleum, etc.)
2014. Installed flooring (tiles) and wallpaped (wallcovering) the official Residence and patrol division offices / Donated heating equipment	2010. Renovated the flooring (tiles) and walls (wallpaper) in the barracks and donated equipment	Dokdo Management Office
2015. Installed flooring (tiles) and windows, and wallpaped (wallcovering) the official residence and patrol division offices	2011. Renovated the kitchen facility (tiles and others) and donated cooking equipment.	2013-2017. Donated electronic devices
2016. Renovated the flooring at the official residence and patrol division office	2012. Renovated the operations room / guest rooms / hall flooring (tiles) and walls (films) Renovated the changing room and donated furniture	Dokdo Lighthouse
2017. Renovated the tiles at newcomer station	2013. Replaced the flooring (tiles) in the situation room	2011. Donated air-conditioning equipment
	2014. Replaced the flooring (tiles) in the briefing room and donated electronic appliances	2013-2017. Donated electronic devices
	2015. Constructed bathrooms / toilets	
	2016. Replaced the flooring in the gym	



## 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

Based on the spirit of supporting the independence movement initiated by the founder (the late Koo In-Hwoi, chairperson), LG Hausys has remodeled many memorial halls (Seo Jaepil, Yun Bonggil, Lee Hwayeong, Ahn Junggun, Han Yongwun, Ahn Changho, and Kim Changsuk) using the company's outstanding products, such as windows, doors, and flooring materials. LG Hausys has also supported the restoration of nine historic sites at home and abroad, including the Chongqing Provisional Government Complex and the Korean Empire Embassy in the U.S.

### 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 people in Korea and three people 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, execution, and design capabilities. LG Hausys has improved 22nd shared youth space since the opening of the first "Creating a Happy Space" at the Holt Insan Center. In particular, employees and their children have produced DIY items of furniture, such as lockers, and donated them to the "Creating a Happy Space" beneficiary facility, after entering into an agreement with the Habitat for Humanity Korea. In addition, LG Hausys supports the facility environment of approximately fifteen centers every year independently from the KACCC (Korea Association of Children's Center Councils).



1. The Ahn Chang Ho Memorial Hall Restoration
2. Creating a Happy Space
3. The Kim Chang Suk Memorial Hall Restoration
4. Improvement of the Residential Environment for Korean War Veterans

### 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.



Initiative	Description
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



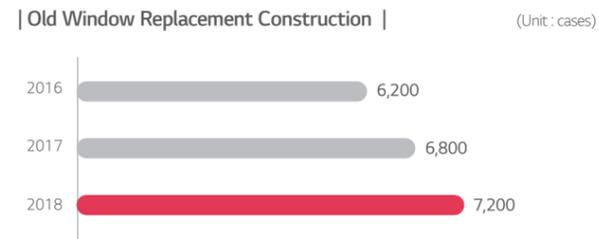
Initiative	Description
One Company, One Military	Formed a partnership with the 37 <sup>th</sup> Infantry Division of the ROK Army, assisted with their military camp environment improvement efforts, donated appreciation gifts and funds
One Company, One Stream	Cleaned up Miho Stream in alignment with the Geumgang River Basin Environmental Office
One Company, One Village	Supporting the events of villages near the Cheongju plant
Support for children from low-income families	Provided minimum living expenses to children from low-income families in alignment with Child Fund Korea
Happy coal briquette delivery campaign	Delivered briquettes to seniors living alone with Chungbuk Briquette Bank

### 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. LG Hausys is primarily committed to the green remodeling market by renovating old windows 6,200 times in 2016, 6,800 times in 2017 and 7,200 times in 2018.



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

We offer free assistance in renovating homes for socially-under privileged 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 1,200 households, markedly improving their indoor environments. For those suffering from atopic diseases, 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.



# APPENDIX

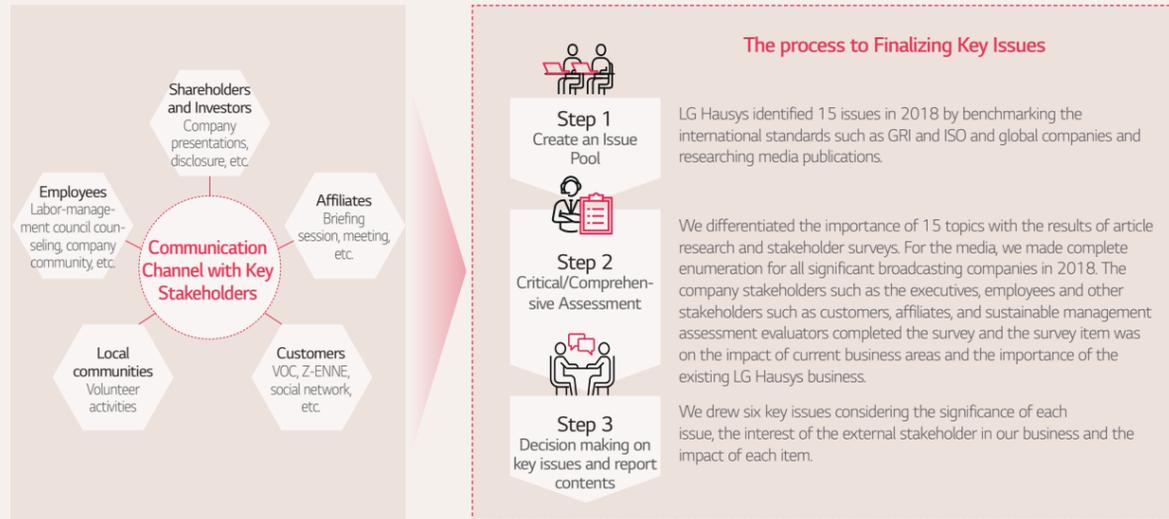
- Significance of Comprehensive Analysis
- Sustainable Management and Data
- Current State of EHS Quality Certification & Affiliates
- Global Human Rights and Labor Law
- Independent Assurance Statement
- GRI Standards Index
- UN Global Compact



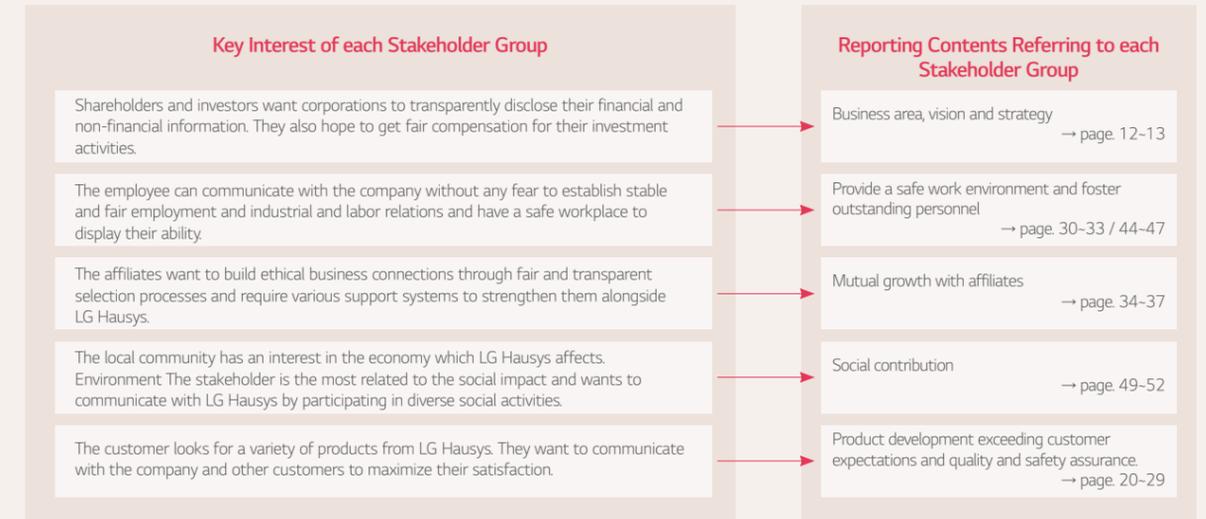
# Significance of Comprehensive Analysis

## The Decision on Report Contents for Shareholders

LG Hausys defines the stakeholder, investor, executive, customer, affiliates and local community as shareholders in accordance with the role, influence and responsibility for an individual or a person in an organization affecting our business management. The 2019 sustainable management report contains key issues which affected the decision making of key stakeholders for the year 2018.



LG Hausys will continue to implement sustainability management with stakeholders by closely communicating with them to listen to stakeholder concerns and expectations.



## The Process to Finalizing Key Issues

LG Hausys underwent the comprehensive assessment process to finalize the essential key issues based on stakeholder concerns for the 2019 report as we did for the 2018 report. We narrowed it down to 15 key issues which were discussed for sustainable management in 2018 by researching the international standards of sustainable management, reports from the leading company of sustainable management and media.

In addition, We surveyed our external stakeholders to listen to and understand their perspective on the current business issues and their impact. We surveyed the internal and external stakeholders such as the employee, customer, affiliates, workers in the same industry and the sustainability management professionals after asking and receiving the agreement of each department from the 18<sup>th</sup> to the 25<sup>th</sup> of February in 2019. 491 stakeholders participated in the survey and LG Hausys collected the feedback on the significance of the 15 issues and management level of LG Hausys.

### Research on Sustainable Management

#### International standards review

LG Hausys checked the up-to-date sustainability management issue from ISE 26000, GRI Standard and DJSI.

#### Global Benchmarking

We went through benchmarking based on the sustainability management publication from domestic or overseas leading companies and similar businesses.

#### Media research

We analyzed the major issues focusing on the critical issues in articles related to LG Hausys from 1 January to 31 December 2018.

#### Internal and external stakeholder survey

We evaluated the issues considering the feedback and new topics from the results of the sustainability management survey.

### Create an Issue Pool (15 issues in 3 fields)

Activity	No	Materiality Issues
Economy	1	Business performance and strategy
	2	R&D capacity building
	3	Financial risk management
	4	Ethical management
	5	New products launching and upgrading customer service
	6	Development of green products
Environment	7	Climate change risk management in all plants
	8	Environmental pollutant management in all offices
	9	Guarantee a safe workplace
	10	Water usage management
	11	Affiliates management
Society	12	Social contribution
	13	Product quality and safety insurance
	14	The employee capacity development
	15	Respect the human rights and labor law for the employee

### The Results of the Survey



### Key Issues on Reports

In accordance with the results on the significance of internal and external environment, in general, the results illustrated the business performance, strategy, safe working environment and product quality and safety assurance. We will include the information following the whole content structure.

Rank	where you can find the content	GRI Issues	Page
1	Business performance and strategy	-	12-13
2	Guarantee a safe workplace	GRI 403 Industrial health and safety	30-33
3	Product quality and safety insurance	GRI 416 Customer health and safety	26-29
4	Mutual growth with affiliates	GRI 308 supply chain social evaluation, GRI 414 supply chain environment evaluation	34-37
5,6	Product development capacity intensification	GRI 417 marketing and labeling	20-25

# Sustainable Management and Data

## Consolidated Profit and Loss Statement

(Unit : KRW 1 million)

Item	2016	2017	2018
Sales	2,928,337	3,209,405	3,266,496
Cost of Sales	2,133,198	2,413,364	2,535,790
Gross profit	795,139	796,041	730,706
Selling & administrative expenses	638,148	650,637	660,335
Operating income	156,991	145,404	70,371
Non-operating profit & loss	△ 41,808	△ 38,843	△ 87,982
Continuing business profit before tax	115,183	106,561	△ 17,611
Corporate tax	35,225	23,543	△ 1,269
Profit & loss from discontinued operation	△ 5,210	△ 15,163	△ 36,785
Net income	74,748	67,855	△ 53,127

\* Included and reflected the business discontinued in 2017 (Vacuum insulation panel)

## Consolidated Financial Statement

(Unit : KRW 1 million)

Item	2016	2017	2018
Current assets	1,051,445	1,170,284	1,078,846
Notes and accounts receivable	604,169	665,121	565,567
Inventories	268,539	288,735	298,354
Non-current assets	1,234,451	1,412,147	1,430,868
Tangible assets	1,113,413	1,230,726	1,277,509
Assets held for sale	0	0	2,030
Total assets	2,285,896	2,582,431	2,509,714
Current liabilities	803,725	804,673	736,764
Non-current liabilities	544,808	792,178	856,203
Total liabilities	1,348,533	1,596,851	1,592,967
Paid-in capital	50,000	50,000	50,000
Capital surplus	616,466	616,466	616,466
Other capital items	△ 8,189	△ 8,189	△ 8,189
Aggregate of other universal profit & loss	△ 13,449	△ 22,578	△ 18,926
Retained earnings	292,535	349,881	277,396
Non-controlling interest	0	0	0
Total equity	937,363	985,580	916,747
Total equity and liabilities	2,285,896	2,582,431	2,509,714

\* Figures with △ sign indicates (-) number

## Employees

Category	Unit	2016	2017	2018	
Total Employees	No. of persons	4,424	4,494	4,477	
Overseas Employees <sup>1)</sup>	No. of persons	1,284	1,297	1,234	
Domestic Employees <sup>2)</sup>	No. of persons	3,140	3,197	3,243	
<b>Korea</b>					
Regular	Total	No. of persons	3,058	3,123	3,184
	-Men	No. of persons	2,643	2,708	2,771
	-Women	No. of persons	415	415	413
Contract based	Total	No. of persons	82	74	59
	-Men	No. of persons	72	63	44
	-Women	No. of persons	10	11	15
By gender	Men	No. of persons	2,715	2,771	2,815
	Women	No. of persons	425	426	428
By age	20s	No. of persons	588	653	649
	30s	No. of persons	817	803	836
	40s	No. of persons	1,018	1,009	1,016
	50s and over	No. of persons	717	732	742
By job level	Executives	No. of persons	23	23	26
	Employees	No. of persons	3,117	3,174	3,217
By job category	Office workers	No. of persons	2,121	2,175	2,215
	Professional technicians	No. of persons	1,019	1,022	1,028
By region	Headquarters	No. of persons	769	756	766
	Window plant in Cheongju	No. of persons	544	574	630
	Ulsan/Onsan Plants	No. of persons	1,099	1,081	1,054
	Others <sup>3)</sup>	No. of persons	728	786	793
People with disability	No. of persons	46	45	49	
Men of national merit	No. of persons	85	85	87	
New recruits	No. of persons	224	229	211	
Staff turnover <sup>4)</sup>	No. of persons	54	87	78	
Female manager rate <sup>5)</sup>	%	8.2	8.9	9.0	
Maternal Leave	Employees who took maternal leave	No. of persons	23	32	32
	Reinstatement rate	%	82 <sup>7)</sup>	93	91
	Ratio of employees who worked for more than 12 months following their reinstatement	%	92	90	100
<b>Talent Development</b>					
Hours of training per employee					
By gender	Men	Hour	29.8	33.6	36.7
	Women	Hour	23.8	36.5	33.9
By job category	Office workers	Hour	30.2	39.3	45.7
	Technicians	Hour	26.3	22.5	16.1
The subject of regular performance evaluation and work experience development <sup>6)</sup>					
Employees	No. of persons	2,059	2,105	2,131	
The rate of employees	%	99.8	99.6	99.3	
<b>An overseas corporation</b>					
Current status of overseas employment					
United States	Overseas postings	No. of persons	16	15	18
	Local employees	No. of persons	435	456	505
China	Overseas postings	No. of persons	34	34	32
	Local employees	No. of persons	749	731	604
Ratio of senior-level employees among local hires					
Number of locally hired employees	No. of persons	1,184	1,187	1,109	
Number of senior-level employees among locally hired employees <sup>7)</sup>	No. of persons	250	277	286	
Ratio of senior-level employee	%	21	23	26	

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 gomunsi transfers, PSAA & Production Technology Center transfers are excluded 5) Domestic office workers, Employees above the Professional (formerly Manager) grade level / 6) Subject: Domestic office workers (excluding the executive and managerial level) / tech workers: No regular performance evaluation

## Environment

Category	Unit	2016	2017	2018	
Raw Materials Consumption	PVC	ton	136,278	144,119	130,074
	Calcium carbonate	ton	96,131	100,395	95,542
	Plasticizer	ton	31,345	29,600	31,961
	MMA	ton	20,790	24,302	20,995
Recycled Materials	Consumption of Recycled Materials	ton	21,663	25,774	23,142
	Consumption ratio of recycled materials	%	8	9	8
<b>Energy &amp; Greenhouse Gas</b>					
Major Energy Consumption	LNG	TJ	959.9	1,017.7	1,029.0
	Diesel	TJ	12.2	13.5	27.2
	Gasoline	TJ	0.4	2.4	2.3
	Electricity	TJ	1,634.3	1,893.5	1,734.7
	Steam	TJ	67.8	47.8	2.8
	Annual Saving Achieved	Reduction in energy use	TJ	349	275
Reduction in GHG emissions		tCO <sub>2</sub> eq	9,612	9,655	7,090
Energy savings made		KRW 1 million	6,229	2,390	1,755
Energy Consumption	Direct Energy	TJ	973	1,084	1,061
	Indirect Energy	TJ	1,748	1,894	1,735
	Total energy consumption	TJ	2,721	2,978	2,796
GHG Emissions	Scope 1	tCO <sub>2</sub> eq	49,604	52,949	65,560
	Scope 2	tCO <sub>2</sub> eq	82,694	93,182	84,340
	Scope 1 + Scope 2	tCO <sub>2</sub> eq	132,298	146,123	149,900
	Scope 3	tCO <sub>2</sub> eq	131,807	118,387	105,911
	Intensity-based emissions	tCO <sub>2</sub> eq/ton	0.44	0.39	0.41
<b>Environmental Investment</b>					
Environmental Investment Amount	KRW 1 million	4,450	4,865	5,617	
<b>Environmental Pollutants</b>					
Water consumption	ton	917,822	648,818	601,004	
Discharge of water pollutants	Waste water discharge	m <sup>3</sup>	11,520	22,869	17,396
	BOD	ton	0.16	0.28	0.21
	COD	ton	0.18	0.71	0.41
	SS	ton	0.06	0.33	0.17
Emission of air pollutants	NOx	ton	63.73	56.94	48.60
	Dust	ton	37.27	29.64	35.62
	Volatile Organic Compound (VOC)	kg	82	233	166
	Hazardous Air Pollutants (HAP)	kg	2,523	2,303	2,369
Intensity-based consumption of toxic substances (consumption/production of toxic substances)	ton/ton	0.0317	0.0345	0.0549	
<b>Discharge of Waste</b>					
General Waste	Recycled	ton	27,841	32,361	30,723
	Converted to fertilizer	ton	135	101	179
	Incinerated	ton	3,459	3,294	4,275
	Buried	ton	1,527	1,415	2,339
Designated Waste	Reused	ton	-	-	-
	Recycled	ton	798	437	471
	Incinerated	ton	469	443	464
	Buried	ton	8	18	3
Total Wasted Discharged	ton	34,237	38,049	38,454	
Total Waste Recycled	ton	28,773	32,798	31,279	
Waste Recycled Rate	%	84	87	81	

## Health Safety

Category	Unit	2016	2017	2018		
<b>Accident Rate</b>						
Employees	Injury Occurrence Rate (Injury Frequency Rate) <sup>1)</sup>	-	2.92	2.72	3.80	
	Occurrence rate of work related illness <sup>2)</sup>	-	2.90	0.19	0.32	
	Absentee Rate (AR) <sup>3)</sup>	%	0.15	0.79	0.01	
	No. of deaths related to work	No. of persons	1	0	0	
Number of indirect employees (including partner companies)	Male	No. of accidents	No. of cases	1	5	2
		Injury Occurrence Rate	-	1.72	1.72	1.56
	Female	No. of deaths related to work	No. of persons	0	0	0
		No. of accidents	No. of cases	1	1	0
		Injury Occurrence Rate	-	5.81	4.96	0
Number of employees represented by joint labor-management health and safety committee		%	31.86	30.64	30.17	

※ The environmental and health/safety data are based on the domestic workplaces (internal vendors, etc.)

1) Injury frequency rate: (no. of accidents × 1,000,000) / total number of working hours in a year

2) Severity rate: (no of working days lost × 1,000) / total number of working hours in a year

3) Absentee rate : (no of absent days at work × 100) / total number of working hours in a year

## Current State of EHS Quality Certification

Country	Corporate body/Business place	Location	Awards and certifications		
			Eco-friendly management	Safety and health	Quality assurance
Korea	Ulsan Factory	Ulsan	ISO14001	OHSAS18001, KOSHA18001	ISO 9001, IATF16949
	Cheongju Factory	Cheongju	ISO14001	OHSAS18001, KOSHA18001	ISO 9001
China	LG Hausys Tianjin Co., Ltd.	Tianjin	ISO14001	-	ISO 9001, IATF16949
	LG Hausys (Wuxi) Co., Ltd.	Wuxi	-	-	ISO 9001
USA	LG Hausys America, Inc.	Atlanta	-	OHSAS18001	ISO 9001, IATF16949

\* ISO 9001: The international standards for a quality management system published and organized by the International Organization for Standardization.  
IATF 16949 (International Automotive Task Force) : The international standards for quality management in the automotive industry.

## Affiliates

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

## Global Human Rights and Labor Law

Under the corporate management principle, "People-Oriented Management," LG Hausys fulfills its fundamental responsibility to uphold human rights and the right to freedom and happiness. LG Hausys supports the international standards of human rights and labor principles from related international organizations including the UN and the International Labor Organization (ILO) and complies with the laws of the countries we operate in. LG Hausys applies the policy on all overseas business sites, and also continuously monitors and reduces any risks regarding human rights. Furthermore, LG Hausys shares the policy with our stakeholders including employees, customers and suppliers and contributes to improving and expanding their awareness of the policy.

 <b>Respect for Human Dignity</b>	LG Hausys respects all employees and strives to create a secure working environment by prohibiting workplace violence, including abusive language, psychological or physical coercion, etc.
 <b>Avoidance of Forced Labor</b>	LG Hausys prohibits all forms of involuntary labor including forced labor and restriction of psychological and physical freedom of employees. Original copy of identification, passport, and work permits are not requested upon hiring.
 <b>Prohibition of Child Labor</b>	LG Hausys complies with the local laws on the minimum age of employment, and prohibits child labor below the age of 16. Employees under the age of 18 will not be permitted to carry out tasks that jeopardize their health or safety, including night shifts and overtime work.
 <b>Non-Discrimination Policy</b>	LG Hausys provides equal opportunities for hiring, promoting, remunerating and training. We strictly prohibit all forms of discrimination including gender, age, race, religion, labor union activities, disability, pregnancy, marital status, and social status.
 <b>Working Hours</b>	LG Hausys complies with local laws on working hours such as business hours, overtime and holidays and shall not force employees to work overtime. Employees are to be paid based on labor laws when working overtime.
 <b>Wages and Benefits</b>	All employees are to be paid above the minimum wage prescribed by local laws.
 <b>Freedom of Association</b>	LG Hausys respects the employee's freedom of association and collective bargaining in accordance with local labor laws and employees can communicate with management regarding their working conditions without any fear of discrimination or retaliation. Employees will not be disadvantaged for joining, participating, or organizing labor unions.

# Independent Assurance Statement

## To: LG Hausys Stakeholders

Pursuant to the request for third-party assessment by LG Hausys ("Client") ("assessment service"), Korea Productivity Center ("Assessor") hereby submits the third-party assurance statement on its '2019 Sustainability Management Report ("Report").

### Responsibility and Independence

The information and opinions, described in the Report, were directly written by the Client. The Assessor, the independent assessment institution, was not involved in the writing of the Report, and shall only be responsible for maintaining an objective attitude in its assessment service for assessing the prior written report. The Assessor has no interests in the Client that could hamper the independence of its assessment service.

### Assessment Criteria and Method

The Assessor reviewed whether the Client complied with the four principles of inclusivity, materiality, responsiveness, and impact presented by AA1000AP (2018). Based on the four-principle composition method,<sup>1</sup> we carried out the assessment service. On the basis of documents and information presented by the Client and in the field interviews, we checked all indicators and information specified in the Report to confirm their balance, comparability, accuracy, timeliness, clarity, and reliability.

The assessment service was carried out using the following method.

- We confirmed whether the Report met the requirements of the core 'in accordance' criteria under the GRI Standards.<sup>2</sup>
- We confirmed whether the Report complied with the principle of determining the report content and quality presented by the GRI Standards.
- We confirmed whether the Report properly dealt with the key topics for the Client and its stakeholders.
- We confirmed the grounds of major data and information through field assessment. We also confirmed the reported indicator processes and system through interviewing relevant staff.
- We checked the suitability of the contents described in the Report and the errors of expression therein by comparing it to other sources.

### Limitations

- The scope and boundary of the assessment service follow the report's temporal, regional, and value chain reporting boundary. Accordingly, the scope of the assessment service fully met the consolidated revenue criteria, and the data on the supply chain was not included in the scope of assessment unless otherwise noted.
- In regards to the environmental and social performance data, in the case of actual values, the reliability of data collection and calculation process, as well as the accuracy of the collected baseline data were confirmed. Additionally, in the case of the calculated values, the rationality of the assumption and calculation process was confirmed. For financial data, consistency was confirmed with the financial statements audited by external auditors, disclosure data, and the like.
- We carried out the field assessment targeting the HQ of Samsung Fire & Marine Insurance based in Seoul. We also indicated that if additional assessment procedures are conducted in the future, results may differ.

### Assessment Results

The Assessor offers its assurance statement on whether the principles of inclusivity, materiality, responsiveness, and impact under the AA1000AP (2018) were properly met as follows.

#### Inclusivity: Stakeholders' Engagement

The Client ensures comprehensive stakeholders' engagement in relation to the issue of sustainability management. We confirmed that the Client defines the five categories of its major stakeholders as shareholders/investors, suppliers, customers, communities, and employees, and reflects their opinions and their major interests in its management policies through the communication channel of each group.

#### Materiality: Selection and Report of Major Issues

We confirmed that the Client organizes its sustainability management issues with 15 items, including the international standards for sustainability management GRI Standards, ISO26000, DJSI, to issues derived from media analysis, benchmarking of the same industries, etc. Furthermore, the Client analyzed the opinions of internal and external stakeholders, among other materiality evaluation, to determine the final six core issues, which we confirmed were reflected in each page of the Report in a balanced manner.

1. Composition Method (Format) : AA1000AP (2018) presents the four principles each (inclusivity, materiality, responsiveness, and impact) according to Principle Statement, Key Definitions, Discussion, and Required Adherence Criteria.

2. GRI 'In accordance' criteria : The GRI Standards divides the GRI report 'in accordance' criteria into 'core' and 'comprehensive' criteria. The core 'in accordance' criteria can be met by reporting part of general disclosures, the management approach (MA) of all identified aspects (Material Topics), and special disclosures of one or more topics.

#### Responsiveness: The Organization's Response to Issues

We confirmed that the Client identifies major expectations that may impact the performance of stakeholders so that they conduct activities in response to the identified issues, and that the corresponding contents were properly described in the Report. In particular, the Client clearly discloses its activities by issue through its approach to important issues, performance, and plans.

#### Impact: Consideration of the Organization's Impacts on Society

Considering the organization's impacts on the society, the Client sets boundaries on the impacts of major issues. We recommend that the Client should attempt to assess the impact measurement indicators in order to upgrade the measurement of social impact in the economic, social, and environmental categories.

We confirmed that the Report, as well as the written General Disclosures, met the requirements of the core 'in accordance' criteria (core option) of the GRI Standards. We confirmed that the topic-specific disclosures were determined through a systematic report item determination process according to the materiality evaluation results.

We confirmed that the MA (management approach) reported on the following material topics, and topic-specific disclosures met the requirements of GRI Standards.

Core Issues	GRI Topics for Response	Topic-specific Disclosures
Management Performance and Strategy	201 Economic performance	201-1 Creation and distribution of direct economic values
Providing a Safe Environment Within the Workplace	403 Industrial health and safety	403-2 Type of injury, injury occurrence rate, occupational disease incidence, the rate of days off, absence rate, and number of deaths related to work 403-4 Matters of safety and health to formal agreement with trade unions
Securing Product Quality and Safety	416 Customer health and safety	416-1 Violation of regulations on the safety and health impact of product and service groups
Shared Growth with Suppliers	308 The environmental evaluation of supply chain 414 The social evaluation of supply chain	308-1 Percentage of new suppliers that have passed the environmental standards review 414-2 Major negative social impacts in the supply chain and corresponding corrective actions
Development of Products that Satisfy Customers	417 Marketing and labeling	417-2 Violations of the laws and regulations on compliance with product service information and labeling

With respect to LG Hausys' other indirect greenhouse gas emissions (Scope 3) for 2017, the Assessor confirmed the waste that was generated by the products and services purchased through its Spread Sheet (MS-Excel), other indirect greenhouse gas emissions estimation tools, by its downstream leased assets, and the process of its upstream and downstream transportation and logistics operation. We also confirmed the emissions generated by its employees' commuting. As part of the assessment process, we identified the following and found nothing that could seriously impair the estimation of emissions.

- LG Hausys' estimation tool for other indirect greenhouse gas emissions: Calculation formula, emission factor
- Interviews with relevant staffers regarding information on the other indirect greenhouse emissions/data gathering process of LG Hausys'

### Recommendations

The Assessor recommends the following to the Client.

- The Client has adopted the non-financial information criteria which was recently restructured into the GRI Standards to establish clear common criteria, thus improving the quality of reports. We recommend that you should further upgrade the detailed indicators to reflect them in the Report.
- In order to ensure sustainable growth and development as corporate evaluation factors, it is essential to measure and manage the social-environmental impacts caused by corporations. We recommend that you select important indicators according to the flow of the impact evaluation steps, which are comprised of Input, Activities, Outputs, and Outcomes, and establish a system designed to use the constructed qualitative and quantitative data in assessing long and mid-term corporate impact.



June 2019  
Noh Kyu-sung, KPC Chairman  
Kim Dong-su, Center Head | Lee Yang-ho, Team Head | Lim Ji-sung, research fellow

노기성 D.S. Kim [Signatures]

# GRI Standards Index

## General Disclosures

Classification	Index	Description	Page	Note	
Organizational Profile	102-1	Report the name of the organization	8-11		
	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	40		
	102-6	Report the markets served	8-10		
	102-7	Report the scale of the organization			
	102-8	Report information on employees and workers	57		
	102-9	Describe the organization's supply chain	34-35		
	102-10	Report any significant changes in the supply chain	-		No significant change in organization and supply chain
	102-11	Report prevention principles and approach	16		
	102-12	List external initiatives	64-66		
	101-13	List memberships of associations	60		
Strategy	102-14	Provide a statement from the most senior decision-maker of the organization	12-13		
	102-15	Provide a description of key impacts, risks and opportunities			
Ethics and Integrity	102-16	Describe the organization's values, principles, standards and norms of behavior	42-43		
Governance	102-18	Report the governance structure	40-41		
Stakeholder Engagement	102-40	Provide a list of stakeholder groups engaged by the organization	54-55		
	102-41	Report percentage of total employees covered by collective bargaining agreements	46		
	102-42	Report the basis for identification and selection of stakeholders with whom to engage	54-55		
	102-43	Report the organization's approach to stakeholder engagement			
	102-44	Report key topics and concerns that have been raised through stakeholder engagement			
Reporting Practice	102-45	List all entities (subsidiaries and joint ventures) included in the organization's consolidated financial statements	-	Business Report	
	102-46	Define report content and topic Boundaries	54-55		
	102-47	Report list of material topics			
	102-48	Report any restatements of information	-	N/A	
	102-49	Report changes in reporting	2-3		
	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	64-65		
	102-55	GRI Index	62-63		
102-56	External assurance				
103-1	Explanation of the material topic and its boundary	54-55			
Management Approach	103-2	The management approach and its components	20, 26, 30, 34		
	103-3	Evaluation of the management approach			

## Topic-specific Disclosures

Classification	Index	Description	Page	Note
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Economic Performance	201-1	Direct economic value generated and distributed	17	
	201-2	Financial implications and other risks and opportunities for the organization's activities due to climate change	48	
	201-3	Coverage of the organization's defined benefit plan obligations	46	
Market Presence	202-2	Proportion of senior management hired from the local community	57	
<b>GRI 300 Environment</b>				
Materials	301-1	Weight and volume of used raw materials	58	
	302-1	Energy consumption within the organization		
Energy	302-2	Energy consumption outside of the organization	24-25	
	302-3	Energy intensity		
	302-4	Reduction of energy consumption		
	302-5	Reductions in energy requirements of products and services		
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	305-4	GHG emissions intensity		
	305-5	Reduction of GHG emissions		
	305-6	Emissions of ozone-depleting substances (ODS)		
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions		
Effluents and Waste	306-2	Waste by type and disposal method		
Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	-	Business Report
Supplier environmental-assessment	308-1	New suppliers that were screened using environmental criteria	37	
<b>GRI 400 Society</b>				
GRI 400 Society	401-1	New employee hires and employee turnover	57	
	401-3	Parental Leave	57	
Occupational Health and Safety	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	59	
	403-4	Health and safety topics covered in formal agreements with trade unions	46	
Training and Education	404-1	Average hours of training per year per employee	57	
	404-2	Programs for upgrading employee skills and transition assistance programs	44-45	
	404-3	Ratio of employees receiving regular performance and career development reviews	57	
Local Communities	414-2	Operations with local community engagement, impact assessments, and development programs	37	
Supplier Social Assessment	413-1	Negative social impacts in the supply chain and actions taken	49-52	
Customer Health and Safety	416-1	Incidents of non-compliance concerning the health and safety impacts of products and services	26-29	
Marketing and labeling	417-2	Violations of the laws and regulations on compliance with product service information and labeling	-	0 case

# 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.	37, 46, 61
	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.	44-46
	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 ecofriendly products through energy-efficient products.	47-48
	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.	42-43

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MEMBER OF  
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