

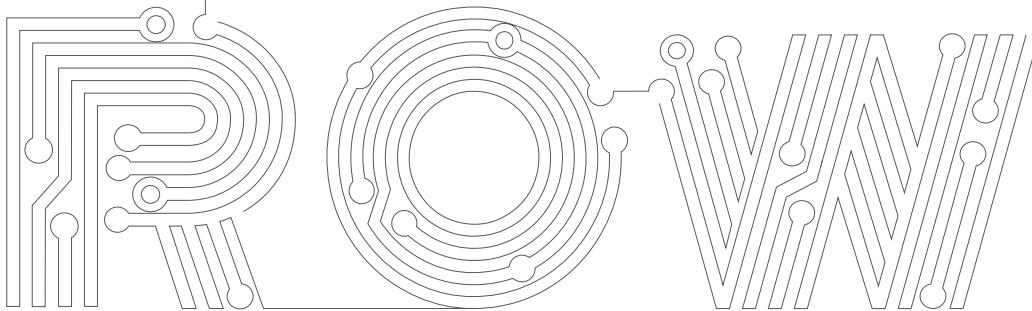
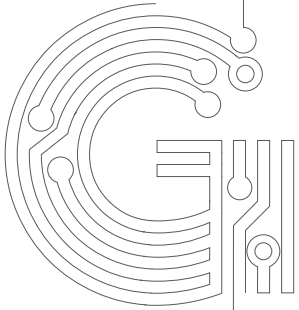
# LIFE'S GOOD

WITH

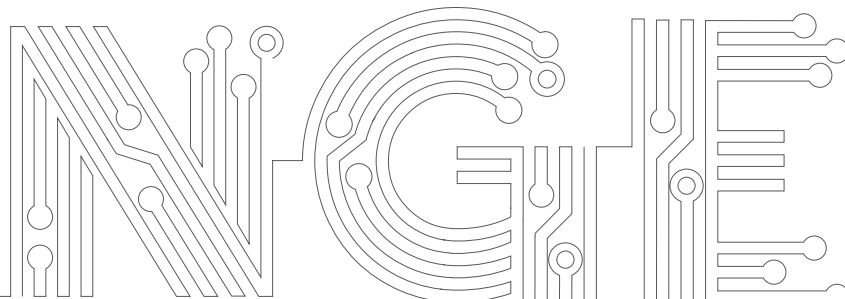
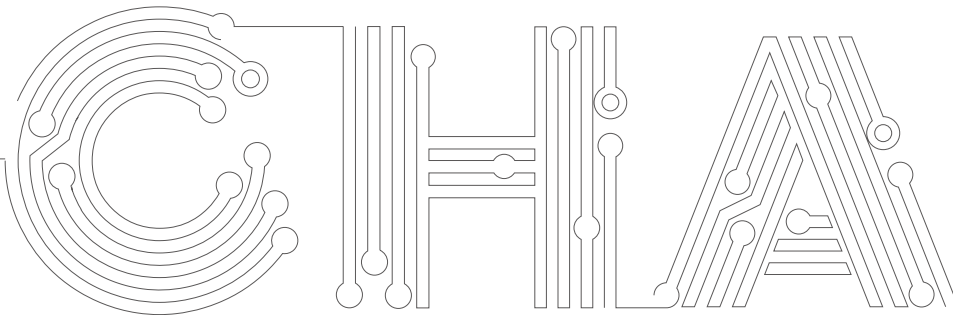
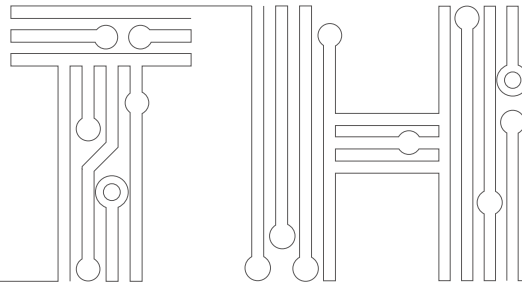
# LG

"Life's Good with LG" is the official CSR slogan of LG Electronics and conveys our earnest desire for comprehensive communication with stakeholders about our CSR efforts in a variety of areas.

2018-2019 LG Electronics Sustainability Report



**GROWTH & CHANGE  
FOR A BETTER LIFE**



## Report Overview

LG Electronics has expressed our commitment to sustainable growth and change by establishing three mid- to long-term goals for sustainability management and nine major tasks to be achieved by 2020 or 2030.

This report has been compiled for LG Electronics to share our efforts in achieving our sustainability management goals with our stakeholders. It shows in detail the management approach (MA), activities and performances, goals and progress by linking key issues derived from a materiality assessment to the company's sustainability management goals. In the interest of transparency, LG Electronics plans to publish a report every year to disclose our progress in achieving our mid- to long-term sustainability management goals to the stakeholders.

## Reporting Principles and Standards

LG Electronics' 2018-2019 Sustainability Report applies the 'Core Option' of the Global Reporting Initiative (GRI) Standards with appropriate modifications. It complies with 10 principles—in the categories of human rights, labor, the environment, and anti-corruption—of the United Nations Global Compact (UNGC), a non-binding pact which encourages businesses worldwide to adopt sustainable and socially responsible policies and to report on their implementation. In addition, this report satisfies the four principles (Inclusivity, Materiality, Responsiveness, and Impact) of the AA1000APS (Account Ability Principles Standard), including the obligation to explain sustainability management.

## Reporting Period

This report covers activities undertaken from January 2018 to December 2018, including some key activities conducted until the first half of 2019. LG Electronics is fully aware of the concerns of stakeholders and always strives to respond to such concerns.

As for quantitative performance, LG Electronics has included three-year data from 2016 to 2018 to facilitate identification of trends.

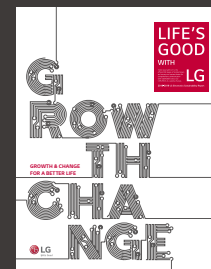
## Scope of Report

This report covers the activities of the headquarters, Korean and international production sites and sales corporations operated by LG Electronics. Consolidated financial information is prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS), and some financial information prepared on a stand-alone basis is presented with a footnote. In the case of social and environmental information, the reporting scope has been annotated in the event of any restriction on the collection of the data.

## Third Party Assurance

This report has been verified by an independent assurance corporation (DNV GL) to ensure the accuracy, objectivity and credibility of the report preparation process and all the information created, and the verification was completed in accordance with international verification standards.

The results of the third party assurance are detailed on pp. 114-115. The financial information provided in this report has been audited by an independent auditor, and assurance on greenhouse gas emissions and energy usage was carried out in accordance with the verification principles such as 'Administrative Guidelines for Operation of Emission Trade System'.



More information on the sustainability management activities of LG Electronics can be found here.  
LG Electronics Corporate Website | <http://www.lg.com>

# 2018-2019 LG ELECTRONICS SUSTAINABILITY REPORT

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# CORPORATE OVERVIEW

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# MANAGEMENT PHILOSOPHY

## LG Way

The LG Way articulates our belief in attaining the vision of becoming the “No. 1 LG” through “Customer - Value Creation” and “People-Oriented Management” as the guiding principle for our thoughts and actions as we stay true to the spirit of “Jeong-Do Management” in our everyday practice.



### Management Principles

Our management principles consist of “Customer - Value Creation” that conveys our business objective and “People-Oriented Management” as our operating principle.

#### Customer-Value Creation

Customer first / Delivery of substantive  
/ Innovation-driven creation

#### People-Oriented Management

Self-management and creativity / Respect for human dignity  
/ Capability development and actualization /  
Performance-based reward

### Behavioral Mode

Jeong-Do Management expresses our commitment for strengthening our fundamental competitiveness continuously and competing fairly as we base our professional conduct and business practices on the ethical management standards articulated by Jeong-Do Management.

#### Integrity

Work transparently according to  
principles and standards

#### Fair Transaction

Provide equal opportunities  
and fair treatment in every  
transactional relationship

#### Fair Competition Based on Merit

Improve capabilities with which one  
can fairly win the competition

Three Core Elements of ‘Jeong-Do Management’



# MESSAGE FROM THE CEO

## Message from the CEO

Using innovative technologies as our foothold, LG Electronics pledges to add higher value to our customers' lives and leap forward as a **sustainable company through our strategies of growth and change**. We promise to contribute to the sustainable development of our society by fulfilling our social responsibility as a global corporate citizen.

To our valued stakeholders:

Structural uncertainties in the global economy, increasing competition in industry, and shifts in technological paradigm with AI (Artificial Intelligence) and big data act as both challenges for sustainable growth as well as opportunities to reinforce fundamental competitiveness of companies. LG Electronics actively responds to the changing industrial environment by launching products to lead the market through innovation and developing new business areas to continuously generate performance. These are the rewarding results of our employees' efforts in challenging the impossible with creative ideas motivated by a common goal- providing our customers with a better quality of life. LGE plans to further explore and implement proprietary methods to generate revenue from our key businesses, and through improved efficiency, concentrate existing resources on new growth businesses to secure a basis for long-term growth. To this end, LG Electronics will abide by the following three policies to fulfill its social responsibilities.

**First,**  
**LGE will strengthen the quality of its business portfolio to transition into a profit-guaranteed, growth driven business.**

LG Electronics will continue to strengthen its key profit-producing businesses by identifying differentiated customer values, and create substantial results by investing sufficient resources into new businesses to lead the growth of the company.

We will rapidly expand our sector of future technologies such as AI, robots, big data, and 5G by staying ahead of the game in discovering possibilities and escalating commercialization. In order to provide customers with new experiences in the era of the 4<sup>th</sup> Industrial Revolution, characterized by a hyper-connected and super-intelligent society, LGE will focus on its internal capabilities and utilize our strengths while enhancing synergy through external cooperation to establish a leading system for this era of convergence. In addition, LG Electronics will preemptively provide products and services that provide user-friendly environment and functions to satisfy the various needs of its customers, and continue to strengthen its position as a premium brand by introducing differentiated values and designs throughout our businesses.



**Second,**  
**LGE will establish a corporate culture where employees never stop striving even in the midst of failure.**

Based on our bold attempts to change the mindset of our employees, LGE hopes to foster a young, energetic corporate culture where employees endeavor to become the global No. 1. LGE will motivate all employees to freely communicate, actively propose ideas for organizational change, giving them the ability to help us achieve our goals. Furthermore through the pursuit of work-life balance, LGE will enhance work efficiency and create a working environment where the employees can demonstrate their creativity and professionalism.

**Lastly,**  
**to become a 'company that creates a better life for everyone', LGE will carry out sustainability management activities for the creation of social and environmental value.**

LG Electronics intends to create sustainable social and environmental value through its mid-to long-term goals in sustainability management, established last year. LGE will demonstrate its top competence in areas where it can deliver its best performance, including product development, the establishment of carbon neutrality and circular systems, the creation of high-quality jobs and social contribution activities. In addition, LG Electronics will fulfill its social responsibilities through compliance and by staying true to the spirit of Jeong-Do Management, a basic commitment to customers and society.

Dear stakeholders,

At this moment, LG Electronics is striving to create value for its customers and fulfill its social responsibilities to become a 'Global LG'.

Your trust and interest have helped LG Electronics achieve steady growth and strengthen our business base. LG Electronics will make its utmost efforts to become a company that meets the expectations of stakeholders by strengthening its competitiveness, preparing for a changing world, and carrying out sustainability management activities.

Thank you!

June 2019  
Vice Chairman & CEO

**Seong-Jin Jo**

A handwritten signature in black ink, appearing to read 'Seong-Jin Jo', written in a cursive style.

# MESSAGE FROM THE MANAGEMENT

LGE will utilize various disclosure channels, such as this sustainability report, to proactively share non-financial information with all stakeholders and consistently convey our sustainability management policies and messages.

Sustainability management has emerged as a new business paradigm, breaking away from the former model of shareholder-oriented profitability management. Since then, international conventions related to corporate social responsibility that companies voluntarily comply with have turned into regulatory authorities with international standards and guidelines. They have also begun to act as trading conditions in the economic bloc. In addition, investment institutions, regulatory authorities and corporate clients require the disclosure of non-financial information such as sustainability management performance and risks, while service providers in capital market are introducing a system to assess corporate levels of social responsibility. Acknowledging that non-financial information has a significant impact on the decision-making process of various stakeholders including customers, LG Electronics strives to disclose our risks, opportunities, and goals and achievements in the fields of economy, the environment and society in a transparent manner.

In particular, LGE has established mid- to long-term goals for sustainability management in order to meet stakeholder interests and expectations in the sustainable management of our company. To that extent, we have unveiled our goals and progress in this sustainability report as part of our efforts to create an intelligent lifestyle for everyone, a zero carbon and circular economy and a better society.

LGE recognizes the role of our company in fulfilling the social responsibilities required for creating a better life, intends to implement sustainability management based on our integrity and reliability in order to expand our current achievements and build future success. Moreover, LGE will utilize various disclosure channels, such as the sustainability report, to proactively share non-financial information with all stakeholders and consistently convey our sustainability management policies and messages.



President **David Jung**  
CFO (Chief Financial Officer)



President **I.P. Park**  
CTO (Chief Technology Officer)

Through creative and innovative challenges, LGE aims to improve the lives of people and become a company loved by customers and society. LG Electronics will fulfill our **social responsibilities with a clear value of creating a better life.**

LG Electronics operates on the principle of 'people-oriented management', providing employees with fair opportunities to show the extent of their capabilities and rewarding top performers with the highest compensation.

Under this management principle, LGE seeks to encourage its employees to grow with the company by fully leveraging their abilities, creating a vision for the future, and enriching not only the lives of its employees but also the overall quality of life for society by reforming the way we work to create a work-life balance.

LG Electronics seeks to create a workplace where human talent creates new value without fear of rapid changes in industry or the environment.

LGE also strives to create new value through its objective and impartial HR system under which the company induces innovation in the organization and its employees, and encourages them to exhibit their competencies in every field.

LG Electronics intends to earn the admiration of society by fundamentally improving the lives of its customers through creative and innovative challenges. We recognize that each of our employees is an important asset to society and the nation beyond the company, and we will fulfill our social responsibilities as a global corporate citizen by creating a better life for the people.

Senior Vice President **Chul-Yong Park**  
CHO (Chief Human Resource Officer)



We will present a new lifestyle to our customers in all spheres of life and **explore** new business models that utilize innovative technologies including **Big Data, Cloud, AI, software and others.**

LG Electronics is growing as a lifestyle innovator—a company that creates new lifestyles, not just products. By adding innovative technologies such as AI, cloud services, connectivity, software, and big data to the company's experience and insights as well as our diverse product portfolio accumulated over the past 60 years, we wish to create a new lifestyle for customers at home, on the road and in the office.

To this end, LG Electronics launched LG ThinQ, an AI brand, at the end of 2017. LG ThinQ's vision can be summarized in three terms: 'Evolve', 'Connect', and 'Open'. 'Evolve' is the concept of AI providing optimized functions to suit customers' habits, lifestyle patterns, preferences and moods by learning from their usage of a product. 'Connect' conveys that all products and services are connected by AI to provide the benefits of intelligence anywhere. 'Open' refers to the application of external partners' solutions and services to LGE products and platforms through open collaboration, thereby providing customers with the best AI experience.

These visions in AI will drive LG Electronics to reach optimization in the field of home appliances. In other words, we will ease the cognitive burdens of our customers by providing the most favorable solutions derived from the wide range of information we have and fulfill the needs of our customers even before they are recognized.

Furthermore, in the era of autonomous vehicles, we plan to provide an 'In-car experience' that encompasses work, entertainment, and even retail so that automobiles not only serve as a means of transportation but as a functional space on the road.

We will achieve a sustainable and efficient Smart City Solution by connecting human beings, objects and space with our AI products and services, ultimately enhancing the quality of life by embedding customer value in all areas of our lives.

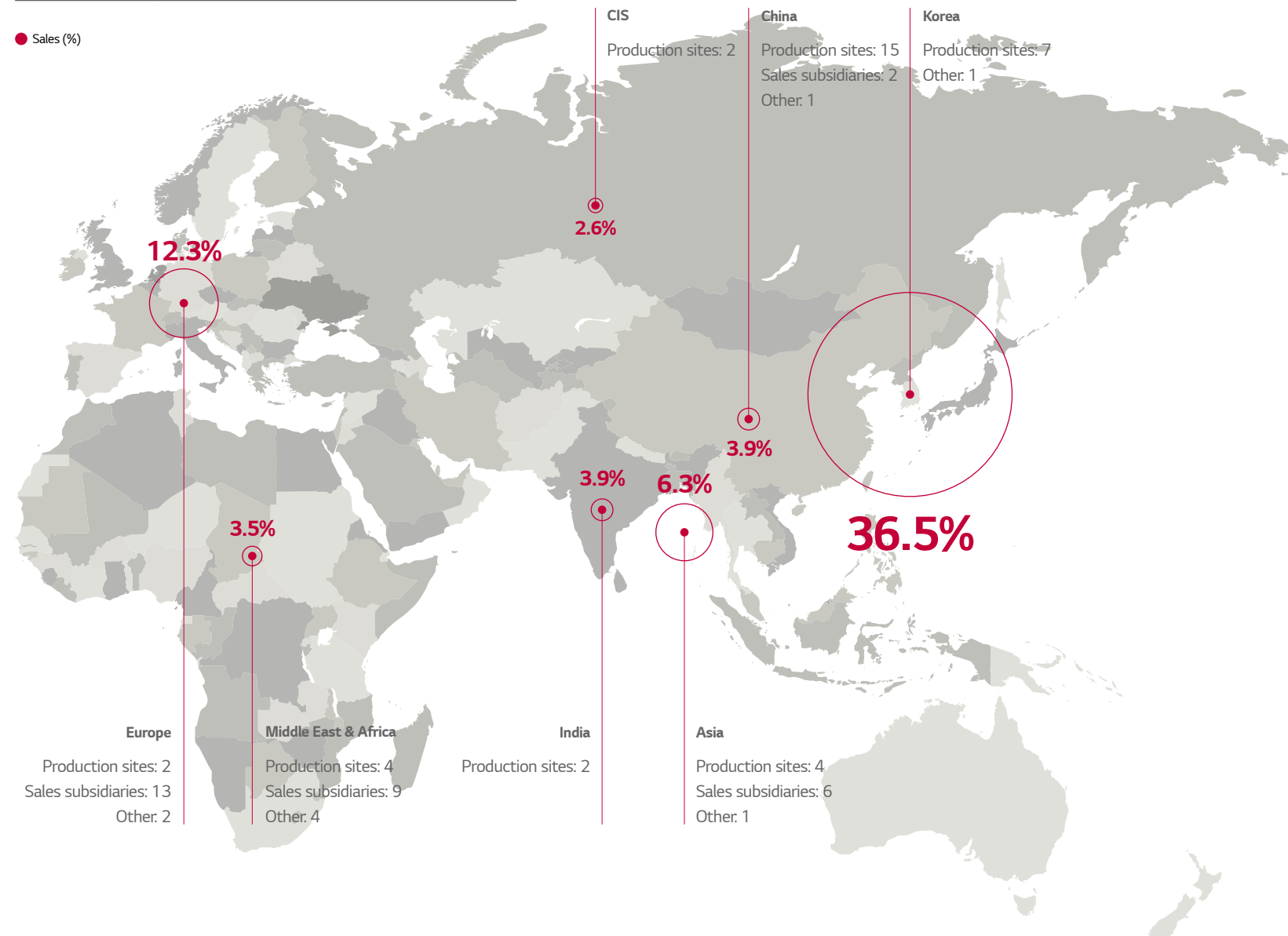


# WHO WE ARE

## Corporate Overview

As a global leader in the IT market, LG Electronics is leading technological innovations in the fields of home appliances, mobile communication devices, electronic devices with sales reaching KRW 61.3 trillion (USD 55.8 billion) in 2018. LGE is composed of Home Appliance & Air Solution (H&A), Home Entertainment (HE), Mobile Communications (MC), Vehicle component Solutions (VS), and Business Solutions (BS). H&A is in charge of home appliances including refrigerators, washing machines, and vacuum cleaners, while HE is responsible for TVs, monitors, digital media products; MC for mobile phones; VS for automobile parts, and BS for displays and solar energy generation modules.

As of December 31, 2018	
<b>Name</b>	LG Electronics Inc.
<b>Location of Headquarters</b>	LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea
<b>Industry</b>	Manufacturing
<b>Major Products</b>	Refrigerator, Washing Machine, Residential/Commercial Air Conditioner, Cooking Appliance, Vacuum Cleaner, TV, Monitor, PC, Stereo System, Video System, Mobile handsets, Automotive Components, Solar Energy System, etc.
<b>President</b>	Seong-Jin Jo
<b>Date Established</b>	October 1, 1958
<b>Credit Rating</b>	S&P: BBB(Stable), Moody's: Baa3(Stable)
<b>Number of Employees</b>	72,612 (37,700 in Korea and 34,912 overseas)
<b>Total Assets (Consolidated)</b>	KRW 44,328.4 billion
<b>Total Liabilities (Consolidated)</b>	KRW 28,021.5 billion
<b>Total Equity (Consolidated)</b>	KRW 16,306.9 billion



## Shareholder Status

Status of Shareholders holding more than 5% As of December 31, 2018, the number of voting shares

Shareholder	Number of Shares	Ownership
LG Corp. <sup>1)</sup>	55,094,582 Shares	33.67%
National Pension Service	14,870,032 Shares	9.09%
BlackRock Fund Advisors	8,243,170 Shares	5.04%

1) Required to hold more than 30% stocks of LGE as a subsidiary according to Fair Trade Act. Kwang-Mo Koo, a CEO of LG group and the largest shareholder holds 15% stocks.

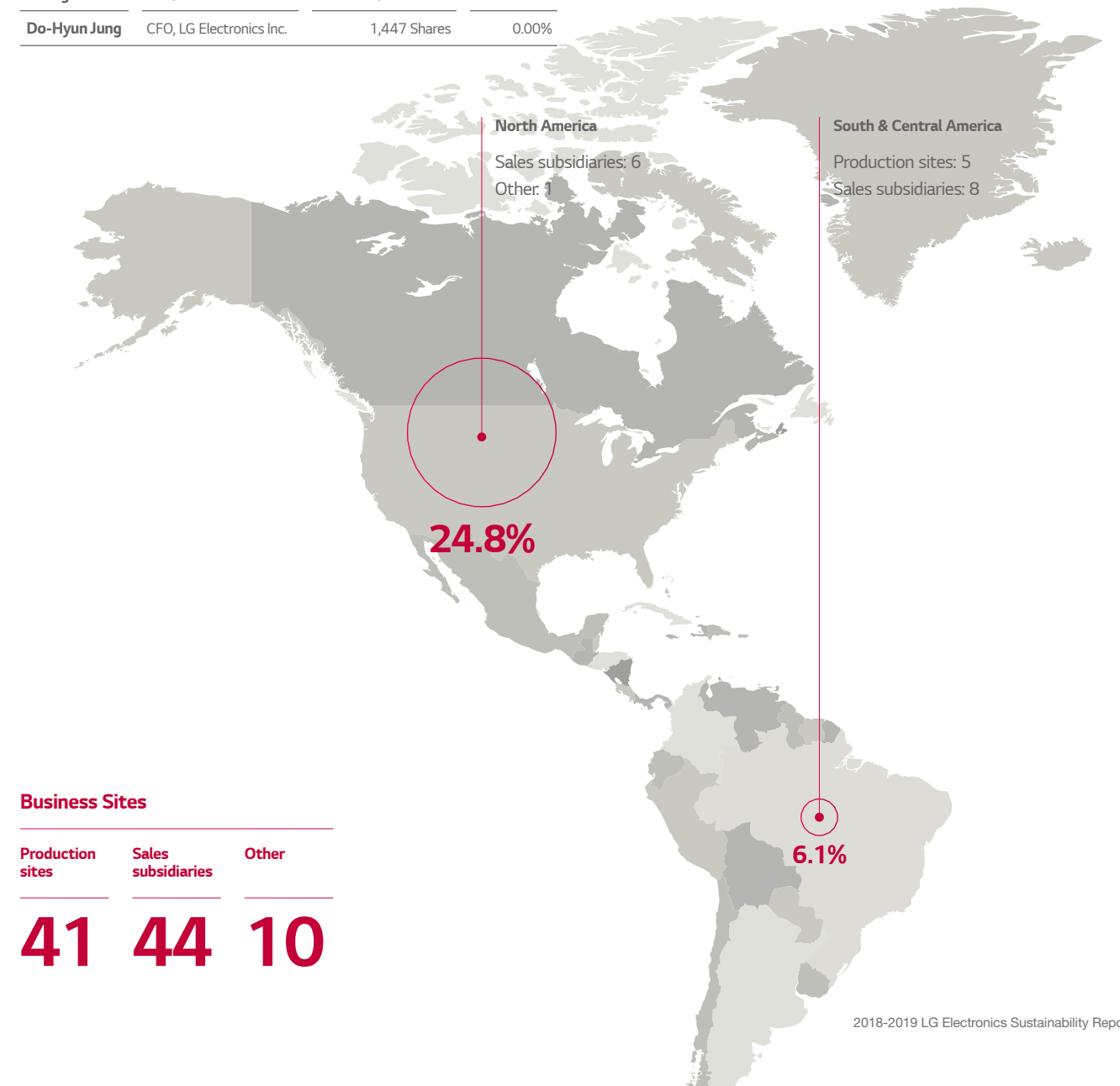
Largest Shareholders and Affiliated Persons As of December 31, 2018

Shareholder	Relationship	Number of Shares	Ownership
LG Corp.	Holding company	55,094,582 Shares	33.67%
Seong-Jin Jo	CEO, LG Electronics Inc.	16,031 Shares	0.01%
Do-Hyun Jung	CFO, LG Electronics Inc.	1,447 Shares	0.00%

## Global Status

As of December 31, 2018

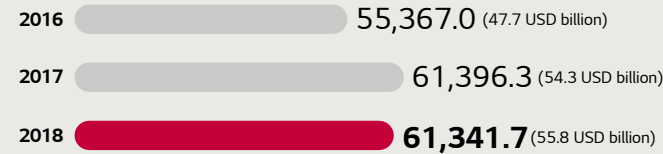
Classification	Sales (Unit: KRW billion)	Number of Employees (Unit: person)
Korea	22,380.0	37,700
North America	15,229.3	3,052
Asia	6,281.9	10,642
Europe	7,564.7	4,483
Central and South America	3,763.3	6,135
Middle East & Africa	2,152.1	1,291
China	2,369.4	7,671
CIS	1,601.0	1,638
<b>Total</b>	<b>61,341.7</b>	<b>72,612</b>



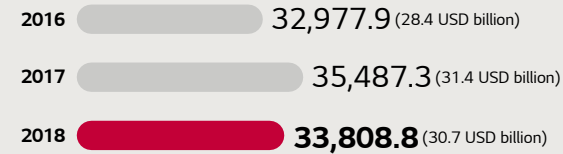
# WHAT WE DO

## Financial Performance and Distribution

Sales (Consolidated / Unit: KRW billion)



Economic Value Distributed (Parent / Unit: KRW billion)



\* 1USD = KRW 1,160 (2016) / KRW 1,131 (2017) / KRW 1,100 (2018)

### Financial Performance (Consolidated)

(Unit: KRW billion)

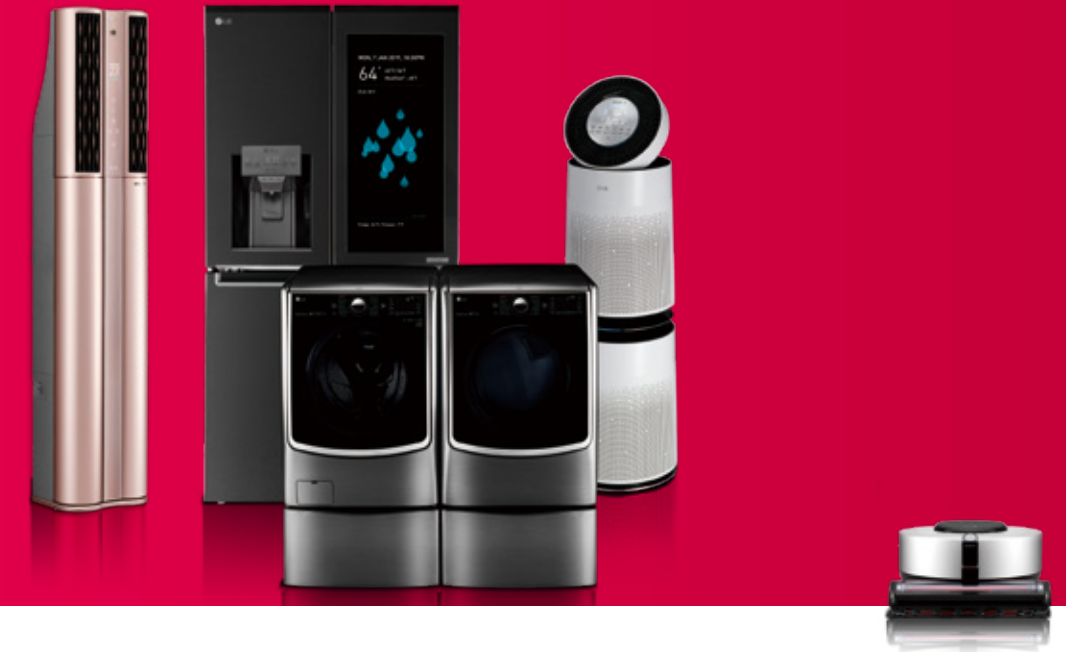
Classification	2016	2017	2018
Net sales	55,367.0	61,396.3	61,341.7
Cost of sales	41,630.3	46,737.6	46,260.6
Gross profit	13,736.7	14,658.7	15,081.0
Selling and marketing expenses	12,399.0	12,190.2	12,377.8
Operating income	1,337.8	2,468.5	2,703.3
Financial income	490.5	483.7	487.4
Financial expenses	884.1	831.1	796.6
Other non-operating income	1,894.6	1,346.6	1,251.6
Other non-operating expenses	2,385.9	1,577.1	1,560.0
Profit (loss) before income tax	721.7	2,558.1	2,008.6
Income tax expense	595.4	688.6	535.8
Profit (loss) for the year	126.3	1,869.5	1,472.8

### Economic Value Generated, Distributed and Retained (Parent)

(Unit: KRW billion)

Classification	2016	2017	2018
Sales	28,743.2	31,966.5	29,982.0
Non-operating income and financial profits	116.2	71.3	(420.2)
Economic value generated	28,859.5	32,037.8	29,561.8
Operating expenses	29,033.7	31,265.3	29,494.3
Wages & Fringe benefit expenses	3,606.4	3,890.1	3,892.2
Capital costs	299.3	280.6	377.6
Taxes & Dues	32.3	36.4	37.1
Donations	6.2	17.1	7.6
Economic value distributed	32,977.9	35,487.3	33,808.8
Economic value retained	(4,118.4)	(3,449.5)	(4,246.9)

# H&A Home Appliance & Air Solution



Our Home Appliance business is making great leaps toward becoming a global No.1 home appliance provider by improving our cost competitiveness while securing differentiated products, especially large-capacity and high-efficiency products based on core parts technology, and developing customized products for every market.

Our Air Solution helps us secure product competitiveness through production innovation and launch of new products based on a global production network. Through chillers, smart grids, and an ESCO (Energy Service Company) that provides integrated energy solutions for technologically-competitive and energy-efficient home and commercial air conditioners, LGE is providing differentiated energy saving solutions.

Recently, LGE has launched home appliances that improve the convenience and richness of our customers' lives through preemptive responses to the rapidly changing technological trends. The products and AI monitor the condition of the customer and the surrounding environment, communicating with the customer in real time and providing optimized solutions for a smart home. In the healthy home appliances sector, LG Electronics is reflecting customer needs by expanding our brand to focus on the theme of clean air, clear water, and fresh food. In addition, LG Electronics plans to initiate new growth businesses such as robots and drones to achieve sustainable growth based on our core technologies in consumer electronics.

LG Electronics is committed to leading the global consumer electronics market while earning the trust of customers by developing and launching products that meet the basic requirements of smart use, convenience and quality while considering impacts on health, environment and society.

Sales (Consolidated)

**19,362.0** <sup>KRW billion</sup>  
17.6 <sup>USD billion</sup>

Portion of Sales (Consolidated)

**31.6%**

Head of H&A Company | President - Dan Song





## HE Home Entertainment



Sales (Consolidated)  
**16,208.3** KRW billion  
 14.7 USD billion  
 Portion of Sales (Consolidated)  
**26.4%**

Our Home Entertainment (HE) company has strengthened its position in the industry as a total solution provider that meets customer needs. We are continuing to launch differentiated and market-leading products centered on TVs, our flagship product group, and expanding our market-share of other existing products. LGE has built a high-end brand image with the launch of the world's first OLED TV and the expansion of its sales while leading commercialization by releasing entry-level models of high-definition, ultra HD TVs. In addition, LGE is striving to lead the market by introducing innovative products and strengthening product competitiveness in smart TVs, the AV and commercial business sectors.

LG Electronics is expanding its products and services to move customers and gain their trust. In particular, LGE is applying optimized AI technology to each product and service to provide the best experience for customers while using them. LG Gram, which has received excellent reviews not only for its performance, display and ergonomic design but also for its portability and versatility, and LG Artificial Intelligence TV, which recognizes natural speech by analyzing customers' life patterns and language habits, are the results of our efforts to enhance customer value. We are committed to providing new experiences and values to ensure that LG Electronics Home Entertainment (HE) products and services will always be at the forefront of our customers' minds.



Head of HE-MC Company | President - Bong-Seok Kwon

## MC Mobile Communications



Our Mobile Communication (MC) company delivers unique products equipped with superior hardware capabilities, innovative technologies and outstanding design to greatly enhance customer value. LGE smartphones offer differentiated designs and multimedia functions in line with market trends. We are constantly striving to give our customers the best experience by applying our innovative ideas to functions frequently used by customers in real life. In addition to smartphones, we are working as a core partner of Google, a global IT company, in the field of future mobiles. LGE will focus on research and the development of core technologies for next-generation product development and strengthen our leadership in smartphones and other new smart devices.

In order to reshape the mobile market, we are developing products that are differentiated in terms of design, performance and function. LGE will enhance customer value with products that fully realize our core technologies and capabilities, reflecting trends in the mobile market and customer needs. Mobile products spread the 'connectivity' of LG Electronics by acting as a hub to connect products used in all living spaces. We are strengthening our processes for verifying the performance and safety of products in order to resolve recent concerns over quality-related accidents and the leakage of personal information from mobile products. At the same time, by enhancing durability and upgrading our OS, LGE will prolong the life cycle of products, thereby reducing our impact on the environment and allowing customers to use their mobile products for longer periods of time.

Sales (Consolidated)  
**7,980.0** KRW billion  
 7.3 USD billion  
 Portion of Sales (Consolidated)  
**13.0%**

## VS Vehicle Component Solutions



Sales (Consolidated)  
**4,287.6** KRW billion  
 3.9 USD billion  
 Portion of Sales (Consolidated)  
**7.0%**

Our Vehicle Component Solutions (VS) company produces global top-tier vehicle components under our vision of 'Innovation Partner for Vehicle Electrification'. In the telematics sector, LGE maintains a stable market share by preemptively responding to LTE technology for vehicles based on the communications capabilities of its mobile business. In terms of display audio and navigation, we are utilizing our display and software capabilities for product differentiation.

Sustainability management represents activities implemented for continuous generation of value for all stakeholders, including customers. Our VS Company is strengthening its system and capacity to respond to changes in market demands and social/environmental risks in order to develop into a global vehicle components producer. Increased calls and regulations for the reduction of greenhouse gas emissions and the improvement of air quality have scaled up the growth potential and size of electric vehicles. LG Electronics desires to become a leading company in EV driving systems based on our technological expertise in motors, inverters and compressors that we have accumulated over 60 years in the electronic home appliance sector. Also, based on the market demand that comes with the creation of customer value and enhancement of user experience, LGE will concentrate our research and development on parts to enhance the infotainment functions and productivity of autonomous vehicles.



Head of VS Company | Vice President Jin-Yong Kim

## BS Business Solutions



Our Business Solutions (BS) company is a business partner that provides cutting-edge products and solutions to corporate clients worldwide. Building on our global market-leading 'OLED Signage' and 'Video Wall', LG Electronics is recreating the space of customers. At the same time, LG Electronics provides new customer value in the energy sector with our high-efficiency solar modules, Energy Storage System (ESS), and Energy Management Solution (EMS). Moreover, we are delivering integrated solutions customized to given spaces such as homes, buildings, hotels, and complexes in order to grow together with our customers.

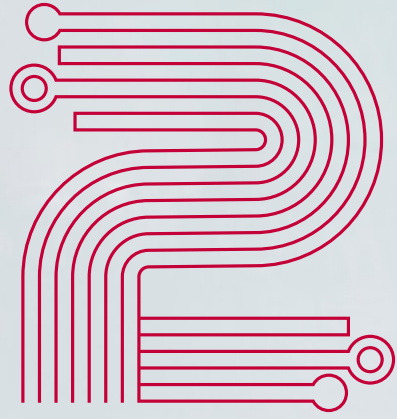
Our Business Solutions company provides a total solution that enables customers to use and control the products and services of LGE more efficiently in order to deliver the value of convenience and comfort to our customers. LGE will create synergy by utilizing our core technologies and capabilities to provide solutions that meet the expectations and needs of B2B and B2C customers. LG Electronics is expanding its investment in the photovoltaic power generation business, anticipating the global agenda in the renewable energy sector and future demand. We are concentrating on the development of technologies to improve the efficiency of solar cells, modules, and energy storage systems (ESS). In addition to producing solar power panels, we are striving to expand the application of solar power generation such as photovoltaic power generation using the outer walls of buildings and the sunroofs of vehicles.

Sales (Consolidated)  
**2,405.7** KRW billion  
 2.2 USD billion  
 Portion of Sales (Consolidated)  
**3.9%**



Head of BS Company | President - Soon-Hwang Kwon





# SUSTAINABILITY COMMITMENTS

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Mid- to Long-term Goals for Sustainability Management	020
Intelligent Life	022
Healthy Life	028
Green Business	032
Zero Carbon	036
Product Responsibility	040
Circular Economy	048
Sustainable Supply Chain	052
Decent Workplaces	058
Social Contribution	064





# MID- TO LONG-TERM GOALS FOR SUSTAINABILITY MANAGEMENT

LG Electronics has grown into a global leader of innovation in the home appliances, mobile communications and consumer electronics sectors. We present three mid- to long-term goals related to the economy, society and the environment, and nine major tasks to create a better life for our various stakeholders, including customers, environment, suppliers, local communities and employees, and to become a corporation that continuously improves itself through growth and change.

Based on our management principles of 'Customer-Value Creation', and 'People-Oriented Management', LG Electronics plans to promote three mid- to long-term goals for sustainability management: promoting intelligent lifestyles, becoming carbon neutral and achieving a circular economy. That way, we can create a better society.

## COMMITMENTS

## GOALS

## RELATED UN SUSTAINABLE DEVELOPMENT GOALS (SDGS)

## SPECIFIC TARGETS

### 1 Promoting Intelligent Lifestyles

LG Electronics plans to deliver 'intelligent lifestyles' by launching innovative products for consumer health, while also offering more convenient and accessible connections between people and things and expanding green business.

#### Establish Intelligent Living Environment

LG Electronics improves the lives of our customers by providing more easy-to-use products using AI and future technologies.



- Improve the lives of customers by providing more easy-to-use products applying AI and future technologies. (Create a better living environment by establishing intelligent connectivity and adding more emphatic value to products and services.)

#### Pursue Healthy Life for Customers

LG Electronics supports customers in living healthy lives by launching cutting-edge and innovative products in tune with social and environmental changes.



- Support customers' desires to live a healthy lifestyle by launching cutting-edge and innovative products in tune with social and environmental changes. (Guarantee a healthy lifestyle geared to customer needs through the convergence of future technologies (hardware, software, AI, 5G, etc.) and consideration of societal and environmental factors.)

#### Expand Green Business

LG Electronics contributes to the creation of a sustainable society through the continuous development of eco-friendly businesses such as renewable energy and EVs.



- Contribute to the creation of a sustainable society through the continuous development of eco-friendly businesses such as renewable energy and EVs. (Ensure sustainable growth in the areas of renewable energy and EVs which is future-oriented, eco-friendly and reflects human values.)

### 2 Achieving Zero Carbon and Circular Economy

LG Electronics plans to pursue carbon neutrality and contributes to the circular economy through the reduction of CO<sub>2</sub> emissions, development of energy efficient products, reduction in the harmful environmental impacts of products, and management of waste from all production stages and usage of products.

#### Pursue Zero Carbon

LG Electronics pursues Zero Carbon by reducing greenhouse gas emissions at the production stage and developing energy efficient products.



- Reduce carbon emissions at the production stage by 50% compared to that of 2017. (by 2030)
- Achieve Zero Carbon through reducing carbon from outside by expanding Clear Development Mechanism (CDM) Business.

#### Reduce the Environmental Impacts of Products

LG Electronics contributes to mitigating the environmental effects of products throughout the processes of raw material collection, production, use, and disposal.



- Obtain 3 Green Stars for 80% of products through an environmental self-assessment by 2030. (Based on the number of development projects)

#### Promote Circular Economy

LG Electronics contributes to the creation of a circular economy by managing waste and e-Waste after the production and use of products.



- Achieve a 95% recycling rate for waste from production sites by 2030.
- Collect a total of 4.5 million tons of e-Waste by 2030. (Since 2006)

### 3 Creating a Better Society

LG Electronics plans to play a leading role in creating a better society by supporting the creation of a sustainable business ecosystem throughout the supply chain and promoting work-life balance, while also creating safer workplaces, encouraging employees to participate in volunteer activities, and contributing more to society by utilizing the company's products and services.

#### Establish Sustainable Supply Chain

LG Electronics creates a sustainability management ecosystem through CSR risk management of the supply chain including raw material sourcing.



- Use 100% Responsible Minerals Assurance Process (RMAP) conformant smelters by 2021.
- Assess CSR risks of all 1<sup>st</sup> tier suppliers and reduce portion of high-risk suppliers.

#### Establish Decent and Safe Work Place

LG Electronics improves the level of employee satisfaction by creating the right work environment for work-life balance.



- Establish a second-to-none (autonomous) safety culture in the manufacturing industry by 2030.
- Ensure that all production sites (100%) are assessed as low risk in CSR self-assessments by 2020.
- Enhance work efficiency and the level of employee satisfaction by achieving work-life balance through fundamental changes in workstyle.

#### Expand Contribution to the Local Community

As a responsible global corporate citizen, LG Electronics contributes to enhancing the value of local communities through our products and services.



- Resolve social issues by effectively utilizing the company's technologies and products. (Reach a total of 300,000 beneficiaries by 2030)
- Support stakeholders' growth and independence through partnerships. (Reach a total of 100,000 beneficiaries by 2030)
- Carry out volunteer programs in all countries where LGE operates by 2030.



# OUR FUTURE WITH INTELLIGENT LIFE



Big data, deep learning, artificial intelligence, and 5G communication technology that are being developed during the 4<sup>th</sup> Industrial Revolution contribute to the formation of a hyper-connected society where all things and people are connected. LG Electronics will continue to strengthen our investment in cutting-edge technologies while preparing future businesses centered on smart home IoT and robots to provide new value to customers in line with the entry into a super intelligent and hyper-connected society. LGE will pursue growth in products with AI technologies by planting artificial intelligence learning data on a wide platform and strategically publishing it. Also, we plan to enhance AI functions through cooperation with the outside world to ultimately improve our product competitiveness. By connecting various products and solutions, LG Electronics will contribute to 'the promotion of intelligent lifestyles' through the highest level of AI that provides benefits to customers in their daily lives, anytime and anywhere.

**Head of Quality Management Center**  
Senior Vice President Sung-Hae Jung



LG Electronics constantly introduces products that provide the best solutions with optimal quality tailored to each situation and based on innovative technologies. We are delivering the value of greater user experience, active product management, and optimal service delivery to our customers through products equipped with the AI software LG ThinQ. LG SIGNATURE, our ultra-premium home appliance brand that values design and performance, is receiving positive recognition in the market. In addition, we consider the social and environmental impacts over the total life cycle of our products, including the design and development stages. LGE is actively carrying out eco-friendly product development strategies such as eliminating health risks, and improving energy and resource efficiency. LG Electronics is constantly striving to make customers feel comfortable and add convenience in their daily lives, and give every customer the opportunity to pursue a better life by suggesting an intelligent lifestyle through our products and services.



## Target: Improve the Lives of Customers by Utilizing AI and Future Technologies

LG Electronics will achieve continuous growth and bring about dramatic change in customers' lives through the launch of intelligent products based on our strong AI leadership and competitiveness in actively responding to the development of hyper-connective technology, in which all things are intelligently intertwined. We will continue to enhance technology to connect products and solutions in a harmonious way, leading innovative changes in software that encompasses platforms, cloud computing, IoT, and AI.

LG Electronics has launched LG ThinQ, an AI brand optimized for customers' lives that allows products and solutions to communicate with each other, utilizes the totality of knowledge that exists, and learns by itself to think about and consider the customers' situation. Through LG ThinQ, LGE will proactively distribute 'human-oriented artificial intelligence' and provide an optimized AI experience for consumer electronics products and solutions that customers use on a daily basis.

### Strategic Direction of 'Think Wise, Be Free' of LGE's Artificial Intelligence (Future lifestyle which LG ThinQ is creating)

<p><b>Allowing Interactive Communication between Home Appliances</b></p> <p>All of LGE's home appliances feature wireless Internet connection (Wi-Fi) to share information and meet the customers' needs.</p>	<p><b>Accessing the Totality of Knowledge and Information about the World</b></p> <p>Home appliances utilize an open platform to show customers required knowledge and information, and are automatically updated to deliver the latest features and services.</p>	<p><b>Allowing Self-learning and Automation of Home Appliance</b></p> <p>Deep learning technology enables home appliances to learn user's habits and the surrounding environment, and operate automatically to provide optimal living conditions for customers.</p>
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## Strategy: Expanding the AI (LG ThinQ) Eco-system

LG Electronics, as a lifecycle innovator creating new ways of life for our customers, provides new lifestyles in all living spaces from homes and roads to public places. At home, LGE intends to offer our customers genuine freedom through AI that provides optimal scenarios by combining data, variables, and information generated by numerous products. By checking the texture of clothes, AI can automatically set the washing course, the amount of detergent, and the drying time, thereby relieving customers from housework and helping them enjoy their freedom. Along with the development of autonomous and connected car technologies, LG Electronics is investing in components such as cameras and radar as well as AI for the autonomous vehicles business. With autonomous vehicles, users can utilize in-vehicle space as a mobile office, a mobile conference room, and a mobile entertainment space, enabling them to overcome the ordinary limits of time and space. In the public spaces, LGE is designing a 'Hyper Connectivity' society

where each building is constantly connected within itself, with other buildings, and with the entire city. Home appliances and power stations can exchange information to optimize patterns of electricity usage, and if digital signage can recognize the surrounding environment and also communicate, urban life will evolve dramatically.

### LGE's Direction in Developing LG ThinQ

<b>Evolve</b>	Artificial intelligence provides optimized functions according to customers' habits, lifestyle patterns, preferences and moods by learning from customers' use of product.
<b>Connect</b>	All products and services are connected to AI to benefit from intelligence anywhere.
<b>Open</b>	LGE applies external partners' solutions and services to our products and platforms to provide customers with the best AI experience.

### Performing Three Open Strategies

LG Electronics is expanding our smart home ecosystem based on three open strategies: Open Partnership, Open Platform, and Open Connectivity. The ultimate goal of LG Electronics is to provide our customers with the best AI lifestyle. To this end, we are willing to accept better services our partners could provide into the development of our products and platforms. In addition, we are seeking for true Open Collaboration through which we carry out R&D with our external partners.

### Results of the Three Open Strategies

<p><b>Open Partnership</b></p> <p>Cooperation with Amazon, Google and others to establish Smart Home utilizing AI</p> <p>Identification of new products and services which are equipped with AI technologies</p> <p>Expansion of partnerships with start-ups and SMEs</p>	<p><b>Open Platform</b></p> <p>Disclosure of Open Source Edition (webOS), a software webOS developed by LGE</p> <p>Attempt to apply new ideas generated by partners to the platform</p> <p>Expansion of the platform to connect to products beyond LG ThinQ<sup>1)</sup></p>	<p><b>Open Connectivity</b></p> <p>Plan to connect LGE's products with the products of other companies utilizing the Open Connectivity Foundation (OCF)</p> <p>Connection of AI speakers and smart refrigerators with other devices developed by other companies</p>
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1) This includes Google Assistant, Amazon's "Alexa" and Naver's "Clova".



**Strategy**  
Launch Products Equipped with LG ThinQ

Since launching air conditioners equipped with spatial learning AI in January 2017, LG Electronics has released major home appliances such as TVs, refrigerators, washing machines, and vacuum cleaners that are merged with AI technologies. In December 2017, LGE launched LG ThinQ, an AI brand, applying our proprietary AI platform (DeepThinQ) and various other AI platforms to products and solutions. LG Electronics operates the 'AI Research Center' where we develop technologies for recognition, reasoning, and sensors for voice, image and learning in order to provide AI that is optimized for our customer's lives. The purpose of LG ThinQ technology is to enhance the experience of customers using LG products, to actively manage products to maintain the best performance, and to provide optimal service for every situation. 'LG ThinQ TV', equipped with LG Electronics' AI platform, finds the video that a customer wants from TV programs, Video On Demand (VOD) services and Over The Top (OTT) services using voice recognition technology. 'LG Whisen ThinQ Air Conditioner' is a more advanced series of the AI-based Whisen brand which learns from the space occupied by people, as well as from the temperature, humidity, air quality, living environment, and the user's language and patterns. In addition, the 'LG TROMM ThinQ Washing Machine' automatically sets washing courses according to the weather and type of clothes. LGE will provide the highest customer value by substantially realizing a smart home service where all AI home appliances are connected to the IoT technology.



Home Appliances Equipped with LG ThinQ AI



LG's CLOi SuitBot

**Product Groups Using LG ThinQ**

Major Products Groups	AI Features	Main Products
<b>Speakers</b>	<ul style="list-style-type: none"> <li>Serve as an AI hub device specialized in the monitor and control of home appliances</li> <li>Connect with refrigerators, washing machines, dryers, air conditioners, air purifiers, robot cleaners, ovens, etc.</li> </ul>	<ul style="list-style-type: none"> <li>LG X-Boom AI ThinQ</li> </ul>
<b>Smartphones</b>	<ul style="list-style-type: none"> <li>Recommend optimal shooting mode, and provide information on the subject of the photo and for shopping.</li> <li>Control key functions through voice commands without switching on the smartphone</li> </ul>	<ul style="list-style-type: none"> <li>LG G8 ThinQ</li> <li>LG V50 ThinQ</li> </ul>
<b>TV</b>	<ul style="list-style-type: none"> <li>Analyze images and select the one with the best quality</li> <li>Analyze input video to eliminate noise and improve brightness, resolution, and dimensions</li> <li>Respond to commands for channel and information searches and program recommendations</li> </ul>	<ul style="list-style-type: none"> <li>LG OLED TV AI ThinQ</li> <li>LG Super-Ultra HD TV AI ThinQ</li> </ul>
<b>Air Conditioners</b>	<ul style="list-style-type: none"> <li>Provide services such as air cleaning and dehumidification by sensing the space and circumstances of the customer</li> <li>Reduce energy usage by automatically controlling the temperature after sensing the environment and usage patterns of the customer</li> </ul>	<ul style="list-style-type: none"> <li>LG Whisen ThinQ Air Conditioner</li> </ul>
<b>Refrigerators</b>	<ul style="list-style-type: none"> <li>Control indoor temperature and humidity by analyzing weather information, and the frequency and timing of door opening</li> <li>Recommend menus and recipes by considering the food inside the refrigerator</li> </ul>	<ul style="list-style-type: none"> <li>LG ThinQ Knock-in Magic Space Refrigerator</li> </ul>
<b>Washing Machines</b>	<ul style="list-style-type: none"> <li>Set washing options automatically to reflect weather conditions</li> <li>Recommend washing options according to the customer's clothes through voice command</li> </ul>	<ul style="list-style-type: none"> <li>TROMM ThinQ Drum Washing Machine</li> </ul>
<b>Guide Robots</b>	<ul style="list-style-type: none"> <li>Provide location information such as a boarding gates for airport users, and escort the customer to his or her destination</li> <li>Provide a multi-language service that includes Korean, English, Chinese and Japanese using our voice-recognition platform</li> </ul>	<ul style="list-style-type: none"> <li>LG CLOi Homebot</li> <li>LG CLOi Guide Bot</li> </ul>



**Strategy**  
Enhance Technical Competencies to Improve Product Accessibility

LG Electronics exerts its utmost effort to prevent the disabled, the elderly, children, pregnant women and others from facing any difficulties in using its products and solutions through the development and improvement of AI platforms and designs. LG Electronics therefore collaborates with various stakeholders to improve accessibility for our customers. LGE welcomes feedback from major customer groups requiring improved accessibility, and works with professional research organizations to resolve accessibility issues. In addition, LG Electronics actively considers accessibility at the product development stage so that customers with

visual, auditory, physical, and cognitive disabilities will not be discriminated against when using the product due to their physical limitations. As such, we are pursuing design without discrimination to enable everyone to utilize our products efficiently. LGE will continue to invest in and research accessibility to maximize the LGE product and solution experience without any restrictions for any customers, including those with disabilities. Customers will be able to enrich their lives with AI and design-enhanced products and solutions.

**Improve Accessibility of Mobile Applications**



LG Electronics is strengthening our design and development activities so that the handicapped and the elderly can access mobile application content as easily as everyone else. LGE implemented our Mobile Accessibility Project,

in cooperation with the Korea Blind Union, in 2018 to enable all customers, with or without disabilities, to use mobile applications downloaded on smart phones, smart TVs, smart appliances, Signature Kitchen Suite, PCs, monitors, Bluetooth speakers and Pocket Photo by following the Mobile Application Content Accessibility Guidelines (KS Standards). In addition, LG Electronics will acquire mobile accessibility certification for Smart ThinQ and Signature Kitchen Suite (as of July 2019). Mobile accessibility certification is judged by items such as 'ease of content recognition', 'ease of application operation', 'ease of understanding by users', and 'robustness', and LGE has received excellent scores for all items.



History of Accessibility Improvement

2013	2014	2015	2016	2017	2018
<ul style="list-style-type: none"> <li>U.S. Accessibility Advisory Group Meeting (2013 ~ present, annual meeting)</li> <li>Participated in the Korea Home Appliance Accessibility Technology and Standards Committee (2013 ~ present)</li> <li>Conducted user tests and collected feedback from disabled users (2013 ~ present): smartphones, smart TVs (Korea, U.S.)</li> <li>Selected as Sprint CEO's recommended product at M-Enabling<sup>1)</sup> Summit (Jun. 2013)</li> <li>Signed an MOU with Korea Blind Union (July. 2013)</li> <li>Launched LG small TV (M2352-PN) for the visually impaired (Jul. 2013)</li> </ul>	<ul style="list-style-type: none"> <li>Supported HCI Society<sup>2)</sup> Accessibility QoLT<sup>3)</sup> competition (Jan. 2014)</li> <li>Korea-U.S. QoLT Accessibility Technology Exchange (Jan. 2014): HERL<sup>4)</sup>, Pittsburgh/Carnegie Mellon University<sup>5)</sup></li> <li>Started home appliance accessibility task (Sept. 2014 ~ present): collected VOC from disabled users (individuals and groups) of home appliances (Korea, North America)</li> <li>Established/operated the Korean Braille manual provision system (2014 ~ present)</li> <li>American Call Center Service for Disabled Customers (2014-present): Braille Manual, Customer Service</li> <li>Supported a training center for daily living at the Nowon Welfare Center in Seoul (Sept. 2014)</li> </ul>	<ul style="list-style-type: none"> <li>Smart TV accessibility testing (NCAM, U.S. 2015-2016)</li> <li>Donated 12,200 TV sets for the audiovisually handicapped</li> <li>All-in-one PC accessibility testing (NCAM, U.S.)</li> </ul>	<ul style="list-style-type: none"> <li>Won a CES 2016 Award (Accessibility Technology): LED TV (65UH7700)</li> <li>Distributed the G4 Manual for the visually disabled (Feb. 2016)</li> </ul> <p><b>1)</b> M-Enabling Summit: Conferences hosted by the US Broadcasting and Communications Commission and the International Telecommunication Union (for the purpose of improving mobile accessibility for the disabled, the elderly, etc.)</p>	<ul style="list-style-type: none"> <li>Won a CES Award (Accessibility Technology): OLED /LED TV (65B7/ 65UJ7500)</li> <li>Donated AI voice recognition LG TROMM washing machines to the Korea Blind Union (Oct. 2017)</li> <li>Participated in the Korea Electronics and Telecommunications Industry Promotion Association (KEA) (Oct. 2017)</li> <li>Sponsored and participated in the Information Accessibility Technology Conference (Nov. 2017)</li> </ul> <p><b>2)</b> HCI Society (Human-Computer Interaction): Korean Society for Human-Computer Interaction  <b>3)</b> QoLT (Quality of Life Technology) Center: Accessibility Research Center for the Disabled funded by the government</p>	<ul style="list-style-type: none"> <li>Implemented the LG Electronics mobile app. accessibility improvement task (Mar. 2013 ~ Apr. 2019)</li> <li>Held a Korea-US workshop with the Accessibility Advisory Group (Washington, DC. Oct. 2018)</li> <li>Sponsored and participated in the Korea Information Technology Accessibility Conference (Nov. 2018)</li> <li>Winner of the 18<sup>th</sup> Ergonomic Design Award (code-zero wireless cleaner T9, LG Pra.L, 4K UHD projector HU80K, 34GK950 gaming monitor)</li> </ul> <p><b>4)</b> HERL (Human Engineering Research Laboratories): University of Pittsburgh Rehabilitation Engineering Institute  <b>5)</b> Carnegie Mellon University (CMU): Best institute for human-computer interaction in the automotive sector.</p>

Products with Improved Accessibility

	LG G8 ThinQ	LG Smart TV	LG G PAD IV 8.0 FHD LTE	LG SIGNATURE Refrigerator	LG TROMM Twin Wash
					
<b>Visual Features (Sight)</b>	<ul style="list-style-type: none"> <li>"Talk Back" screen reader for verbal feedback on screen content and changes</li> <li>Text-to-speech to read out messages</li> <li>Control option for resizing and reorganizing screen content</li> <li>"Touch Zoom" by tapping the screen/magnifying glass</li> <li>High screen contrast/color inversion/shade control/black and white screen</li> <li>Call termination using the power button</li> </ul>	<ul style="list-style-type: none"> <li>Verbal feedback with easy and convenient pitch, volume and speed control</li> <li>Verbal explanation of contents from screen</li> <li>High screen contrast</li> </ul>	<ul style="list-style-type: none"> <li>"Talk Back" screen reader for verbal feedback on screen content and changes</li> <li>Text-to-speech output that reads out messages</li> <li>Control option for resizing and reorganizing screen content</li> <li>Touch-zoom by tapping the screen/magnifying glass</li> <li>High screen contrast/color inversion/shade control/black and white screen</li> <li>Call termination with the power button</li> </ul>	<ul style="list-style-type: none"> <li>Door alarm</li> <li>The Smart ThinQ App tells users when the door is open using a smartphone sound or vibration.</li> </ul>	<ul style="list-style-type: none"> <li>Control washing programs and options with voice recognition</li> <li>Remote control and energy and cycle monitoring with Smart ThinQ</li> </ul>
<b>Hearing Features</b>	<ul style="list-style-type: none"> <li>Caption support</li> <li>Flash alert</li> <li>Turn off all sounds</li> <li>Audio type (stereo/mono)</li> <li>Sound balance (left/right)</li> </ul>	<ul style="list-style-type: none"> <li>Caption support</li> <li>"Clear Voice" to minimize background noise</li> </ul>	<ul style="list-style-type: none"> <li>Caption support</li> <li>Flash alert</li> <li>Volume control (turn off all sounds)</li> <li>Sound type (stereo/mono)</li> <li>Sound balance (left/right)</li> </ul>	<ul style="list-style-type: none"> <li>Push notifications for changes such as an open door or the Fast Freezing feature turning on or off are displayed on screen via the Smart ThinQ app</li> </ul>	<ul style="list-style-type: none"> <li>Push notifications for energy and cycle monitoring and when washing is done via the Smart ThinQ app</li> </ul>
<b>Physical Assistant (Physical)</b>	<ul style="list-style-type: none"> <li>"Touch Assistant": a floating menu that provides access to common features</li> <li>Screen time-out</li> <li>Long press to receive phone calls</li> <li>Automatic mouse click</li> <li>Multiple-touch calibration</li> <li>Convenient HW features for keyboard input (repeat keys, fixed keys, slow keys, etc.)</li> <li>Knock-on &amp; Knock-code</li> </ul>	<ul style="list-style-type: none"> <li>Intuitive control through a wheel and pointing gestures</li> <li>Optimum UI with intuitive icons</li> <li>Easy content reorganization</li> </ul>	<ul style="list-style-type: none"> <li>Touch Assistant: a floating menu that provides access to common features</li> <li>Screen time-out</li> <li>Long press to receive phone calls</li> <li>Automatic mouse click</li> <li>Multiple-touch calibration</li> <li>Convenient HW features for keyboard input (repeat keys, fixed keys, slow keys, etc.)</li> <li>Knock-on &amp; Knock-code</li> </ul>	<ul style="list-style-type: none"> <li>Function to take a look inside with knocking</li> <li>Function to open the doors without touching</li> <li>Function to open the drawer automatically when opening the door</li> </ul>	<ul style="list-style-type: none"> <li>Conveniently put in or take out laundry with the higher placement of the main wash                             <ul style="list-style-type: none"> <li>- A larger handle for easier opening and closing of the door</li> <li>- A larger opening for easier placement and removal of the laundry</li> </ul> </li> </ul>
<b>Other Features</b>	<ul style="list-style-type: none"> <li>"Touch Control Areas" to limit touch control in a selected area of the screen</li> <li>Shortcut to accessibility functions (use accessibility functions by clicking the home button three times)</li> </ul>	<ul style="list-style-type: none"> <li>Shade control for menu options</li> <li>Remote control for cursor size and pointing speed</li> <li>Quick Apps: Instant and direct access to desired service and content with a single click on the remote control</li> </ul>	<ul style="list-style-type: none"> <li>Touch Control Areas to limit touch control in a selected area of the screen</li> <li>Shortcut to accessibility functions (use accessibility functions by clicking home button three times)</li> </ul>	<ul style="list-style-type: none"> <li>Smart label</li> <li>InstaView Door-in-Door</li> <li>Wi-Fi function</li> <li>Smart Diagnosis for malfunction and food poisoning</li> <li>Temperature adjustment</li> <li>Fast cooling</li> </ul>	<ul style="list-style-type: none"> <li>Smart Care (Deep Learning) recommends the best washing options through the AI technology</li> </ul>

# OUR FUTURE WITH HEALTHY LIFE



LG Electronics hopes to enable its customers to live healthy lives even in the midst of social and environmental challenges. Recently, social and environmental issues such as fine dust and ocean plastic have had a great impact on the lifestyles of people on both national and individual levels. Two of the most representative, innovative products engineered to promote the health of customers are the LG PuriCare air purifier and LG TROMM Styler. LG Electronics will offer customized solutions that will enable customers to enjoy a healthy lifestyle by combining future-oriented technologies such as hardware, software, AI, and 5G with R&D capabilities in the air, water and food sectors.

## Target Support Healthy Lifestyle

LG Electronics hopes to enable healthy lifestyles that can improve the health of customers in line with social and environmental challenges. As the average life expectancy of humans increases, customers are demanding products that provide more valuable lifestyles. LG Electronics aims to develop products that empathize with customers' social and environmental concerns and promote their general health. LGE will thus continuously introduce the best products in the sectors of air, water and food to keep customers healthy and comfortable. Moreover, LGE will continue to identify issues that arise from social and environmental conditions and develop innovative products to solve such problems so that customers can enjoy a healthier lifestyle.

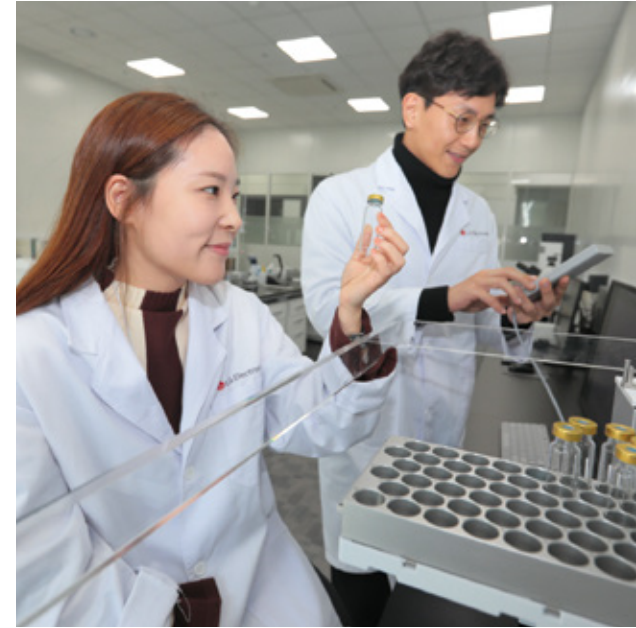
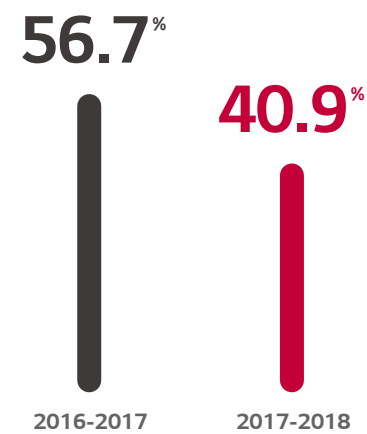


LG PuriCare Air Purifier

## Strategy Pursue Growth in Healthcare Appliances

LG Electronics continues to improve the functions and solutions of our healthcare appliances by understanding customers' interest in health and demand for health-related products. We comprehensively analyze the direct requests of our customers, as well as social and environmental issues, and reflect these when we develop, design, and produce our healthcare appliances. LG PuriCare air purifiers and water purifiers, and the LG TROMM Dryer and Styler are just some of the LG healthcare appliances that effectively meet societal and customer needs. LG Electronics is expanding its healthcare appliances market not only in Korea but also in North America, Asia, Europe and South America. Issues such as fine dust particles, water pollution, and food hygiene are rapidly becoming social concerns due to their impact on society and the environment. As more and more people pursue a healthy lifestyle, the demand for health-related products is increasing. LG Electronics will continue to promote the value of healthcare appliances in the global market in order to create a better lifestyle for more customers.

### Sales Growth Rate for Healthcare Appliances



LGE's Institute of Food & Science



LGE's Healthcare Appliances

## Strategy Develop Healthcare Appliance Technology

LG Electronics strives to continuously develop healthcare appliances that care for customers' health at all times. LGE will secure core technologies to continuously release products that customers want to use based on our innovative research and development capabilities. LG Electronics establishes institutes dedicated to researching water, air, and food to thoroughly verify and manage basic technologies from the research stage for the purpose of providing the best healthcare appliances and solutions for a better life. Each institute develops next-generation technologies and solutions in cooperation with academia and research institutes and through its own R&D activities. Core technologies that

have been researched and developed by our institute will be applied to all water and air purifiers and kitchen appliances. If we earnestly apply our R&D achievements to products, LGE's business competitiveness in the field of healthcare appliances will be further reinforced. LG Electronics will continue our investment in infrastructure and the environment to contribute to improving product quality and solutions for a better life for customers. LGE will develop next-generation core technologies based on industry-leading infrastructure and provide differentiated healthcare solutions to our customers.

### 'LG Sensor Hub', Air-Quality Analysis Consulting

LG's sensor hub is a solution that displays indoor air quality information and power consumption through a display and LED lighting, controls home appliances such as air conditioners, air purifiers, dehumidifiers, etc., through smartphones and provides air-quality analysis reports. Being connected to AI and IoT technology, the LG sensor hub can frequently check the air and fine dust conditions of the customer's living environment, such as home, school, workplace, or office, and improve air quality.

**Analyze Air Quality**

Provide air quality analysis consulting based on products with sensors such as LG Sensor Hub, PuriCare 360 Air Purifier, Whisen Air Conditioner, and Fine Dust Alert.

**Manage Air Quality**

TROMM Dryer, PuriCare 360 air purifier, Whisen air conditioner, Whisen dehumidifier etc., manage air quality in the living environment based on the results of air-quality analysis.

### Securing Capability for Air Cleaning Technology

LG Electronics is widely recognized for its capabilities in the air cleaning field with a certification from the Korea Air Cleaning Association (CAC) for the LG Whisen system air conditioner (May, 2018), which detects and removes ultra-fine dust particles of PM1.0 in an area of up to 147 square meters, and the PuriCare air purifier (March, 2018), which can clean air in an area of up to 175 square meters.



Develop Healthcare Appliance Capabilities

Institute of Air & Science



The Institute of Air & Science, which opened in October 2018, is researching effective cleaning methods for removing dust, harmful gases and microorganisms that can be generated in people's living spaces. As social interest in clean indoor air is increasing, LGE strives to provide competitive air solutions such as air purifiers, air conditioners, and dehumidifiers. LG Electronics is developing core technologies related to dust collection, deodorization and sterilization so that customers can enjoy good air quality in various spaces such as the living room, kitchen, and the dressing room.

Clean Air		
<p><b>Housing Conditions Experiment</b> We measured the phenomena that occur when a product is used in a real living environment such as homes, and it also checks outdoor temperature and atmospheric conditions which may affect indoor air quality.</p>	<p><b>Microbiological Experiment</b> After releasing microorganisms into the air, we evaluated the sterilizing performance of the air-cleaning products and comprehensively tested the air sterilization, water sterilization and filter sterilization functions of the products.</p>	<p><b>Dust Collection and Deodorization Experiment</b> As for particles such as dust and gases, we evaluated how fast the fine dust is removed and how clean the air is purified by the filter (evaluated the filter's ability of deodorizing five major harmful gases)</p>

Institute of Clean Water & Science



The Institute of Clean Water & Science, established in February 2018, received the highest score in the Food Analysis Performance Assessment Scheme hosted by the Department for Environment, Food & Rural Affairs (DEFRA) of the U.K, and obtained certification from the Korea Laboratory Accreditation Scheme (KOLAS), proving its capability and reliability as a national water quality inspection agency. LG Electronics will continue to strive to develop next-generation core technologies through collaboration with researchers and consultants with expertise in water-related technology.

Clean Water Quality		
<p><b>Filter Experiment</b> We analyzed filters that remove hazardous components from water, and developed the technology that does not filter out any components that are good for health while still removing those that are harmful.</p>	<p><b>Water-Quality Experiment</b> We tested water quality to provide official figures for each country, and developed water quality constituents to support the development of optimal products for each country.</p>	<p><b>Sanitation Experiment</b> We developed core technology to maintain water purity by keeping products including water purifiers clean.</p>

Institute of Food & Science



The Institute of Food & Science, established in December 2018, conducts research to provide customers with healthy and delicious food and lead the kitchen appliance market. In addition, the Institute carries out research and development on next-generation food technology in cooperation with academia and technical advisory groups in Korea. The core technologies that have been researched and developed by the Institute will be applied to various kitchen appliances such as refrigerators, kimchi refrigerators, ovens, and the electric ranges produced by LG Electronics. LGE plans to develop food-related technology that promotes the healthy lifestyles of customers through thorough understanding and analysis of food.

Healthy and Delicious Food		
<p><b>Storage Technology</b> We developed technologies to keep food fresh, studying food storage, maintenance temperature, and speed.</p>	<p><b>Fermentation Technology</b> We developed technologies to keep food fresh and studied, at what temperature and how fast food should be stored.</p>	<p><b>Cooking Technology</b> We developed technology to cook food that is more delicious and healthy, and researched ways to find optimum temperatures and reduce cooking time for each recipe.</p>

Healthcare Appliance Functions and Solutions

LG PuriCare Air Purifier



Sanitation management

- Six-level, total care service eliminates harmful gases, ultrafine dust and germs.

Smart control

- IoT function enables smart air status checks and remote control.

Customer convenience

- Clean display allows the user to check indoor air conditions at a glance.

LG PuriCare Water Purifier



Sanitation management

- Sterilize with UV LED lamp. (two-level self-sterilization)
- Compound filter system eliminates bacteria and seven heavy metals.

Customer satisfaction service

- Provide visiting sterilization care service every quarter.
- Replace water pipes for free once a year.

Customer convenience

- Instantaneous cooling and hot water system provides clean water, cold water and hot water using direct pipes.
- Technology that transforms a magnetic field into heat provides customized hot water.

LG TROMM Dryer



Sanitation management

- Sterilization 3 types of harmful bacteria. (Staphylococcus aureus, Pseudomonas aeruginosa, Streptococcus pneumoniae)
- Collect dust with double relief filter.

Smart control

- Remotely operate the dryer via smartphone using Wi-Fi.
- Provide smart drying options.

Customer convenience

- Inverter heat pump system allows drying that causes no damage to fabric.
- Condenser automatic cleaning system automatically cleans dust from internal parts.

LG TROMM Styler



Sanitation management

- Removal of fine dust, viruses and germs with a moving hanger and TrueSteam.
- Deodorizing function eliminates odor.

Smart control

- Remotely operate the Styler via smartphone using Wi-Fi.

Customer convenience

- Dehumidifying function controls indoor humidity.

LG DIOS Electric Range



Sanitation management

- Prevent food scraps and dust from being stuck in the attached lines thanks to the diamond-cut glass.

Smart control

- Remotely monitor and control the product through Wi-Fi.

Customer convenience

- 'Direct Slide Control' function to select the desired level of heat with a touch panel.
- 'Heat Indicator', which shows operational status and the heat level.

Safety

- More than six-levels of safety functions ensures safe operation.
- 'Double Overheating Prevention System' that automatically discontinues output after a certain period of time or automatically adjusts the output when it reaches a certain temperature.
- 'Lock function' that prevents children from operating the product.

# OUR FUTURE WITH GREEN BUSINESS



The production and use of sustainable energy is becoming a future-oriented, eco-friendly and a universal value of the global community, and strategic responses to macroeconomic changes in the energy sector now determine the growth and development of companies. New technologies and technological convergence in the era of the 4<sup>th</sup> Industrial Revolution are rapidly changing the energy paradigm. Energy industries pursue innovation to improve the solar power, wind power, and hydroelectric power generation capacity. In addition, demand for eco-friendly automobiles, such as electric cars, is expected to grow due to an increase in environmental awareness among consumers. Global auto makers are concentrating their capacities on developing hybrid and electric vehicles and are working to expand production. Considering these global trends and industry changes, LG Electronics will expand green businesses that can protect the ecological environment for the present and future generations while enhancing the economic value of the company.



LG Solar Power Panel

## **Target** Continue to Develop Eco-friendly Businesses

LG Electronics is expanding our green businesses with a focus on the areas of renewable energy and electric vehicles through innovations in hardware and software. We will do our best to secure competitiveness in the electric vehicle components market by applying our unrivaled competitiveness in existing sensors, created motors, and inverters to electric vehicles for which efficient electricity usage is important. LGE is capable of producing “infotainment” products such as telematics control units, audio, video and navigation, and electric vehicle battery packs in order to secure competitiveness by comprehensively satisfying market demands for autonomous and environmentally friendly vehicles.

In addition, LGE will strengthen our position in the field of renewable energy by developing hardware to improve the power-generation capability of renewable energy as well as software technology to increase the efficiency of power-generation. LGE is equipped with the ability to produce solar cells and modules internally, and we only use cells that have passed quality tests to improve the efficiency of solar power generation. Meanwhile, LG Electronics is achieving vertical integration of our photovoltaic business with LG Chem, which manufactures energy storage devices, and LG CNS, which is responsible for designing solar power systems and constructing power plants.



## **Strategy** Strengthen EV Components and Solutions Development Capabilities

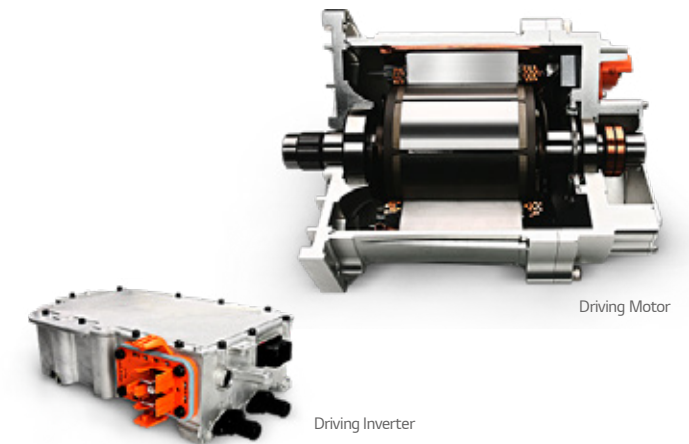
LG Electronics has designated the EV component business as a growth engine of the 4<sup>th</sup> industry.

Through our effort in combining our capabilities accumulated from home appliances and other existing businesses with the development of new technologies, we were able to integrate LGE's relevant businesses of EV components, infotainment and others with V-ENS, a manufacturer of car components in July of 2013. Since then, we have laid the foundation to launch our car component business by establishing the VS business office. In 2016, LGE was recognized for its EV component technologies by supplying motors, inverters, battery packs and other core components to GM's (General Motors) 'Chevrolet Volt EV' and in March of 2018, LGE's EV component factory was established in Michigan, USA where battery packs have been produced.

In addition to such core parts for electric vehicles, we are further developing various components for infotainment, including navigation, audios, video systems and telematics, as well as camera sensors and vehicle lamps for driving assistance and autonomous driving.

We are also enhancing our business structure in order to provide not only components to the customers of automakers, but also related S/W systems and solutions accordingly. To this end, we are elaborating the technical depth of our components and systems by participating in the initial concept-planning and designing stages when developing vehicles in cooperation with automakers.

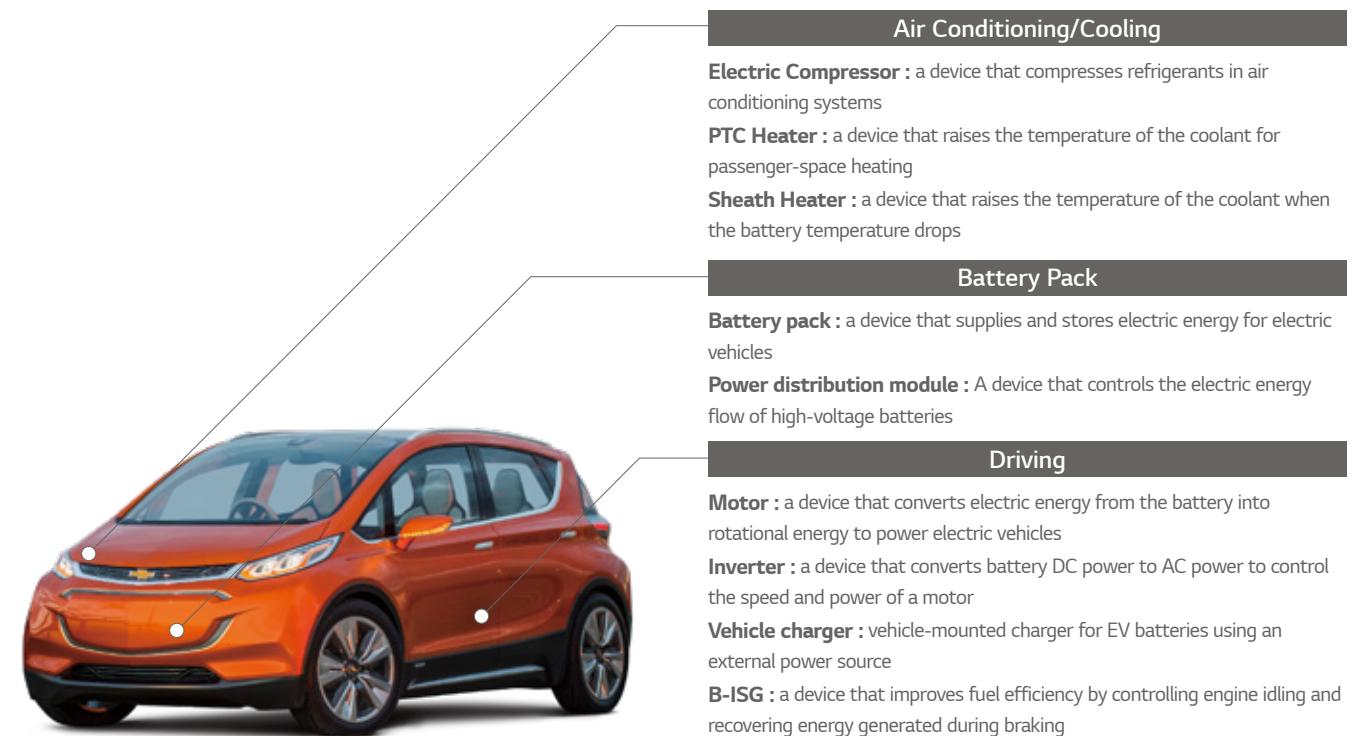
### LGE's Core Technologies: Motors and Inverters



Unlike constant speed motors, the motors and inverters LG Electronics develops and manufactures can adjust rotational velocity freely depending on circumstances, resulting in reducing unnecessary energy consumption and noise and allowing drivers to make delicate controls.

As for an electric vehicle, the speed and power can be controlled by adjusting the electric energy through the motor and inverter when the driver has to control the speed depending on the traffic flow. The motor and inverter that handle the velocity of an EV play excellent roles in improving the durability and energy efficiency of an EV.

### EV Components Line-up





**Strategy**  
Expand Solar Power Parts and Solutions

**High-Efficiency Solar Power Generation Parts**

LG Electronics plans to continuously launch ultra-high-efficiency premium solar power generation modules by designating the solar power generation module — the core energy source in the future renewable energy sector — as a new growth engine. LG Electronics produces solar cells and modules and launches products that pass strict quality inspection standards to secure improved quality. LGE conducts Electro Luminescence (EL) tests on all PV modules and strictly manages the quality-control process. LG Electronics operates a certified solar testing laboratory designated by TUV Rheinland, UL, VDE and Intertek of Germany. As such, our solar power system is certified for its stability and quality.

LG Electronics manufactures solar cells and modules at our Gumi business site, and in June 2018, we invested in establishing a 500MW solar cell module production facility in Alabama, USA.

In addition, LGE has established a partnership with Solar Edge, a U.S. solar power inverter maker, and Grasshopper Solar, a Canadian solar power company, to launch LG Electronics' solar cell and modules on the global market.



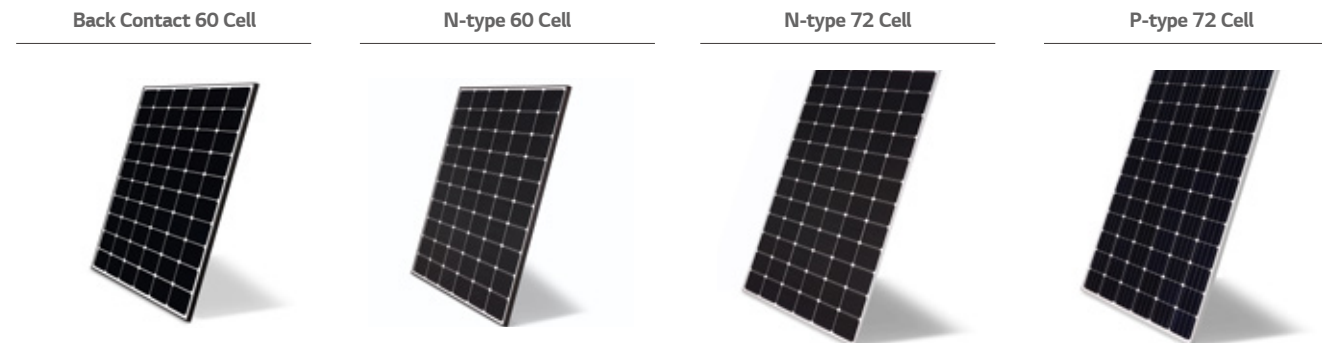
Energy Solutions for Home



LGE's Energy Storage System

**Developing an Energy Storage System (ESS) Linked to Solar Power**

LGE is developing technologies and solutions to improve Energy Storage System (ESS) performance for the storage and efficient use of solar energy. In particular, LGE is focusing on strengthening ESS to raise the economical efficiency of solar power generation facilities installed at home, and developing integrated solutions that can control solar power generation and monitor ESS conditions. LG Electronics intends to lead the ESS market with solar power generation-linked ESS products with great performance, convenience and safety and after-sales service.

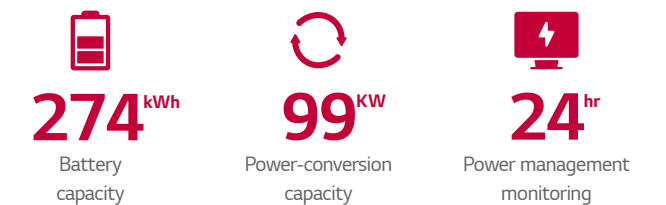


**Main Function of PV Power Modules**

Module Type	Key Features	Efficiency
<b>Back Contact 60 Cell</b> Maximum output: 370W	<ul style="list-style-type: none"> <li>Output declines by 0.3% per year after installation, but output will reach 90.8% in the 25<sup>th</sup> year.</li> <li>Back Contact technology with no electrodes on the front allows ultra-high efficiency.</li> </ul>	<b>21.4%</b>
<b>N-type 60 Cell</b> Maximum output: 345W	<ul style="list-style-type: none"> <li>Output declines by 0.33% per year after installation, but output will reach 90.8% in the 25<sup>th</sup> year.</li> <li>Cello technology reduces electrical losses and it electrically connects cells with 12 wires.</li> </ul>	<b>20.1%</b>
<b>N-type 72 Cell</b> Maximum output: 410W	<ul style="list-style-type: none"> <li>Output will reach 98% in the first year, and 88.4% in the 25<sup>th</sup> year.</li> <li>It minimizes output reduction by light, using technology that prevents initial power degradation.</li> </ul>	<b>19.7%</b>
<b>P-type 72 Cell</b> Maximum output: 375W	<ul style="list-style-type: none"> <li>Output will reach 98% in the first year, and 88.4% in the 25<sup>th</sup> year.</li> <li>It minimizes output reduction by light, using technology that prevents initial power degradation.</li> </ul>	<b>19.1%</b>

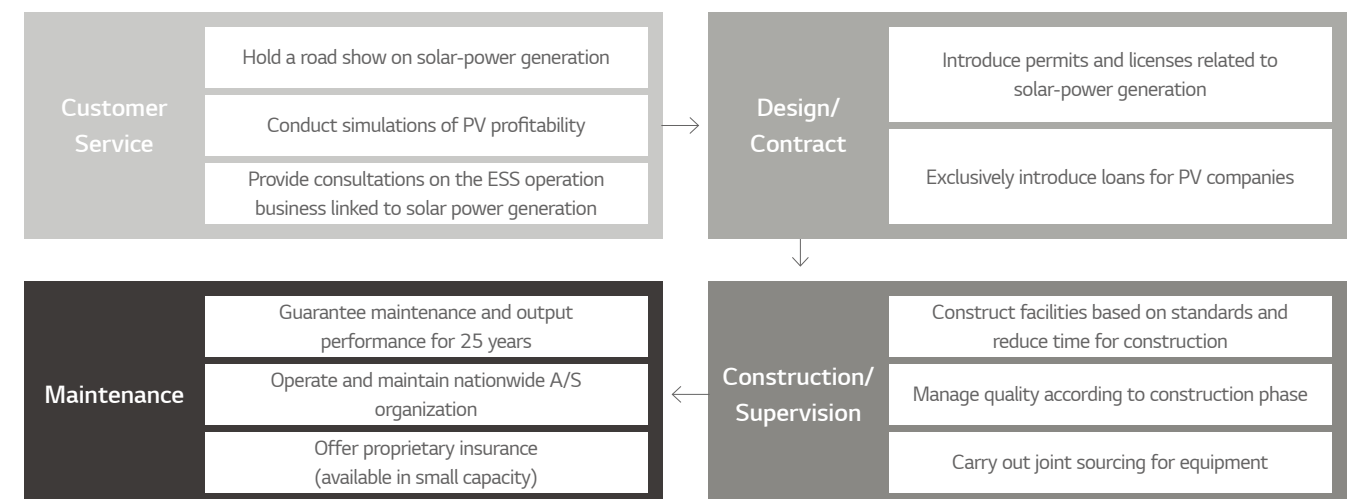
**'All-in-One ESS' for 100KW Solar Power Generator**

LG Electronics introduces an ESS which contains a solar energy storage battery, a power conversion system (PCS), a power management system (PMS), cooling and heating devices, fire extinguishing equipment, and a switch gear panel all in one package. Assuming that about 10kWh of electricity is consumed per day by each household, the 'All-in-One ESS' battery can save enough electricity to be used by more than 25 households per day.



**Consulting Service for PV Generation**

All companies under LG Group provide optimal and comprehensive PV generation consulting services in order to jointly offer useful value to customers. LG Electronics is responsible for providing high-quality and high-efficiency cells and modules and guaranteeing their performance.



# OUR FUTURE WITH ZERO CARBON



Recognizing the seriousness of climate change caused by global warming, LG Electronics actively participates in global efforts to reduce greenhouse gas emissions. In particular, LGE supports the efforts of the global community such as the Paris Agreement, which came into effect in November 2016, to find ways to limit the increase in the global average temperature to below 2 degrees celsius before pre-industrial levels. In response to climate change, LGE will positively contribute to solving global warming issues by minimizing greenhouse gas emissions generated from business operations and utilizing our technologies, capabilities, products and solutions.

**Managing Director**  
Young-Jae Lee/Safety & Environment Division



LG Electronics is committed to reducing greenhouse gas emissions to actively respond to global climate change and develop national GHG emission reduction targets based on a mid- to long-term plan. We have established a long-term goal and roadmap in order to achieve carbon neutrality by 2030. To this end, we have come up with a strategy of securing carbon emissions offsets, developing renewable energy and other measures at the production stage. We are planning to install high energy-efficient facilities and introduce emission-reducing devices to the manufacturing process in order to decrease greenhouse gas emissions generated from the production stage by 50% by 2030 compared with that of 2017. In addition, we will secure carbon emissions offset credits through the Clean Development Mechanism (CDM), a program by investing technology and capital in projects in developing countries to reduce greenhouse gas emissions. LGE believes that reducing greenhouse gases in responding to the climate change is the basis for sustainable growth and an obligation it should fulfill as a corporate citizen.

- Target**
- 50% Reduction in Carbon Emissions in the Production Stage Compared to 2017 (by 2030)
- Achievement of Carbon Neutrality through External Carbon Reduction by Expanding the CDM Project

LGE has expanded our carbon management strategy to include greenhouse gases (Scope 1 and Scope 2) that are emitted within our operational activities, as well as greenhouse gases (Scope 3) that are emitted in our value chain to respond to climate change from a mid- to long-term perspective. The carbon management strategy that was updated in 2019 includes strategic directions and targets for carbon neutrality in the production-phase and presents an action plan to fulfill these goals.

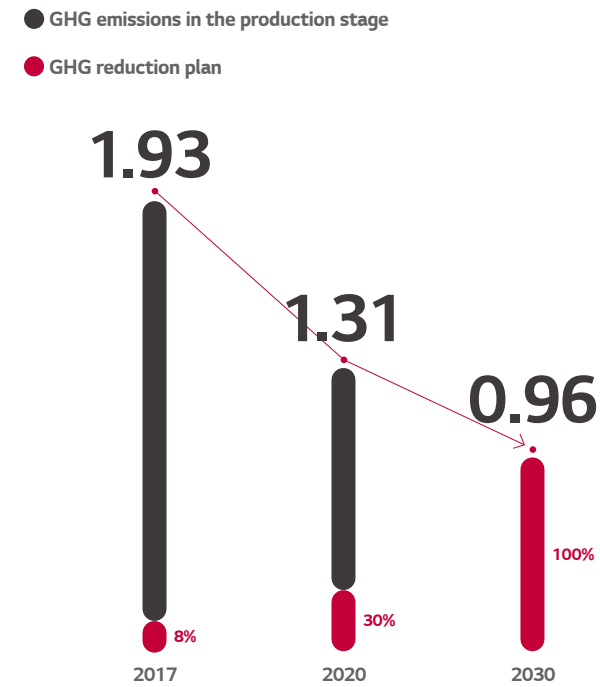
- Construct high-efficiency facilities that can reduce carbon emissions in the production phase and introduce GHG reduction equipment
- Expand Clean Development Mechanism (CDM) projects to secure carbon credits in the long-run
- Strengthen the solar power generation business to expand use of renewable energy and utilize B2B solutions such as high-efficiency freezers and energy management systems (EMS)

LGE will actively contribute to reducing global GHG emissions and solving climate change issues through implementing the mid- to long-term carbon management strategy to achieve carbon neutrality by 2030.



LG Science Park Control Center equipped with a solution for integrated building controls and energy management

## Mid- to Long-term Targets for Carbon Neutrality (Unit: million tons of CO<sub>2</sub>e)



1. 50% reduction in carbon emissions in the production stage compared to 2017 (by 2030)
2. Achieve carbon neutrality through external carbon reduction by expanding CDM projects
3. Expand use of renewable energy through solar power, energy management systems

## Carbon Management Scheme

### Executive Decision-making Council

Through the Corporate Safety and Environment Committee, we are establishing mid- to long-term targets for greenhouse gas reduction, assessing risks and opportunities related to climate change, and making investment decisions for major reduction projects. The Corporate Safety and Environment Council shares the results of specific climate change risks and opportunities and discusses strategies to address climate change. In addition, the LG Energy Facility Forum, where workers in charge of energy and GHG collaborate, analyze investment opportunities related to energy and greenhouse gas risks by each division, and discuss the expansion of best practices in reducing carbon emissions.

### Risk Management and Transformation into Opportunities

- Considering the risks and opportunities associated with climate change and carbon management activities from a financial and non-financial perspective, we are establishing systematic measures, such as:
- Monitor and evaluate risks arising from energy use and carbon emissions through the diagnosis of energy management at global production sites
  - Participate in the greenhouse gas emission trading system, which was implemented since January 2015 for greenhouse gas reduction. In addition to conducting thorough preliminary review of policy risks, we contribute to meeting the national greenhouse gas reduction targets.
  - Support greenhouse gas reduction for underdeveloped countries and SME suppliers: by expanding CDM business and promoting projects in Korea.

### Internal & External Communication

LG Electronics participates in carbon disclosure programs such as CDP<sup>1)</sup> and DJSI<sup>2)</sup> each year to share carbon management activities with external stakeholders and internal employees.

1) Carbon Disclosure Project  
2) Dow Jones Sustainability Indices



**Strategy**  
Carry Out Carbon Management Activities

LG Electronics carries out carbon management activities to prevent increases in greenhouse gas emissions due to business growth and expansion, and to achieve mid- to long-term greenhouse gas reduction targets.

LGE has based our internal standards on ISO 14064-1, WRI · WBCSD GHG Protocol and the IPCC Guidelines in order to manage energy-use and greenhouse gas emissions in the production stage, and we systematically manage energy usage and greenhouse gas emissions through the operation of an IT system.

**Create a Carbon Fund**

LG Electronics has operated an 'Internal Carbon Fund' in order to smoothly introduce GHG-reduction technologies and solutions since 2017. Using the carbon fund, we are contributing to the reduction of greenhouse gas emissions and the efficient use of energy in our production processes.

**Fix Carbon Pricing**

LGE has applied the 'Internal Carbon Cost', which quantifies the value of carbon for capturing business opportunities, identifying risks, and internal transactions related to energy-saving and greenhouse-gas reduction activities. LGE can accurately convert our environmental impact into monetary value using 'Internal Carbon Cost', and make rational decisions on future greenhouse-gas reduction investments.

**Introduce Carbon Accounting**

In accordance with Article 33 of the 'Generally Accepted Accounting Principles: GHG Emissions and Emission Liabilities', LGE analyzes the total greenhouse gas emissions of the company and the credits allocated by the Korean government on a quarterly basis and reflects the costs incurred due to excess emissions (emission liability) in our consolidated financial statements when excess emissions occur.

**Measure, Report, and Verify GHG Emissions**

As a 'controlled entity' under Article 42 (6) of the Framework Act on Low Carbon Green Growth, LG Electronics prepares a statement on the quantity of greenhouse gases emitted and the quantity of energy consumed, reports it to the government after receiving third-party verification, and discloses it to our various stakeholders in accordance with Article 44 of the same Act. In addition, we have completed the establishment of greenhouse gas inventories for global production sites of LG Electronics and conduct third-party verifications on greenhouse gas emissions every year.

**Introduce the Energy Management System (ISO 50001) and Acquire Certification**

LG Electronics upgrades its energy management system by introducing the international standard, 'Energy Management System (ISO 50001)', to use energy efficiently and reduce related costs. All production sites located in Korea have obtained certification for their energy management system. LGE also promotes the introduction of energy management systems at our overseas business sites, and maintains certifications by conducting reexaminations every year.

**Generate and Use Renewable Energy**

LG Electronics utilizes high-efficiency solar panels to expand the development and use of renewable energy, thereby achieving carbon neutrality and helping the international community to use sustainable energy resources.

We have expanded and introduced 6.7MW PV power-generation facilities in Korea, generating 9,124MWh of solar energy in the year of 2018 and contributing to reducing 4,254 tons of greenhouse gas CO<sub>2</sub> equivalents. At business sites located in the United States and Europe, we continue to increase the purchase of renewable energy for office work.



LGE's Energy Storage System

**Results of Introducing the Energy Management System**

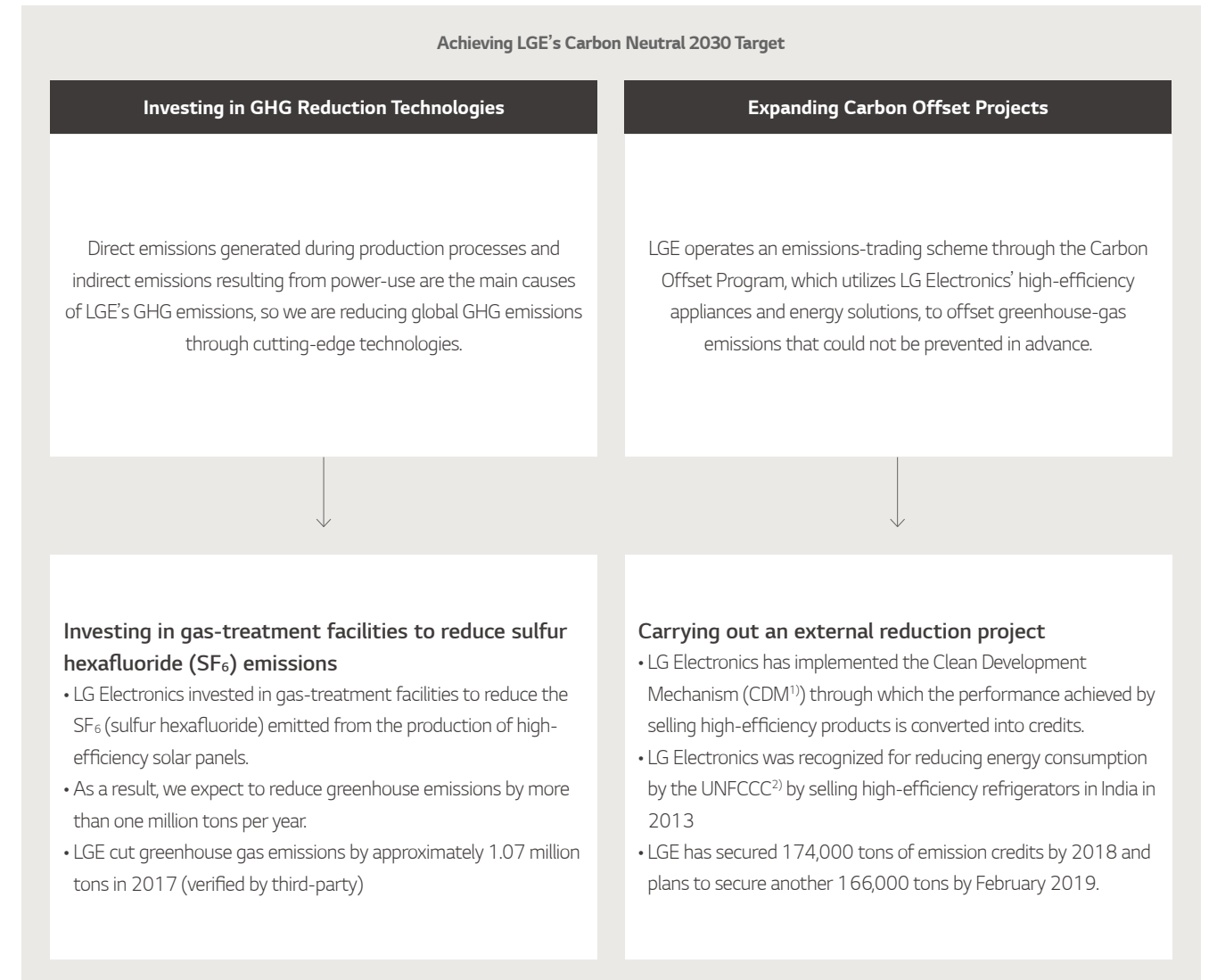
As of December 2018, seven production sites (Pyeongtaek, Cheongju, Gumi A1, Gumi A3, Changwon 1, Changwon 2, and Incheon Campus) and five research institutes (Seocho R&D Campus, Yangjae R&D Campus, Magok Science Park, Gasan R&D Campus and Gangnam R&D Center) obtained the international certification for energy management system (ISO 50001).

In particular, the Pyeongtaek site, Cheongju site and Gasan R&D campus were selected as the best business sites in the 'Energy Management System Performance Evaluation' by the Korea Energy Management Corporation (KEMCO) for energy-saving performance in 2017. LG Electronics plans to achieve our greenhouse-gas reduction targets through the ITS systematic energy management system and energy-saving activities.

**Strategy**  
Implement Strategies to Achieve our Zero Carbon 2030 Target

LG Electronics has sincerely pursued the goal of reducing greenhouse gas emissions by 150,000 tons (compared to 2008) by BAU 2020.

LG Electronics has set a more ambitious target of 'Zero Carbon' to achieve carbon neutrality by 2030 in compliance with new conventions on climate change and GHG-reduction policies of Korea. To this end, we are focusing on the biggest environmental factors and technical strengths of LG Electronics.



1) CDM: Clean Development Mechanism

2) UNFCCC: United Nations Framework Convention on Climate Change

**GHG Emissions Status** (Unit: million tons CO<sub>2</sub>e, thousand tons CO<sub>2</sub>e / KRW 100 billion)

Category	2015	2016	2017	2018
<b>GHG emissions</b>	1.110	1.101	1.933	1.637
<b>GHG emissions intensity</b>	1.96	1.99	3.15	2.68

# OUR FUTURE WITH PRODUCT RESPONSIBILITY



LG Electronics strives to reduce harmful environmental effects of our products throughout their entire lifecycle including collection, procurement and processing of raw materials, production, distribution, use, and disposal. LGE aims to establish strategies for the development of green products on a mid- to long-term basis by defining three safeguard subjects: humans, energy, and resources. We are improving the safety of products to the human body by reducing the use of hazardous substances and developing alternative safer substitutions, and also reducing energy consumption in the product-use stage by developing technology to enhance our products' energy-efficiency. In addition, LGE is pursuing resource efficiency by reducing the weight and volume of products and designing products to allow practical recycling.

## Target: Achieve Green 3-Star for 80% of Products by 2030 According to Eco-Friendly Self-Assessment

LG Electronics has been using an 'Eco index' in order to manage the development goals and performance of our environmentally friendly products. LGE has adopted the evaluation criteria to assess harmfulness to the human body, energy-efficiency, resource-use efficiency and innovation, and all products are managed after being labeled Green 1-Star, 2-Star, and 3-Star in accordance with their level of environmental friendliness.

LGE will conduct research and development activities to achieve 80% Green 3-Star products that satisfy the Eco Index criteria by 2030. The Green 3-Star is granted to products that achieved a competitive advantage in the energy efficiency sector; eliminated or replaced harmful substances through voluntary countermeasures, and designed for greater resource efficiency.

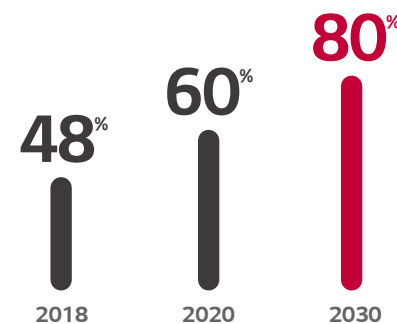


Winning Energy Star Partner of the Year Award 2019

### Rating Criteria for Eco Index

Category/Rating	Green 1 Star	Green 2 Star	Green 3 Star
<b>Human</b>	Complies with regulations on hazardous materials	Replaces hazardous substances voluntarily and proactively	
<b>Energy</b>	Satisfies energy standards	Satisfies market standards on energy efficiency	Achieves competitive advantages (high efficiency)
<b>Resource</b>	Complies with regulations on recycling	Offers design features for efficient resource use	
<b>Innovation</b>		Leads the market in terms of greener features (internal/external certification, development of advanced technologies, etc.)	

### Performance and Goals for Green 3-Star Products (in terms of the number of development projects)



### Eco-friendly Product Development Strategy

LG Electronics strives to provide eco-friendly products and services to our customers. The purpose of our eco-friendly product development strategy is to minimize the environmental impact throughout the products' lifecycle, considering three factors: humans, energy and resources.

#### Human



LGE replaces harmful substances and applies technology to reduce noise and vibrations to reduce environmental impacts on the human body.

**Replacing Hazardous Substances:** LGE operates a system to measure hazardous substances in the raw materials that are supplied to LG Electronics, and verifies and manages products that are highly likely to contain hazardous substances.

**Improving the Home Environment:** LGE applies antibacterial and anti-allergy functions to washing machines, air conditioners and vacuum cleaners to improve the living environment of customers, and reduce the noise and vibrations of products.

#### Energy



LGE reduces energy costs and greenhouse gas emissions by improving the energy-efficiency of our products.

**Increasing Energy Efficiency:** LGE sets a product-specific five-year technology roadmap to improve the energy-efficiency of products, comply with energy efficiency regulations, and reduce energy consumption and standby power usage.

**Reducing Greenhouse Gas Emissions:** LGE builds greenhouse gas inventories to reduce greenhouse-gas emissions in the manufacturing process, and improves work efficiency in the production stage.

#### Resource



LGE reduces the weight and volume of products to reduce the need for raw materials, and we also reduce environmental impacts by utilizing recycled materials.

**Reducing Resource Consumption:** LGE develops designs that reduce the weight and volume of products and minimize resource use, and we implement 'waste elimination' activities to use resources more efficiently.

**Increasing Recyclability:** LGE establishes internal procedures to develop products that facilitate product disassembly and recycling (checklists to evaluate recycling and recyclability, recycling design guidelines, etc.).

### Third-party Eco-label Certification Status

LG Electronics has obtained Korean eco-label certification from national and third-party organizations in order to provide information on the environmental friendliness and energy-efficiency of products in a transparent manner. As of December 31, 2018, we have obtained certifications for 1,909 products. In particular, 11 models were certified as low-carbon, based on the results of product-lifecycle assessment.

Eco Mark	Products with the Eco Mark	Number of Registered Models	Eco Mark	Products with the Eco Mark	Number of Registered Models	
German TUV Green Mark	TVs	9	EU Eco Label	TVs	577	
	Washing machines	7	Sweden TCO	Monitors	178	
	Kids' bandages	1		Laptops	16	
	Stylers	1	Korea Eco Mark	Monitors	12	
Monitors	USA	Gold		120	Air conditioners	43
	Germany	Gold		24	LED TVs	69
EPEAT	TVs	USA	Silver	8	Air conditioners	14
			Bronze	4	Products Certified by Korean Green Technology	TVs
U.S. UL SPC	Mobile	USA	Silver	11	Laptops	50
				20	Monitors	6
U.S. UL Green Guard	TVs	2				

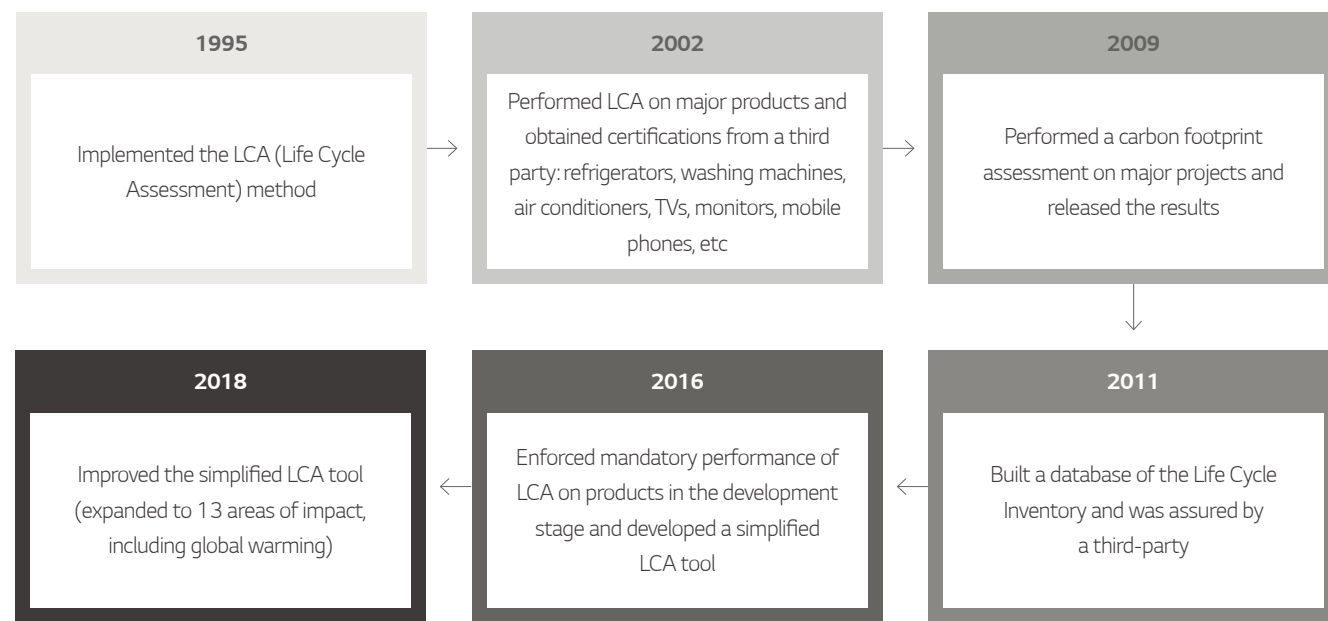


**Perform Product Life Cycle Assessment (LCA)**

LG Electronics carries out a life cycle assessment to identify factors for improvement by quantifying the environmental impacts in the pre-production, production, distribution, use and disposal stages. LGE quantified the environmental impacts of our major product groups such as refrigerators, washing machines, air conditioners, TVs, monitors, mobile phones, etc. in 2002 by using the LCA technique, and in 2011 we established the Life Cycle Inventory Database (LCI) for the entire life cycle of eight product groups including solar modules and LEDs to expand the scope of products subject to evaluation. LGE developed a simplified LCA Tool to assess the environmental impact of a product (in 13 categories including global warming, resource depletion, ozone layer depletion, acidification, eutrophication, human toxicity, eco-toxicity, lack of water, etc.) at the development stage based on our LCA evaluation experience and database.

In addition, LG Electronics expects to see systematic response mechanisms and cooperation among industries, academia, and the government through the implementation of Life Cycle Thinking for complex environmental problems. To this end, LGE shares examples of life cycle assessments at related conferences such as the Korea Life Cycle Assessment Society.

**Progress in LCA**



**Green Certification Status from the Ministry of Industry, Trade and Resources (In Korea)**

Technology	Date Certified	Valid Through
TV standby power reduction technology with Control IC internal x-CAPACITOR discharge function	May 17, 2018	May 20, 2021
Engine and cycle optimization technology for high efficiency gas heat pump	January 18, 2018	January 17, 2021
Dynamic Backlight Control low-power consumption design technology using a power saving algorithm	January 18, 2018	January 17, 2021
Monitor power consumption reduction technology with backlight brightness adjustment	March 10, 2016	March 09, 2019
Laptop standby power reduction technology	February 18, 2016	February 17, 2019
Energy and water-saving Turbo Shot washing technology II (for drum washing machines)	August 26, 2014	August 25, 2020
Inverter linear compressor for refrigerators	August 26, 2014	August 25, 2020
Six-motion washing technology	August 26, 2014	August 25, 2020



**Strategy**

**Human: Reduce Environmental Hazards**

LG Electronics does not allow the use of hazardous or toxic substances that are prohibited by global environmental regulations such as the RoHS Directive and REACH. LG Electronics has implemented a green certification system for our suppliers to thoroughly control the use of hazardous substances prohibited for use in various raw materials, packaging materials, and batteries. We have developed alternative materials for internationally regulated harmful substances such as PVC (Polyvinyl Chloride) and BFRs (Brominated Flame Retardants). Since 2010, LGE has eliminated PVC and BFRs from all of our mobile phones. LGE voluntarily eliminated phthalates and beryllium in 2011, and antimony trioxide in 2012. UHD/OLED TV also has alternative materials for the PVC used inside internal cables, and we are introducing laptops that do not use PVC or BFRs.

Since 2013, LGE has also developed and applied noise-reduction components (Skirt Lower) without PVC for all refrigerators. As such, LGE has continuously developed technologies and components to replace hazardous materials while securing product quality. In 2015, we removed hexabromocyclododecane (HBCD), a bromine-based flame retardant, from products and packaging materials in order to respond to the EU POPs regulations. Although LG Electronics is not currently regulated, we are monitoring any substances that may cause human and environmental hazards in order to fulfill our social responsibilities and we strive to develop and apply alternative materials.

**Criteria for Hazardous Material Management**

Hazardous materials are classified and managed as LEVEL A-I, LEVEL A-II, LEVEL B-I and LEVEL B-II according to national regulations and international agreements.

<b>LEVEL A-I (Prohibited Materials)</b>	LEVEL A-I covers 10 types of most hazardous substances defined in the RoHS regulation of the EU. This includes heavy metals such as lead, cadmium, mercury, hexavalent chromium and its compounds, bromine-based flame retardants such as PBB and PBDE, and four phthalates. (DEHP, DBP, BBP, DIBP)
<b>LEVEL A-II (Prohibited Materials other than RoHS of the EU)</b>	LEVEL A-II covers regulated substances prohibited by national and international conventions other than RoHS, including chlorinated compounds, asbestos, organic tin compounds, formaldehyde, and ozone depleting substances. (Including PCBs, PCNs, PCTs, VOCs, HBCDs, bisphenol A, Nickel and its compounds, etc.)
<b>LEVEL B (Materials under Monitoring and Reduction)</b>	Substances in Level B are not prohibited but should be reduced in usage through voluntary substitution or be used under careful supervision. This includes substances that are commonly known as PVC such as vinyl chloride resin, phthalates, beryllium, palladium, bismuth, and other chlorinated flame retardants. (Also includes substances specified in EU REACH and the California Proposition 65)

**Alternatives for Harmful Substances**

Smartphones, Smartwatches, G pads	OLED/Ultra HDTV	Laptops	Monitors
Removed PVC/BFRs from all models in 2010	PVC Free Internal Cable	Released laptops without PVC/BFRs in 2013 (Excluding FPCB, BARE, PCB, Batteries, adapters, keyboards, cables, touch pads, thermal modules, cable connectors, mouse and power cords)	PVC Free LCD modules in all models in 2011
Removed phthalate from all models in 2011	Mercury Free Display Panel		PVC/BFR Free LCD modules in all models in 2013
Removed antimony trioxide from all models in 2012			



**Strategy**  
**Energy: Improve Energy Efficiency**

**Developing High Energy-efficient Products**

LG Electronics is constantly developing products that are eco-friendly and energy-efficient so that customers can save energy while using the product. LG Electronics undertakes various efforts to develop energy-efficient technology that meets customers' expectations while satisfying national regulations such as the EU Eco-design directives.

LG Electronics sets our own energy-efficiency-related goals for our products, establishes detailed and technical strategies, and focuses on research and development activities to achieve these goals. For example, improving energy efficiency related to energy supply/use contained in the products, reducing standby power usage, and monitoring and controlling energy usage.



**Launch Products with the High-efficiency and High-performance 'Centum System'**

- LGE has expanded our range of products using the Centum System™ technology to improve durability and energy efficiency and to reduce noise.
- In 2016, LGE released a washing machine that can save about 60% of energy compared to Europe's highest energy-efficiency grade A+++.
- LGE improved energy efficiency by up to 40% compared to A++ in 2018 by applying the Centum System™ to premium European refrigerators.

**Cooperate in Developing 'Next-Generation DC Appliances' for Energy-efficiency Improvement**

- LGE signed an MOU for the commercialization of a DC power supply and DC appliances with KEPCO in 2017.
- LG Electronics developed DC home appliances that do not require DC power conversion for the first time in Korea and prevents energy loss by 5% to 15%.
- LGG prevents energy loss by 5% or 15%.

**Reducing Greenhouse-gas Emissions in the Product Use Stage**

LG Electronics continues its efforts to reduce greenhouse gas emissions at each stage of the product life cycle by reducing the weight of products, reducing the use of resources, and improving energy-efficiency to achieve the greenhouse-gas emissions reduction goals in product use by 2020. In particular, LGE contributes to the reduction of greenhouse-gas emissions during the time our customers use our products by developing and releasing energy-efficient products. In order to measure greenhouse-gas emissions at the product use stage, LGE utilizes data on energy consumption based on product-usage time, pattern analysis and consumption of power according to the standard usage scenario of a product. To promote transparency and a low carbon consumption culture, LGE provides information on product-use GHG emissions to its customers. In 2018, LGE expanded our products that use high-efficiency energy technologies to reduce greenhouse gas emissions at the product use stage by approximately 55.54 million tons (compared to the level of power consumption in 2007). LG Electronics plans to carry out energy efficiency activities to achieve our 2020 goals.

**Product Carbon Footprint Assessment Breakdown by Life Cycle Phase (Amount of Carbon)**

Category	Pre-Production	Production	Transport	Product Use	Disposal
TV	22.09%	0.02%	0.62%	76.40%	0.87%
Monitor	4.31%	0.05%	0.17%	95.08%	0.39%
Washing machine	36.32%	0.67%	3.47%	54.82%	4.72%
Refrigerator	20.09%	0.23%	1.41%	78.15%	0.12%
Commercial air conditioner	0.87%	0.02%	0.08%	98.95%	0.08%
Residential air conditioner	0.72%	0.05%	0.04%	99.15%	0.04%
Mobile phone	27.92%	0.01%	8.29%	63.14%	0.64%

**Reduction Target for GHG Emissions in Product Use**

**Reduction Target by 2020 compared to BAU (Business As Usual)<sup>1)</sup>**

**60 million tons reduced**

<sup>1)</sup> Expected total GHG emissions, when any measurements on reduction are not taken.

**Cumulative Reduction by 2020 (compared to base year 2007)**

**Overall cumulative reduction of 400 million tons of GHG emissions**



**Strategy**  
**Resources: Improve Resource Efficiency**

**Improving Materials and Structure**

LG Electronics is improving product materials and structure from the development stage to launch products with improved performance and convenience while reducing the size and weight. At the same time, we are collaborating with recyclers to improve recyclability and disassembly at the collection and recycling stages after a product is used. In 2018, LGE changed the material used for a washing machine (Mini Washer, model name F4BC to F4VC) to reduce the weight by 1kg, making it about 2% lighter than the existing model. In addition, LGE has improved the structure of the products to reduce the number of parts by 1% (from 247 to 245) in order to accelerate disassembly, and improve the recyclability by commonizing 95.9% of all parts.

LG Electronics plans to enhance recycling of e-Waste by developing eco-friendly products and continuously improving the design of the products in order to reduce waste and improve recyclability.

**Using Recycled Materials**

LG Electronics uses recycled materials for a wide range of products including washing machines, refrigerators, air solutions, smartphones, TVs and monitors. In 2018, LGE used 11,030 tons of recycled plastic material, an increase of 54.6% over the previous year, contributing to our goals to conserve natural resources. LG Electronics continuously pursues the development of alternative components and technologies for each product in order to expand the application of recycled materials, while continuing to conduct rigorous product stability and quality reliability tests.

LG Electronics will systematically manage and strengthen our performance related to use of recycled materials.

**Green Packaging**

LG Electronics intends to further minimize the use of natural resources through the application of eco-friendly packaging and by reducing the size and weight of packaging. In 2012, LGE released our 'Greener Packaging Design Guidelines', which were initially applied to several product groups, including mobile phones and TVs, and then to all products in 2013.

Starting in 2014, LGE has focused on improvements in packaging design by setting targets for reduction in the weights, volume and space of packaging for each business sector, and checking target achievements twice per year.

The environmental performance results in 2018 showed that the use of packaging materials and the packaging space were reduced by 4.8% and 0.1% respectively thanks to the application of design improvements into newly-developed models, even if the volume of a considerable number of new products increased by 1.0% compared to the previous year.

LG Electronics will continue the activities of the Packaging Technology Research Association to improve packaging, such as the efficient use of resources and logistics optimization through the design of compact packaging materials to achieve eco-friendly packaging goals established for each business sector.

**Case Study on the Improvement of Materials and Structure**

**F4VC model**

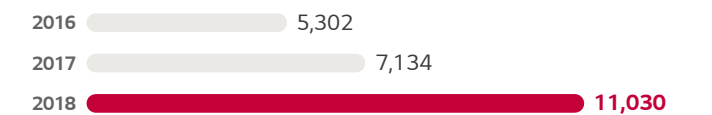
Product weight (kg)  
**1 Kg (2%) decreased**

Total number of components (EA)  
**2 EA (1%) decreased**

Component commonality  
**Commonality rate of 95.9%**

F4BC, a mini washer, is the only model with improved materials and structure.

**Amount of Post-consumer Recycled (PCR) Plastic Used (Unit: ton)**





Environmental Awards

EPA Emerging Technology Award



LG Electronics won the Gold Prize in the 'Smart Climate Control' category of the Edison Awards for our smart window air conditioner with a dual inverter compressor, which was recognized for energy efficiency, noise-reduction, and cooling performance. This product was also awarded the 'Energy Technology Award' by the U.S. Environmental Protection Agency (EPA) as the most innovative energy-saving technology.

Edison Award



Won the EPA SMM Gold Award



LGE's OLED TV has been awarded the 'Sustainable Material Management Award (SMM Award)' Gold by the EPA for minimizing the use and emission of hazardous substances such as mercury and lead in all stages from development to disposal. Nine products of LGE, including the 'Code Zero A9', 'TROMM washing machine', 'Dual Inverter Heat Pump TROMM Dryer', 'TROMM Styler Plus', 'Dios Electric Range', 'Dios Kimchi Refrigerator', and 'Dios Lightwave Oven', which use our eco-friendly and high-efficiency inverter technology, were selected as 'Green Product of the Year'.

Selected for 'This Year's Green Product Award' (Winner for nine consecutive years)



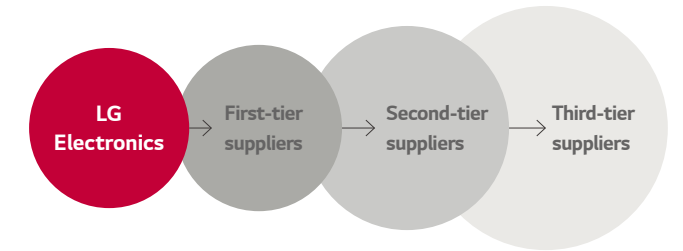
Green Program Plus

LG Electronics operates the 'Green Program Plus (GP Plus)', an eco-friendly supply chain management program. GP Plus is aimed at enhancing the green competitiveness of the suppliers in order to lay a foundation for shared growth by transferring LG Electronics' eco-friendly technologies and know-how to suppliers. GP Plus has been in operation since 2005 to aid compliance with regulations for hazardous substances in products, and the program has expanded to other environmental areas including greenhouse gas emissions management of suppliers. With GP Plus, LGE is strengthening green management in the supply chain, and we have secured a green partnership system that can respond proactively to global environmental regulations and improve the eco-friendly capabilities of suppliers.

Eco-friendly Training and Technology Support for Suppliers

LG Electronics provides systematic training programs such as 'Responding to Hazardous Substances', 'Environmentally Friendly Skills' and 'Greenhouse Gas Management Practices' to our suppliers' environmental management staff as well as our employees in charge of green partnerships. In 2013, LGE introduced the 'Environmental Data Measurement Expert Program' to foster experts in charge of collecting data on hazardous substances. The program is aimed at improving our technical capabilities in managing and measuring hazardous substances and ensuring the integrity of data. In 2018, we provided training to 100 environmental management staff from 59 suppliers in Korea.

Eco-friendly Supply Chain Management



Management Factors of Green Program Plus:

- GHG emissions
- Hazardous substances in products
- Support for suppliers



Eco-friendly Training for Suppliers

Green Expert Training for Suppliers

Training Programs	Trainees	Number of Participants	Curriculum
Capacity-building for working-level Green experts	Managers & Working-Level Staff from Suppliers	53	<ul style="list-style-type: none"> <li>• Introduction to Environmental Regulations</li> <li>• Management &amp; Analysis Technology for Hazardous Substances</li> <li>• Hazardous Substance Management System (HSMS)</li> <li>• GHG-Emissions Management</li> </ul>
Measurement of hazardous substances – practical application	Environmental Inspectors from Suppliers	47	<ul style="list-style-type: none"> <li>• LGE Standards for Managing Hazardous Substances</li> <li>• Measuring XRF (Theory)</li> <li>• Measuring XRF (Practice)</li> </ul>



# OUR FUTURE WITH CIRCULAR ECONOMY



LG Electronics strives to recycle as much resources and waste generated in the production stage as possible, and to increase the collection and recycling of waste after use to create a circular economy. LGE will create a resource circulation ecosystem by operating its production process and designing products with consideration for resource reusability and recyclability, moving away from the linear economy where resources are mined, produced, consumed and disposed. We plan to increase the recycling of waste generated at our workplaces as well as the collection of e-Waste in order to contribute to sustainable economic growth and to minimize the environmental burden of our economic activities.



Recycling Center

## Strategy to Extend Product Lifecycle: "Long-lasting LG Smartphones"



Television campaign "Long-lasting LG Smartphone"

LG Electronics operates a 'Software Upgrade Center' where we provide steady and ongoing OS upgrades for its smartphone operating system along with systematic customer care. LGE has extended the lifecycle of the LG smartphone through strengthened after-sales service that includes operation system upgrades, security patches, software, and customer care related functions.

For example, when updating old smartphone models, users can utilize the latest smartphone features such as LG Pay, camera, and AI. In addition, LGE has strengthened remote support functions through 'Smart Doctor', which diagnoses the status of the smartphone automatically and presents solutions, and 'LG Electronics Remote Consultation', which supports remote repair services. LG Electronics will endeavor to gain customer recognition for producing the long-lasting LG smartphone.



**Target**

**Recycle 95% of the Waste from Production Sites (by 2030)**

LGE manages waste generation at its production sites through a variety of measures to continuously reduce the amount of waste bound for landfills and incineration in support of a circular ecosystem approach. We are focusing on facility investments and process improvements to achieve our goal of recycling 95% of waste at all global production sites by 2030. LG Electronics has been improving its disposal, collection, and treatment processes and expanding the scope of management utilizing the LGE EESH (Energy, Environment, Safety & Health) Portal with which waste disposal data are collected and recycling rates are monitored.

### Significantly Reducing Waste at Overseas Business Sites

As 72% of LGE's waste is generated at overseas production sites, we are increasing overseas recycling rates to minimize the amount of waste going to landfills.

In Korea, LGE also hopes to improve recycling rates for waste generated from its business sites by actively participating in government led pilot projects that are building a basis for the collection and recycling of e-Waste.

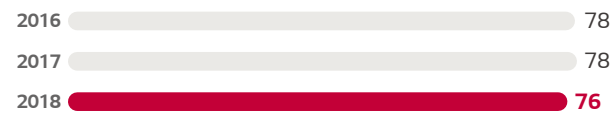
### Improving the Landfill Rate for Waste in Korea (Gumi A3)

In the past, all of the sludge generated from the wastewater treatment facility at LGE's Gumi A3 business site was buried in a landfill.

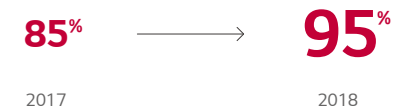
However, the Gumi A3 site has now reduced the rate of waste sludge landfilling by about 100 tons of sludge per month by evaluating alternative approaches, such as recyclability, the suitability of the recycling process for the raw material involved, and alternative recycling approaches.

As a result, the amount of waste landfilled at the Gumi A3 was reduced from 1,527 tons in 2017 to 94 tons in 2018, and the landfill rate was reduced from 10% to 1%.

Waste-recycling Rate (Unit: %)



Waste-recycling Rate at Gumi A3 Business Site



## Recycling Waste PV Modules



LG's PV Power Facility at Gumi Business Site

The introduction of solar power generation facilities came into full swing in Korea in 2007. But since the expected durability of PV modules, Korean government has anticipated related waste to drastically increase from 2023.

Until recently, PV modules were crushed or shattered and then landfilled due to the lack of recycling infrastructure.

To develop a better approach to managing PV waste, LG Electronics studied how modules are typically discarded in Korea as well as other countries, and with the help of recycling companies researched technologies for collecting usable materials to enhance recycling and resource conservation.

As a result, LGE's Gumi site has been recycling waste PV modules generated from its production process since 2018.



**Target**  
Collect 4.5 Million Tons of e-Waste Between 2006 and 2030

LG Electronics aims to increase its global e-Waste recycling rate by supporting systems to responsibly collect and dispose of e-Waste in all the regions of the world where we operate. We will cooperate with the governmental agencies, regulatory authorities and recycling companies to strengthen our global collection and recycling efforts to collect 4.5 million tons of accumulated e-Waste by 2030 (compared to 2006). We are implementing policies to meet e-Waste recycling regulations in all regions of the world and operating collection facilities. In addition, we consider the environmental burdens of e-Waste during the product design stage, and are expanding collection and recycling programs for various wastes such as home appliances.

**Strategy**  
Implement a Policy of Collecting e-Waste

**Complying with e-Waste Collection and Recycling Regulations**

LG Electronics provides customized e-Waste collection and recycling services that meet the requirements of countries covered by the Waste Electrical and Electronic Equipment (WEEE) Directive. In some countries, we voluntarily provide e-Waste collection and recycling services. We are committed to improving the recyclability of e-Waste by assessing recyclability at the design stage of electronic products. Through these activities, LG Electronics contributes to preserving natural resources and protecting the environment.

**Providing e-Waste Collection Guidelines**

We provide e-Waste collection guidelines in accordance with Waste Electrical and Electronic Equipment (WEEE) regulations to customers, encouraging them to properly dispose of e-Waste. Unlike other general waste, all electric or electronic equipment should be collected at facilities designated by governmental agencies, regulatory authorities and recycling companies. We post information about national and regional collecting facilities and collecting system on our website. ([www.lg.com/global/recycling](http://www.lg.com/global/recycling))

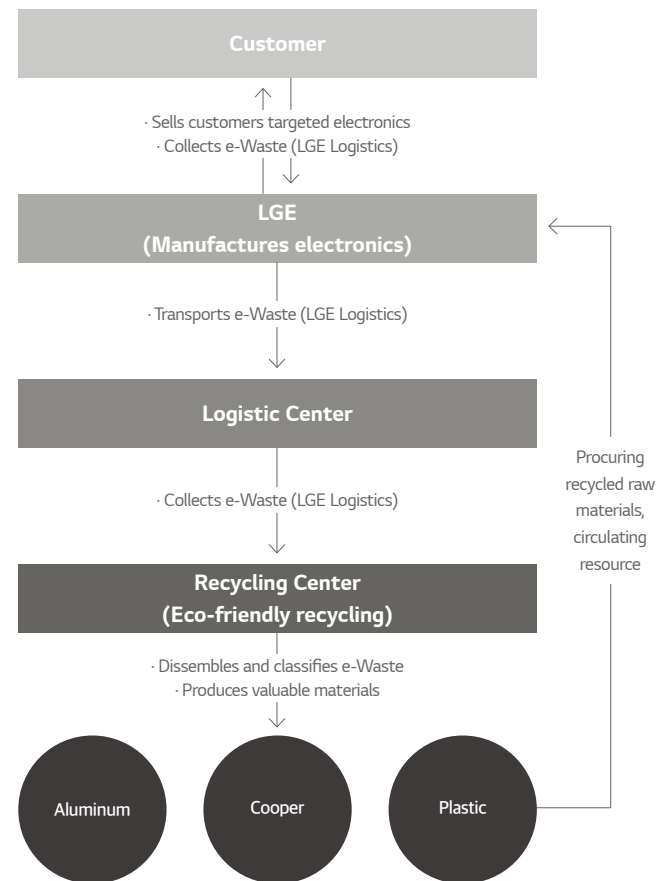
**Advocating the Adoption of the 'Individual Producer Responsibility (IPR)' System**

In order to comply with worldwide e-Waste collection regulations, LGE advocates the adoption of 'Individual Producer Responsibility', which delineates the future responsibility for collecting e-Waste. We hope that solutions for tracking and managing e-Waste become broadly disseminated. We expect that producers will have more incentive to apply the Ecodesign standard, if the IPR system is adopted for e-Waste. LG Electronics believes that IPR is essential for increasing recyclability and reducing the environmental burden of landfilling and incinerating e-Waste.

**In Korea: Joining the Extended Producer Responsibility System**

LG Electronics actively participates in the 'Extended Producer Responsibility (ERP)' in order to create a circular economy for sustainable development. LGE strives to build and improve the collection system of e-Waste in Korea in order to reuse and recycle e-Waste in an environmentally friendly way.

**In Korea: e-Waste Collection and Recycling System**



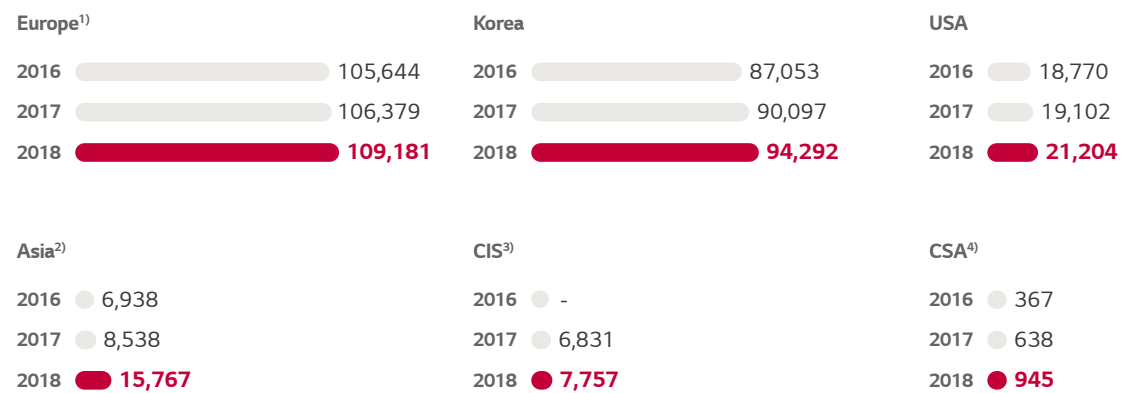
**Strategy**  
Operate an e-Waste Collection Program

**Increasing the Collection and Recycling of e-Waste**

LG Electronics contributes to environmental preservation and the creation of a circular economy by providing an e-Waste collection service customized for national and local conditions. In Korea, we collect e-Waste and process it in an eco-friendly manner through recycling companies nationwide. LGE also faithfully performs its duty to recycle e-Waste in compliance with the Act on Resource Circulation.

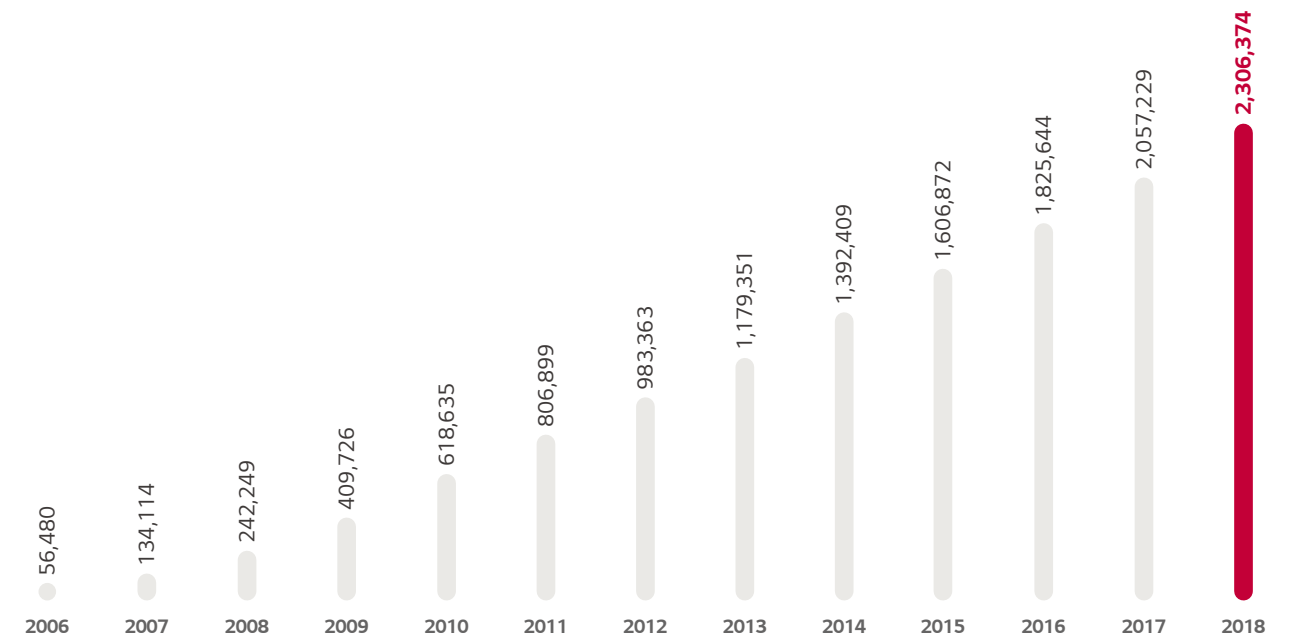
LGE operates a global e-Waste collection and recycling program. We treated 218,772 tons in 2016, 231,585 tons in 2017, and 249,145 tons in 2018. We provide collection services to customers in 85 regions in 51 countries as of 2018. LG Electronics also analyzes regulations and exchanges opinions with governments and industrial groups in regions where WEEE regulations are expected to come into force after 2019.

**Regional e-Waste Collection and Recycling Status (Unit: ton)**



1) Some data are estimations in some European countries 2) Asia: Japan, India, Australia 3) CIS: Russia 4) CSA: Brazil, Columbia, Peru  
\* As the reporting period differs by country, we might not obtain data from some countries. We report estimated amount or that of previous year instead. As a result some data might be slightly different on next year's report.

**Accumulated Amount of e-Waste Collection & Recycling After 2006 (Unit: ton)**



# OUR FUTURE WITH SUSTAINABLE SUPPLY CHAIN



LG Electronics assesses and manages risks that may arise in order to establish a sustainable supply chain, and is engaged in various training and support activities for suppliers to prevent risks. The company operates processes for assessing and checking suppliers and other supply chain actors to resolve issues related to labor practices, human rights, health and safety, environmental protection, and compliance with ethical standards that can arise in the process of producing and procuring major raw materials and minerals. We also work to improve supply chain sustainability in cooperation with global organizations. LG Electronics will actively support our suppliers in establishing management systems that help them secure sustainable competitiveness in global markets, and will expand activities to identify and resolve vulnerabilities in the sustainability of our suppliers.

**Head of Procurement Management Center**

Si-Yong Lee / Senior Vice President



Social responsibility issues related to labor, human rights, and safety faced by suppliers undermine the reputation and brand value of purchasing companies, which may lead to a boycott by consumers, directly or indirectly affecting business performance. LG Electronics has established a CSR risk management system for our suppliers to carry out self-assessment and on-site inspections of all the trading partners. The company has adopted institutional support measures to reduce the proportion of high-risk suppliers, while it has been engaged in diverse activities.

LG Electronics will encourage its suppliers to improve CSR awareness so that they can take the lead in managing CSR risks, and help them to carry out daily activities that minimize and mitigate risks. To this end, we plan to take an active role in operating programs on training, consulting, funding, etc., to help our suppliers enhance their competencies.

**LGE Supplier Code of Conduct**

LG Electronics has established a Supplier Code of Conduct which all of the company's 1<sup>st</sup>- and 2<sup>nd</sup>-tier suppliers must comply with. The Supplier Code of Conduct applies to all organizations that provide the physical and human resources needed to design, produce, sell, and manage LG Electronics' products and services.

LG Electronics, or third-party organizations designated by LG Electronics, can inspect and assess whether a supplier complies with the Supplier Code of Conduct, and if any serious violation is detected during the inspection or assessment, the violator may be requested to implement corrective measures. LGE's Supplier Code of Conduct for suppliers is subject to amendment following internal decisions or policy changes, and the rationale and content of all amendments will be shared with suppliers.

<b>Chapter 1 Respecting the human rights of workers</b>	Voluntary work, Prohibition of hiring child and management of juvenile workers, Prohibition of excessive overtime, Wages and welfare, Humane treatment, Prohibition of discrimination, Guaranteeing the freedom of association
<b>Chapter 2 Safe working environment</b>	Occupational safety, Emergency preparedness, Prevention of occupational injury and illness, Managing industrial hygiene, Managing physically demanding work, Machine safeguarding, Cafeteria and dormitory management, Health and safety communication
<b>Chapter 3 Environment-friendly workplace management</b>	Compliance with environmental laws, Pollution prevention and reduction of resource/energy consumption, Hazardous substance management, Solid waste management, Air pollution management, Compliance with regulations regarding hazardous substances in products and processes, Water management

<b>Chapter 4 Ethics</b>	Compliance with 'Jeong-Do' management and No improper advantage, Information disclosure, Protection of intellectual property rights, Fair trade/advertising/competition, Protection of identity and non-retaliation, Personal Information, International Trade
<b>Chapter 5 Special requirements for conflict minerals</b>	The supplier shall establish, maintain a policy and exercise due diligence to prevent the use of materials sourced through any illegal and unethical means and conflict minerals(3TG)
<b>Chapter 6 Management system</b>	Management's declaration of its will to comply and responsibilities, Responding to external requirements, Risk assessment and management, Improvement objectives, Listening to employees' opinions and improvement, Documentation, Suppliers' responsibilities



**Target**

**Use 100% Responsible Minerals Assurance Process (RMAP) Conformant Smelters by 2021**

LG Electronics has implemented systems to responsibly source minerals from conflict-affected areas to avoid using materials in our products associated with labor and human rights abuses during mining activities. The company monitors the origin of certain minerals included in its products throughout its global supply chain and requires smelters and refiners to participate in the RMAP certification process. As a member of the Responsible Minerals Initiative (RMI), which sets global industrial standards for four conflict minerals including Tantalum, Tungsten, Tin and Gold (3TG), and the Public-Private Alliance for Responsible Minerals Trade (PPA), whose members include the U.S. government and various NGOs, LG Electronics provides supports initiatives for conflict minerals traceability as well as third party assurance and in-region activities for responsible sourcing. The company also participates in initiatives for improving the local mining and environmental conditions as a mem-

ber of the RMI Tin Working Group which aims to promote sustainable mining on Bangka Island, Indonesia. In addition, the company endeavors to improve supplier and smelter awareness regarding the responsible use of minerals, while requiring that suppliers use RMAP-certified smelters and refiners in cooperation with LG subsidiaries. In addition to the four major conflict minerals (3TG), LG Electronics participates in global initiatives to trace the origin of other minerals, including cobalt and mica, that have led to social issues in recent years. We are improving our Conflict Minerals Management System, which we use to trace the origin of such minerals, and working with LG Chem to trace the origins of cobalt used in batteries. LG Electronics plans to use only RMAP conformant smelters for tantalum and tungsten by 2019, tin by 2020, and gold by 2021.



**Strategy**

**Establish a Conflict Minerals Management System**

**Conflict Minerals Management Policy**

In accordance with LG Electronics' conflict minerals management policy, the company complies with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas to implement systems to trace, monitor and responsibly source 3TG minerals from LGE's 1<sup>st</sup> tier and sub-tier suppliers. All 1<sup>st</sup>-tier suppliers must document procedures and provide evidence to check whether materials parts, components, etc. supplied to LG Electronics contain conflict minerals (tantalum, tungsten, tin, and gold) and register required information in the LGE Conflict Minerals Management System. LG Electronics requires all smelters and refiners in our supply chain to conform with the RMAP or other recognized third party verification mechanisms LGE communicates regularly with suppliers and partner companies to encourage continuous RMAP participation.

**Conflict Minerals Management Standards**

LG Electronics has adopted an internal standard that defines the requirements for the company's conflict minerals management system and process operations. The standards were made with reference to the U.S. Securities and Exchange Commission (SEC)'s Conflict Minerals Final Rule and the OECD Due Diligence Guidance. The conflict minerals management standards are applied to all products designed, produced, sold and supplied by LG Electronics, products designed and produced by suppliers but supplied to market with the trademark of LG Electronics attached (ODM part/model), and products designed by LG Electronics, produced by the suppliers and supplied to market with the trademark of LG Electronics attached (OEM part/model). LG Electronics reviews and revises the standards on a regular basis, and provides training on the requirements of the standards to LG Electronics employees and suppliers.

**Conflict Minerals Management Organization**

LG Electronics has a global cross-functional team to support responsible mineral sourcing consisting of representatives from Compliance, Procurement, Sales and Corporate Social Responsibility. To ensure conflict minerals compliance and program implementation are effective, the task team undertakes the following measures.

- Communicating with the public through a global online channel (website) and email (conflict-mineral@lge.com)
- Analyzing external situations, including customer requests, regulatory compliance, utilization of RMI<sup>1)</sup> tools, international forums, NGO requirements and the media
- Evaluating the conflict minerals management program twice a year and implementing improvement measures based on reviews of the evaluation results
- Compiling internal reports and providing necessary support to strengthen the effectiveness of the conflict minerals program and to respond to customer requests and risks related to conflict minerals
- Supporting industry efforts and multi-stakeholder initiatives to advance responsible mineral sourcing - including participating in working groups, steering committees, supporting in-region activities and third party assurance mechanisms as a member of the RMI and PPA

<sup>1)</sup> RMI regularly provides member companies with information on global mineral supply chains and holds forums for the exchange of views on best practices in an effort to advance responsible sourcing of minerals in conflict-affected and high-risk areas.





**Strategy**

**Conduct Inspections and Due Diligence on Conflict Minerals and Assess Risk Levels**

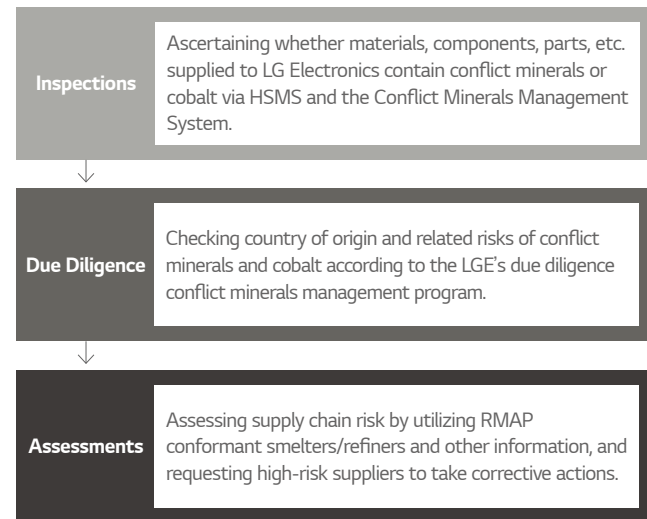
**Conduct Inspection and Due Diligence on Conflict Minerals**

LGE collects the materials content information of parts using an internally designed information technology database called the Hazardous Substances Management System (HSMS) which includes a dedicated module to manage minerals of interest (the LGE Conflict Mineral Management System).

All LGE suppliers are required to submit information to support supply chain traceability and due diligence for tantalum, tin, tungsten and gold before any materials, components or parts are accepted by LGE. Starting from 2019, LGE will also require similar information from its suppliers for cobalt.

LG Electronics cross-checks the information provided by its suppliers with country of origin information, sources designated as high risk or prohibited, and other due diligence evidence registered in the Conflict Minerals Management System. The company can utilize the data in the HSMS and Conflict Minerals Management System to determine use and sourcing of these minerals to varying degrees of detail, including company or product level.

As a member of the RMI, LGE utilizes various industry-leading tools and resources to support its responsible mineral sourcing efforts, such as RMAP conformant smelters and refiners and Reasonable Country of Origin Data (RCOI), as well as other publicly available sources of information.



**Assessment of the Risk Level of Conflict Minerals**

The Conflict Minerals Management Standard of LG Electronics assesses risk-levels related to the procurement of conflict minerals and cobalt based on information on raw materials, intermediate goods, country of origin, and smelters, and refiners and it provides countermeasures and response procedures for each level of risk.

LG Electronics requests that suppliers provide accurate information on the origin of conflict minerals and cobalt, and checks the origin and distribution channels in order to improve the risks regarding suppliers and conflict minerals. The company ceases trading with suppliers, smelters and refineries that are high-risk or are unwilling to improve their operations.

**Current Status of RMAP<sup>1)</sup> Conformant Smelters (as of April 2019)**

● Conformant ● In progress ● Non-conformant

**Tantalum (Unit: number, %) Target : 100% RMAP conformant by end of 2019**

2016 42 3 45 (93%)

2017 38 0 38 (100%)

2018 36 3 39 (92%)

**Tungsten (Unit: number, %) Target : 100% RMAP conformant by end of 2019**

2016 34 3 37 (92%)

2017 35 1 36 (97%)

2018 38 3 43 (88%)

**Tin (Unit: number, %) Target : 100% RMAP conformant by end of 2020**

2016 64 6 8 78 (82%)

2017 70 1 1 72 (97%)

2018 71 1 10 82 (87%)

**Gold (Unit: number, %) Target : 100% RMAP conformant by end of 2021**

2016 64 4 22 90 (71%)

2017 70 5 30 105 (67%)

2018 99 3 32 134 (74%)

**Total (tantalum, tungsten, tin, gold) (Unit: number)**

2016 230 10 36 276

2017 239 6 39 284

2018 244 7 47 298

1) Responsible Mineral Assurance Process (RMAP): RMI's independent 3<sup>rd</sup> party assurance system to evaluate and audit smelters and refiners to ensure conflict-free sourcing.



**Strategy**

**Establish a Cooperative System to Respond to Conflict Minerals**

**Support of RMI's Due Diligence on Conflict Minerals**

LG Electronics is a member of the RMI, and utilizes RMAP conformance programs operated by RMI, the leading international initiative to support companies in decision making for responsible and ethical mineral sourcing. Through independent third-party auditors, the RMAP assesses and validates smelter and refiner mineral sourcing practices to ensure conformance with RMAP standards designed to meet regulatory requirements and international standards for sourcing in high risk areas.

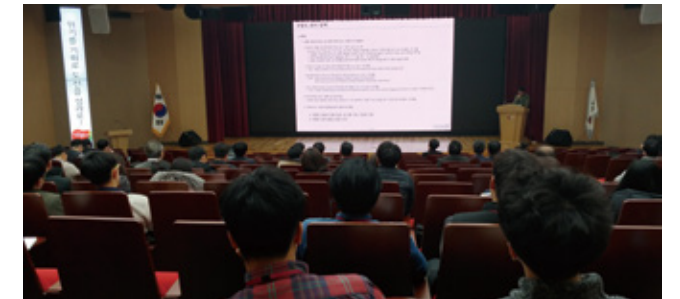
The company also regularly supports RMI initiatives in a variety of ways, including smelter/refiner outreach, inter-industry cooperation and working group or steering committee participation.

In 2018, LG Electronics joined the Public Private Alliance for Responsible Minerals Trade (PPA), a multi-stakeholder initiative with members from the US government, the private sector and civil society, working together to help advance programs in-region in central Africa to support conflict-free mineral supply chains.

In addition, in 2019, the company contributed funding to the RMI's Initial Audit Fund to help finance RMAP audits for smelters and refiners who need financial support to participate in the RMAP process.

**Operation of a Working Group with LG Subsidiaries**

LG Electronics has formed a joint working group with LG Chem, LG Display and LG Innotek to urge the suppliers of each subsidiary to use minerals and cobalt processed by RMAP-conformant smelters and refiners. In November 2018, education on the management of conflict minerals and cobalt was provided jointly to 169 of the 1<sup>st</sup>-tier suppliers (with 239 persons attending) doing business in major cities of Korea (Seoul, Incheon, Pyeongtaek, Changwon, etc.) to help suppliers independently establish and manage conflict minerals according to LGE's requirements.



Education for suppliers on the management of conflict minerals and cobalt

**Participation in a Working Group in Bangka Island, Indonesia**

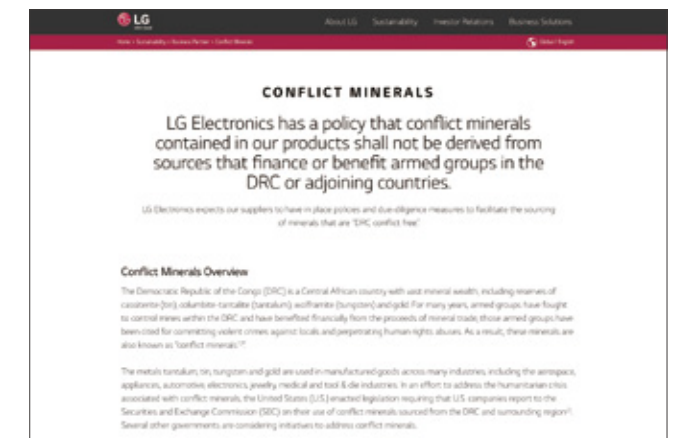
LG Electronics has been participating in a TWG (Indonesian Tin Working Group) since 2013 with other companies that use tin, as well as Indonesian smelters, government agencies, NGOs, etc., to develop sustainable practices at mine sites, including addressing workers occupational health & safety and promoting practices for environmental protection and conservation occurring in connection with tin mining on Bangka Island, Indonesia.



2018 PPA Working Group Meeting (Photo Credit: Resolv, 2018)

**Disclosure of LG Electronics' Activities and Performance**

LG Electronics discloses progress in its conflict minerals management programs and its activities and performance related to the responsible use of minerals by publishing this sustainability report every year. In addition, we continue to update our conflict minerals management status on our global website (<https://www.lg.com/global/sustainability/business-partner/conflict-minerals>). Starting from 2019, LG Electronics began publishing a more detailed report in order to respond to stakeholders' requests for information on conflict minerals and its due diligences measures.





**Target**

**Assess the CSR Risk of all 1<sup>st</sup>-tier Suppliers and Reduce the Proportion of High-risk Suppliers**

Recognizing the international communities' growing interest in and each nation's strengthened regulations on suppliers' CSR management responsibilities, LG Electronics has established and operates a CSR risk management system for suppliers.

Since 2012, the company has conducted CSR risk self-assessment activities for key suppliers. Moreover, LG Electronics established a CSR-risk management system in 2017 to manage all 1<sup>st</sup>-tier suppliers. We aim to reduce the proportion of suppliers with high CSR risk.



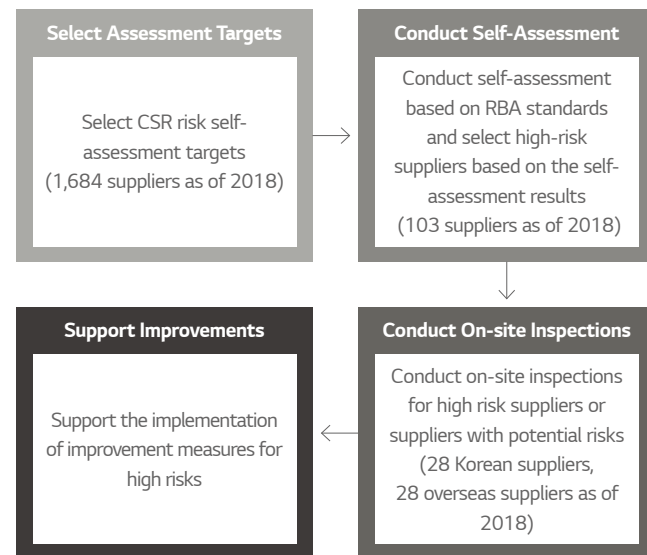
**Strategy**

**Conduct Self-assessment and Inspection on the CSR Risks of Suppliers**

LG Electronics assesses the CSR risks of suppliers in accordance with the Code of Conduct of the Responsible Business Alliance (RBA), internal guidelines for CSR risk self-assessment and inspection.

LGE conducts CSR risk self-assessment once a year for all 1<sup>st</sup>-tier suppliers. The company has checklists based on RBA standards to assess suppliers in the areas of health and safety, labor and human rights, environment, ethics, and management systems, and the results are registered with the CSR Risk Management System.

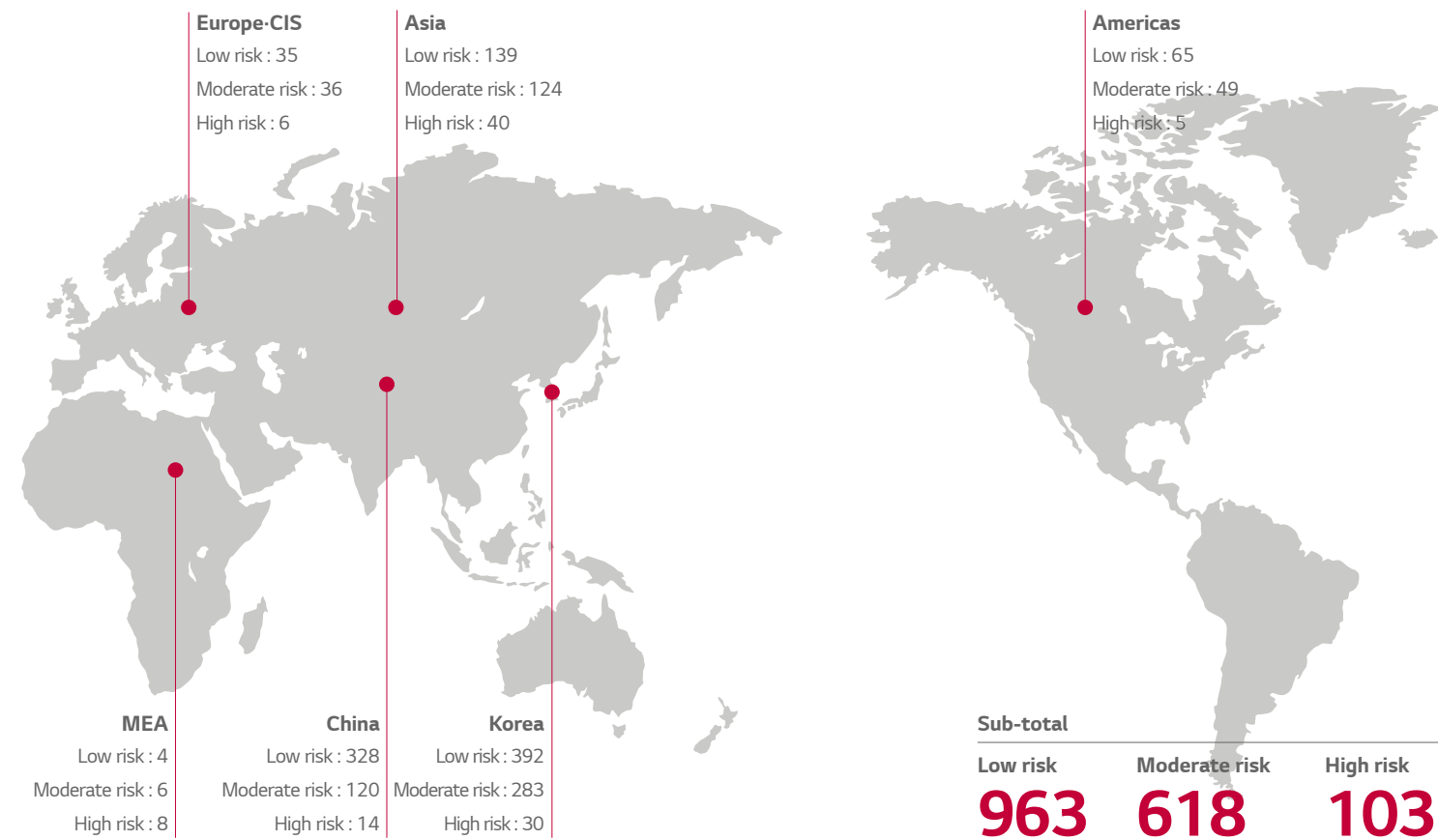
Based on the results of the CSR risk self-assessments, the company conducts on-site inspections for high-risk suppliers or suppliers with potential risks. LG Electronics operates a process of checking worksites and working conditions of suppliers and collecting feedback from their employees in order to verify the level of risk in the worksites of the suppliers. Moreover, taking into consideration the results of self-assessment and the results of the on-site inspection, the company requests suppliers to identify needed improvements for mitigating CSR risks and to implement appropriate measures.



LG Electronics has enhanced the capabilities of its overseas subsidiary managers so that they can perform assessments on their suppliers. Through inspection, due diligence, follow-up management, and the provision of guidelines, we have laid the foundation for local management of high-risk suppliers.

In addition, professional training programs on CSR risk management are made available to the CEOs and staff of 1<sup>st</sup>-tier suppliers to spread our culture of self-assessment on CSR.

2018 Supplier CSR Risk Level (Unit : suppliers)



2018 Status of CSR Risk Management of High-Risk Suppliers

	Sub-total	Korea	China	Asia	Europe · CIS	Americas	MEA
<b>No. of suppliers with risks to be addressed by themselves</b>	48	2	14	18	6	-	8
<b>No. of suppliers with risks to be addressed through on-site inspections</b>	56	26	-	22	-	6	-



**Strategy**

**Identify and Implement CSR Risk Improvement Measures for Suppliers**

LG Electronics encourages suppliers to improve high-risk CSR items that have been identified through self-assessment and on-site inspection, or is engaged in supporting such activities. In consultation with the suppliers, the company has established plans and methods for implementing improvements, and encourages suppliers to implement improvement measures by themselves. LG Electronics also dispatches experts to support the effective mitigation of high CSR risks.

In the meantime, when signing a purchase contract with a supplier, LG Electronics requires the supplier to comply with CSR by reflecting it in the Code of Conduct for suppliers, along with the supplier's CSR risk self-assessment, on-site inspection results and history of CSR compliance.

In the future, the company will conduct self-assessments twice a year for key suppliers to enhance their CSR risk management capabilities and help them resolve risks. LG Electronics plans to upgrade its CSR risk management system to improve the reliability of self-assessments.

Case study of 2018 On-site Inspection for Suppliers



Electrical Safety Inspections to Check for Fire Risks (EPS supplier in Korea)



Training on on-site inspection, sharing an NGO report related to labor and human rights (press supplier in Indonesia)

Current Status of 2018 CSR Risk Education in Korea

	First Half	Second Half
<b>Number of suppliers</b>	307	277
<b>Number of employees and officers at suppliers</b>	364	288



# OUR FUTURE WITH DECENT WORKPLACES



LG Electronics provides equal opportunities to its employees to demonstrate their skills and rewards those with outstanding performance. In addition, LG Electronics is strengthening our institutional base to facilitate work-life balance and promote mutual communication for the development of a creative and autonomous organizational culture based on the 'LG Way'. The company also carries out activities to expand its corporate-wide safety culture and risk self-assessment to minimize potential risks and prevent accidents in the sectors of health and safety, the environment, labor and human rights, ethics, and management systems. LG Electronics spares no efforts to ensure safe and decent jobs by establishing a safety culture at workplaces, managing CSR risks, and promoting work-life balance.

## Target Create the Strongest Safety Culture in the Manufacturing Industry by 2030

LG Electronics aims to establish a safety culture in the manufacturing sector that surpasses all others by 2030 and has been carrying out diverse activities to prevent accidents and establish such a culture since 2017. First, LG Electronics developed the 'Safety Culture Awareness Level Indicator' to evaluate the level of the safety culture at the company and has identified tasks to improve the perceived level of the safety culture. At present, LG Electronics' safety culture awareness level is 3.0 out of 5.0, which means that the company is at the transition point for recognizing safety as a personal value. Our short-term goal is to improve the safety culture awareness level to 3.5 by 2020 (This is level at which each employee tries to secure his or her own safety and recognizes safety as an individual right). In order to establish a culture of caring for the safety of colleagues by 2030 the company has set three tasks: 'Demonstrating leadership', 'expanding employees' participation', and 'improving the risk management system'.



## Strategy Demonstrating Leadership: Operate a Safety & Environment Day

We designate the first Tuesdays of every month as Safety & Environment Day, and on-site safety checks are led by the business site managers, leaders and presidents of overseas subsidiaries. The scope covers all the management aspects of the organization including fire and safety accident occurrence points in production, research, logistics, and the office, and the company establishes a risk-improvement plan based on the safety inspection results. The results of the risk inspection, the improvement plans and the improvement results are shared with the department in charge of the site's safety management every month. LG Electronics ensures that risk inspection occurs at least twice a year in order to prevent safety accidents and spread safety culture.

- Major Check Points for Safety Inspections (Common)**
- User-centered fire safety inspection (Standard Operating Procedure)
  - Emergency evacuation route and emergency contact
  - Management of chemicals and their corresponding material safety data sheets (MSDS)
  - Compliance with multi-outlet safety management standards
  - Management of fire-fighting facilities (fire extinguishers, fire hydrants, etc.)
  - Management of flammable materials, etc.
  - Waste treatment and storage status
  - Progress on previous nonconformities when conducting checks

## Strategy Expand Employee Participation

### Sharing of Safety Accident Prevention Measures

LG Electronics conducts accident-free campaigns at each workplace in order to prevent workplace accidents and disasters, and the company reports accidents status and safety issues to the management every month. We then analyze the cause of each accident, and implement countermeasures to prevent similar accidents and share them with all our business sites.

### Expansion of Safety Training in Korea

LG Electronics operates a safety training center at each business site where safety-related training courses utilizing VR are provided to maximize effectiveness. In 2018, the company developed the safety character 'SAPI (Safety is Happiness)', and has been using it in the form of animations to help employees understand safety a little more easily and with more fun.

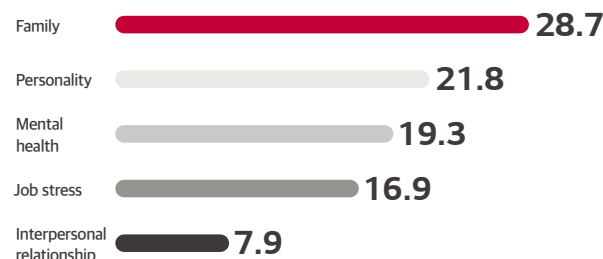
Employee EESH Training Status in Korea (Unit: hour)

	2016	2017	2018
General Training	801,895	883,767	1,063,755
Special Training	1,469	1,529	970
Professional Training	404	3,317	4,206
Total	803,768	888,613	1,068,931

### In Korea: Operation of a Counseling Center

LG Electronics is improving the psychological stability and job engagement of employees through counseling services. In addition, we contribute to productivity improvement by conducting activities geared towards enhancing interpersonal relationships and communication and managing stress and provide a consulting service for the leadership of the entire organization. Since 2018, the company has operated a system for the maintenance of mental health, including a depression test in medical check-ups as a safety net for high-risk groups. In 2018, there were 4,376 cases of individual counseling and 210 sessions of collective programs and education.

Individual Counseling Topics in 2018 (Unit: %)



## Strategy Improve the Risk Management System

### Business Continuity Management

LG Electronics has established a business continuity management system to manage internal and external threats and for responding to internal accidents, such as those involving negligence or fire, as well as social calamities such as natural disasters and terrorism. The company introduced a business continuity management system in the Pyeongtaek plant in 2008, on a smartphone production line in 2014, and at the Gasan R&D campus and the Incheon vehicle component company in 2016. We also introduced a business continuity management system in Vietnam in 2016 and some of our overseas production subsidiaries in China in 2018. LG Electronics plans to introduce business continuity management systems to all its business divisions.

### Expansion of the Scope of EESH Management

Safety risk inspections are conducted not only in production sites and laboratories, but also in logistics warehouses and at suppliers. Safety and fire risks are classified into four grades especially for the logistics warehouses. On-site inspections and consulting are conducted to remove risk factors for the two lower grades.

Results of Fire/Safety On-site Inspection of Suppliers (Unit: number)

	2016	2017	2018
Korea	214	334	340
Overseas	174	269	336
Total	388	603	676

### Establishment of Fire Control Systems

LG Electronics is indexing fire accident-related risks in all production sites and using the data as a barometer for risk management. We also set up our Fire Risk Assessment (FRA), which reduces risks through continuous efforts to improve the state of affairs. In addition, the company has expanded the range of its disaster prevention safety management system by conducting regular fire safety inspections at all logistics centers and suppliers as well as at the company. The company conducts risk assessment and improvement activities for suppliers through fire safety inspections.

### Enhancement of Responsiveness to Natural Disasters

LG Electronics has installed seismometers at business sites located in disaster-prone areas, and provided guidelines for emergency responses to earthquakes. We also provided natural disaster response guidelines on how to respond to natural disasters in overseas warehouses in order to strengthen our capability to respond to future disasters.



**Target**

**Achieve a 100% Low CSR Risk Level for all the Production Sites by 2020**

LG Electronics has established a system to manage CSR risks in the areas of labor and human rights, health and safety, and the environment that can occur at our production sites, and has been striving to minimize the adverse effects of CSR risk-related issues in the business operation process.

Since 2011, LG Electronics has been using the SAQ (Self-Assessment Questionnaire) of the RBA (Responsible Business Alliance) for the self-assessment of CSR risks, and in 2016, the company independently developed an in-depth SAQ based on on-site inspection checklists of the RBA.

The company launched a self-assessment system (PU-SRM) in 2017 for production sites and suppliers. In 2018, we revised the SAQ to contain 102 questions (including basic questions) by reflecting the amended RBA code of conduct and assessment criteria.

LG Electronics makes immediate improvements in cases of serious nonconformity and provides guidelines on self improvement for smaller infractions. Projects that have been improved are verified through the submission of evidentiary documents.

LG Electronics plans to strengthen its CSR risk self-assessment and on-site inspection systems so that all production sites can achieve low CSR risk by 2020. At the same time, we will create a basis for self-assessment so that the CSR managers in the workplace can assess risks related to labor and human rights, health and safety, and the environment. The three production sites in the United States, which were newly established in 2018, will be included in the self-assessment target from 2020, after self-assessed pilot inspections are conducted in 2019.

**CSR Risk Management Process**



**Strategy**

**Conduct CSR Risk Self-Assessments, On-Site Inspections and Third-party Audits**

**Self-Assessment**

LG Electronics has assessed CSR risks using an in-depth SAQ based on the RBA audit manual at production sites in Korea and overseas, and registered the identified CSR risks as needed improvements to encourage each production site to make self-improvements.

In-depth SAQ is a questionnaire developed to reduce the gap between self-assessment results and on-site inspection results. It consists of 32 questions on labor and human rights, 22 questions on health and safety, 16 questions on the environment, and 13 questions on ethics and suppliers. The questionnaire is updated every year in accordance with the revised RBA code of conduct and workplace conditions.

The self-assessment results can be registered and read on the system, and functions such as registration of improvement plans, improvement guidelines, and completion of improvements are also managed through the system.

An in-depth SAQ was conducted at production sites in 2018, and as many as 36 of the 37 workplaces (97%) achieved low CSR risk. Also, 71 out of 96 non-conformancies that were identified were closed immediately.

**On-Site Inspections**

LG Electronics conducts on-site inspections at major production sites at home and abroad and high-risk production sites designated after the CSR risk self-assessments. The company checks the working conditions of the production sites, conducts interviews with employees, analyzes the seriousness of the CSR risks and the impact on businesses based on the results of on-site inspections and suggests improvements befitting each production site. In 2018, LG Electronics conducted on-site inspections and improvement consulting at seven production sites in China and Brazil.

**Third-Party Audits**

The company undergoes external CSR audits by a third party for the sake of objectivity in self-assessments and on-site inspections and to strengthen CSR risk-management capabilities at each business site. Production subsidiaries where non-conformancies were identified are required to address those issues immediately, and the company monitors the implementation status of improvements on a regular basis.

In 2018, LG Electronics conducted third-party audits at five production sites at the request of customers, and plans to do more in the future.

2018 In-depth Self-assessment Results (Unit: number of business sites)

	Total	Labor and Human Rights	Health and Safety	Environment	Ethics and Suppliers
Low risk	36	34	33	37	31
Moderate risk	1	3	4	0	6
High risk	0	0	0	0	0

2018 Regional Risk-level by Risk Area

	Labor and Human Rights	Health and Safety	Environment	Ethics and Suppliers
Korea	○	○	○	○
China	○	○	○	○
Americas	○	○	○	○
Europe/CIS	○	○	○	○
MEA	○	○	○	◐
Asia	○	○	○	○
Total	○	○	○	○

○: Low risk, ◐: Moderate risk, ●: High risk

Third-party Audit Results in 2018 (Unit: EA)

Audit Item	Content of Audit	Number of Issues
Labor and human rights	Working hours	6
	Freely chosen employment	1
Health and safety	Occupational safety	3
	Emergency preparedness	2
	Occupational injury and illness	1
	Sanitation, food and housing	2
	Machine safeguarding	1
	Industrial hygiene	1
Environment	Hazardous substance control	1
Management Systems	Supplier responsibility	2

\* 20 issues in total including 7 in labor and human rights, 10 in health and safety, 1 in the environment and 2 in management systems



**Strategy**

**Spread CSR Risk Management Culture**

**Selection and Implementation of Corporate-wide Improvement Measures**

LG Electronics is continuously improving issues of nonconformity identified through self-assessments, on-site inspections and third-party audits. As part of the revised policies and guidelines, issues that are identified at production sites that are detected repeatedly or that require corporate-level supervision are addressed in joint efforts with relevant departments throughout the company. In 2018, the company inspected contracts of suppliers and agencies which dispatch manpower to production sites in China. As a follow up measure, the company amended standard contracts and distributed them.

**Provision of Awareness**

LG Electronics is reinforcing training for its management, including incoming subsidiary presidents and expatriate candidates, for effective CSR risk management, and continually engaging in awareness initiatives such as publicizing the company's policies and exemplary cases of CSR risk and encouraging the CSR risk management contact point at each site to participate in international conferences and education. In September 2018, LG Electronics presented its CSR Risk Management Best Practice at the RBA outreach meeting held in Korea to share its success. In addition, the company regularly publishes newsletters on CSR risks that are becoming global issues, and strives to raise employees' awareness.

**Case Study**

**CASE** Improved CSR Risk Management of an In-House Supplier

- Workers from suppliers work in our production line, but there was procedural insufficiency in the regular CSR risk checkup for them.
- LG Electronics established a process to apply LGE's HR and EESH policies and standards to workers and suppliers

**CASE** Improved Supplier Payment of Social Insurance Premiums

- Some of the employees of suppliers in China working at production sites did not want to pay for social insurance.
- LG Electronics checked the social insurance payment status of the employees of the suppliers and clarified the relevant provisions when renewing contracts with non-compliant suppliers.



**Target**  
**Make Fundamental Changes in Working Style to Improve Work Efficiency and also Employee Satisfaction due to Improved Work-life Balance**

With the LG Way as a common value shared by every employee of the organization, LG Electronics strives to be a 'strong organization with happy employees'. Employees at LGE grow with the company, enjoy a sense of fulfillment through work and are provided with the opportunity to receive additional, non-monetary rewards such as time and recognition. By making changes and playing a leading role in improving working methods, we will create an organization where all employees freely communicate with one another and strive to achieve our goals.

LG Electronics has been working to upgrade corporate culture in order to boost work efficiency and help employees maintain a work-life balance by carrying out various improvement activities such as continued reduction of work hours, spreading the flexible work system, smart meetings/reports, eliminating work with no added value, and prohibiting calls after work hours.

**Strategy**  
**Realize Our Goal of a 'Strong Organization with Happy Employees' Through Change and Growth**

LG Electronics' Organizational Culture



Policy for Improving Organizational Culture

LG Electronics conducts three organizational culture improvement activities to foster a young and energetic corporate culture in accordance with the 2018 management policy, "the first year in advancing to become the Global No.1 brand that breaks the box"

- Realizing a culture based on employee participation
- Establishing smart work practices
- Creating a young corporate culture where new ideas and innovations can be shared

In Korea: Vision Sharing Meetings

The Vision Sharing meetings are held at each business site for direct communication with the CEO. These meetings give more employees the opportunity to share in LG Electronics' vision and build consensus over standards of thought and judgment.

CEO Briefings

LG Electronics holds CEO briefings on a quarterly basis to help employees understand the management philosophy of top management and policies of LG Electronics. In addition, through performance sharing meetings led by the CFO, LGE provides the opportunity for all employees to understand the company's management status accurately.

In Korea: Operating the Young Creative Team

LGE established the "Young Creative Team", a virtual team led by young talent, to explore creative ideas from the customer's perspective and convey the opinions of the younger generation to the management. Furthermore, we are inviting employees to share ideas for a better life through a new idea competition.

In Korea: Operating the 'Wow' (Way of Working) Bulletin Board

We have opened and are managing a bulletin board where LG Electronics employees can freely post their opinions through which to create a culture where they can choose to make changes. Ideas proposed by the employees are reviewed by the relevant business department, and prompt responses and proper measures are displayed via the bulletin board.



Vision Sharing Meetings

Employee Satisfaction Survey Results (Unit: score)



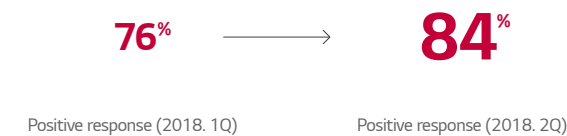
Innovating Work Style Activity

In Korea: Innovating Work Style

LG Electronics has implemented various activities as below in order to innovate work style under the 52-hour work system, and we are collecting opinions from employees on the extent of corporate culture improvement through these innovation activities.

Innovation Activities
Expanding the flexible work schedule for work-life balance
LGE is monitoring organizational units for the establishment of ground rules related to meetings/reporting and for strengthening implementation ability.
LGE is working to prevent sexual harassment and improve dining culture through the production and dissemination of the 'Guidelines for the Dignified Life of LG Employees'
We are spreading 10 employee promises to make changes towards a self-directed work style.
LGE is discovering and disseminating ideas through innovative idea competitions regarding work style.

Assess Innovations in Workstyle



In Korea: Implementing a Flexible Work System

LG Electronics has introduced a flexible work system to establish a 40-hour workweek under which employees can manage work hours discretionally. In addition, we are operating a consultation body to cope with difficulties that may arise from shortened working hours and the flexible work system.

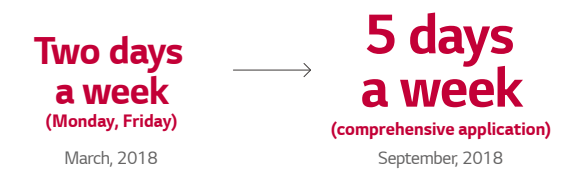
Performance of Shortened Working Hours and Flexible Work System

**40-hour workweek**      **Flexible work scheme**

In Korea: Casual Day

As part of our efforts to establish a young and flexible corporate culture, we have a 'Casual Day', contributing to improved productivity because wearing casual clothes allows employees to focus more on work.

Status of Casual Day



# OUR FUTURE WITH SOCIAL CONTRIBUTION



With 'Cooperating Toward a Better Life for All' as the vision for its social contribution initiatives, LG Electronics strives to deliver the unique value of LGE to stakeholders in order to make long-term contributions local communities regarding major social issues with a long-term perspective. LG Electronics has set up three strategies: 'technology that cares', 'trustworthy partnerships', and 'sharing and comfort'. We strive for the love of customers by creating shared value and a better society. Through 'technology that cares', utilizing our products and technologies, we intend to tackle social issues related to the environment, poverty, and sanitation in the local community. By establishing 'trustworthy partnerships' with professional organizations capable of solving social issues, we are creating an environment where more diverse stakeholders can create social value with LG Electronics. In addition, all employees are participating in our 'sharing and comfort' programs for the development and prosperity of local communities.

**Target**  
**Technology that Cares: Resolve Social Issues by Using the Company's Technology and Products — Aiming for a Total of 300,000 Beneficiaries by 2030**

LG Electronics intends to utilize its products and technologies to provide differentiated value to those who need it. First, the company will establish a process for identifying social issues by listening to the opinions of stakeholders. The company will have all offices adopt this process so that they can carry out social contribution activities on-site by 2030.

Second, the company will select countries that implement CSR strategies every year for in-depth management. We are carrying out social contribution activities centered on selected strategic countries in consideration of population, per capita GDP, and the presence of subsidiaries and branches of LGE and their sales. Major strategic countries for social contributions in 2018 include Myanmar, Bangladesh, Cambodia, Nepal, Sri Lanka, Ethiopia and Kenya. LG Electronics determines whether social contribution activities will continue by analyzing the related businesses and social impacts. We receive AAR (After Action Review) from relevant organizations and participants after an activity to operate more a complete program by actively reflecting the findings in the next year's activities.

Moreover, LG Electronics is launching new social contribution activities with consideration for the opinions of major partners such as local NGOs and customers, and the level of interest in the social contributions of its subsidiaries and branches.



Washing machines for the protective clothing of firefighters

Beneficiaries of 'Technology that Cares' by Region (Unit: person)

Region	Major Program	2016	2017	2018	Remarks
Korea	Dedicated washing machines for the protective clothing of firefighters, love sharing products	40	20	48	(Unit: number)
Europe	LG & ITHACA LAUNDRY	1,025	3,157	4,012	Greece
Middle East - Africa	Free laundromats, science halls, vocational training schools, etc.	682	19,596	66,654	Ethiopia, UAE, Nigeria, Iran, Pakistan, etc.
Asia	Inverter class, IT library, vocational training school, etc.	-	2,650	4,420	Bangladesh, Vietnam, Nepal, Indonesia
<b>Total Sum<sup>1)</sup></b>		<b>1,707</b>	<b>25,403</b>	<b>75,086</b>	

1) Unit in Korea varies from that of other regions, the number of Korea is excluded from the total sum.



## Strategy Solve Social Issues by Utilizing Technology and Products

### In Ethiopia: LG-KOICA Hope TVET College

LG Electronics has been operating vocational training schools in cooperation with the Korea International Cooperation Agency (KOICA) since 2014 in order to nurture professionals in the electronics and IT fields in Ethiopia. Educational curriculums focus on electronics and IT, fields in which LGE boasts strong competitiveness. In order to help trainees stand on their own feet, we are providing opportunities for them to get decent jobs or to operate start-ups by helping them acquire national certificates of accreditation. In 2018, a total of 102 students, including 44 persons descended from veterans of the Korean War, the disabled and the underprivileged, were admitted to the school. The educational curriculum of the vocational training school includes electronic communication and multimedia equipment servicing (ECM), home and office electrical equipment servicing (HOS), and information and communication technology (ICT) to maximize the educational effect in local communities.



LG-KOICA Hope TVET College

### Training of Electronics and IT Professionals and Their Performance in Ethiopia

#### Nurturing Talent in Service Areas

Service center staff working at the LG Electronics Dubai subsidiary visited the TVET college and provided service training twice. In addition, seven excellent students were invited to the Middle East Africa Service Company for overseas training opportunities. These programs have been in place since 2015 to help talents in Ethiopia to become economically independent.

#### Supporting Youth Start-Ups

LG Electronics opened the 'LG Social Campus' at LG-KOICA TVET College in Ethiopia. We support the graduates-to-be of TVET College so that they can find successful business models and start their own businesses. Of the 51 graduates who graduated in 2018, as many as 41 were employed, and 10 successfully started businesses.

#### Field Training

Ethiopian TVET College provides opportunity for on-the-job training to students with hands-on experience. LG Electronics provides students with on-the-job training opportunities at Industry-Academic Collaboration Partner Organizations. As many as 45 students in 11 institutions in 2018 and 66 students in 22 institutions in 2019 have been given such opportunities.

### In Korea: Donating Washing Machines for Firefighters' Protective Clothing

Understanding that firefighters are suffering from a shortage of washing machines, we developed and donated dedicated washing machines for protective clothing to improve working conditions for firefighters. The washing machines use unique washing algorithms for rotation speed, rinsing, and spin that best suit firefighters. In addition, LGE has passed the certification test and product inspection conducted by KFI (Korea Fire Institute).

### In Bangladesh: Operating an LG Inverter Class

LG Electronics has established an LG Inverter class at the Korea-Bangladesh Vocational Training Center in Dhaka, Bangladesh, to share our in-house inverter skills with students and help them become self-sufficient. We are sharing inverter technology related to air conditioner repair with the materials developed by LG Electronics Singapore Service Center and local trainers. Students who have completed the course are offered internship opportunities at LG Electronics' local service centers, and students with good skills are recruited as service engineers for LG Electronics.



LG Inverter Class





**Target**

**Trustworthy Partner: Support the Growth and Independence of Stakeholders Through Partnerships — 100,000 Beneficiaries by 2030**



LG Social Fellow Festival

As a member of the local community, LG Electronics actively listens to stakeholders' opinions on local needs and reflects these opinions in our social contribution activities. In particular, we are actively cooperating with various organizations and groups, such as central governments, local governments, highly specialized international organizations and NGOs, all of whom have a high understanding of the local community. We strive to realize the CSR philosophy reflected in our slogan of 'Life's Good with LG' in every corner of the community. For example, in countries where LG subsidiaries are doing business, we jointly promote social contribu-

tion activities using regional councils and create synergy by utilizing the differentiated capabilities and resources possessed by each subsidiary. In addition, we will establish criteria to select independent, transparent, and professional social contribution partners (NGOs, etc.) and distribute them to all companies. Through this, LGE will monitor the partner selection process every year and try to build transparent partnerships. Also, we have established rules on discretion regarding donations and social contribution costs, thereby raising the procedural legitimacy and legality of donations.

**Beneficiaries of 'Trustworthy Partnership' by Region (Unit: person)**

Region	Major Program	2016	2017	2018	Remarks
Korea	CSR Academy for university students/ Social campus	82	75	1,020	
North America	Experience Happiness		531,200	1,350,000	USA
Latin America	Earth Hour			200	Argentina
Middle East - Africa	Dead Sea Marathon, LG Hope Village, TV Academic Show		8,600	11,607	Jordan, Ethiopia, Egypt
Asia	Visiting health care, Global IT Challenge, Aid support	64,008	55,127	81,239	Myanmar, Cambodia, Bangladesh, India, the Philippines
<b>Total Sum</b>		<b>64,090</b>	<b>595,002</b>	<b>1,444,066</b>	



**Strategy**

**Support the Growth and Independence of Stakeholders through Partnerships**

**LG Social Campus: Supporting Socio-economic Organizations**

LG Social Campus is a platform that supports the social economy in the environmental sector and provides integrated support services such as financial support, workspace support, capacity-building, and human-resource development. LGE provides funding or zero-interest loans to socio-economic organizations and corporations, and leases independent office space free of charge. We also provide support for socio-economic organizations and corporate growth by providing related education, seminars, networking, overseas training opportunities, marketing and public relations support and productivity enhancement consulting services.

**LG Social Campus Support in 2018**



**Performance of Socio-economic Support**

Financial Support	Incubating Office offering	Capacity-building	Human Resource Development
Offered funds or zero-interest loans to socio-economic organizations and businesses in the environmental sector with a high chance of public interest work and innovation	Operated the eco-friendly, 2,440m <sup>2</sup> 'LG Social Campus' to stabilize the business of socio-economic organizations and start-ups	Offered a program to help build the business capabilities of LG social fellows	Operated a socio-economic human resource development program for the proper future of the next generation
Supported a total of 111 companies with a total of KRW 13 billion from 2011 to 2018 (130 overlapped)	Twenty-three socio-economic organizations and businesses in the campus as of 2018	Provided customized consulting for education, seminars, networking, overseas training, marketing, PR, and productivity improvement in the socio-economic sector	One-minute Social Film Festival, 'Local Value Up' (Community Innovation Leader Program)

**In the U.S., U.K.: Environmental Protection Campaign**

LG Electronics screened its environmental protection campaign video 100 times per day on the LGE signboards installed at Times Square in New York and Piccadilly Circus in London. The video in 2018 was about using paper straws instead of plastic straws to reduce the use of plastic disposable products that cause environmental pollution.

**Global IT Challenge for Youth with Disabilities**

We funded the '2018 Global IT Challenge for Youth with Disabilities' to strengthen the IT capabilities of disabled youth and lay the foundations for social advancement. This event consisted of programs to evaluate the ability of utilizing MS Office programs, information searching, video shooting and editing, and coding programs. More than 100 youths with disabilities from 18 countries including the U.K, UAE and Kyrgyzstan participated in this event. LG Electronics will continue to provide IT education and disseminate IT technology to improve the quality of life for youth with disabilities.



Global IT Challenge for Youth with Disabilities

**In Korea: CSR Academy 'Love Genie' for College Students**

LGE has been operating the 'Love Genie program' at our collegiate CSR Academy to systematically foster CSR experts and promote social responsibility among college students in regards to labor, human rights, the environment, ethics, safety & health and social contributions. It has become a representative community where college students and businesses communicate about CSR by understanding problems such as labor-management conflicts, conflict minerals, and child labor, which have become issues in the CSR field in recent years, and planning and implementing CSR activities. (<http://lovegenie.co.kr/>)



CSR Academy 'Love Genie' for College Students





**Target**

**Sharing and Comfort: Conduct Employee Volunteer Activities in All Countries Where the Company does Business by 2030**



2018 LG Global Volunteer Day

LG Electronics engages in diverse CSR activities through the participation of employees in local communities in need. LG Electronics has created a voluntary and faithful sharing culture based on the 'Social Contribution Charter' announced in 2005 and the 'Guiding Principles for LG's Social Contribution' announced in 2012. In particular, based on the 'Social Responsibility of the Labor Union' declared in 2013, LGE has created systems and programs to enable all members to participate in volunteering programs and donations at global business sites around the world. LG Electronics is following a plan for employees to participate in the sharing activities of donation and voluntary service in all countries by 2030.

LG Electronics provides institutional support programs for local and overseas companies to build sharing cultures. We also plan to provide training programs tailored to each job type and position to enhance the awareness of our employees. In addition, the company will have all our local and overseas business sites participate in corporate sharing programs such as the 'LG Global Volunteer Day' and the 'Global Blood Donation Campaign' until 2030.

We will continue to create a culture where all employees participate in voluntary activities and promote our sharing culture.

**Beneficiaries of 'Sharing and Comfort' by Region (Unit: person)**

Region	Major Program	2016	2017	2018	Remarks
Korea	Life's Good volunteer group, participation in one activity per one employee, paid leave for voluntary activities on weekdays	8,105	9,029	11,994	
North America	Blood donation and donation in local communities, etc.	-	-	4,569	Canada, U.S
Latin America	Corporate social contributions, improvement of study rooms, blood donation, etc.	-	-	2,175	Brazil, Colombia, Mexico, Panama
Middle East - Africa	Corporate social contributions, refugee camp sanitary kit support, veterans support, etc.	101	67,228	717	Ethiopia, Syria, Jordan, Kenya, Nigeria
Asia	LG Ambassador, Vacation Together	6,000	6,000	7,000	Bangladesh, China
<b>Total Sum</b>		<b>14,206</b>	<b>82,257</b>	<b>26,465</b>	



**Strategy**

**Practice Sharing Activities with the Participation of Employees**

**In Korea: Life's Good Volunteer Group**

LGE employees have been sharing their talents and skills with the local community through the 'Life's Good Volunteer Group' since 2005. In particular, we have set up a 'Workday Volunteer Program' that gives employees paid leave so they can invest one whole day in volunteer activities. The volunteer group organized a pro bono program called "Life's Good Volunteer Group Pro" in 2015, and have been supporting the activities of non-profit organizations that are in need of professional skills. They are donating their talents to establish websites and to inspect and repair home appliances.

**LG Ambassador Program**

LG Ambassador program is a competition to support 'Community Issues Solutions'. LG Electronics selects a plan to solve local issues submitted by customers and residents, appoints owners of selected plans as LG Ambassador, and provides grants. It is a program that looks after local residents and helps realize the dreams of those who are aware of community issues and have solutions but need support to implement them. We plan to expand and operate this program globally.

**In Korea: Creating an Easy Donation Culture**

We have hosted 'Life's Good Day' every two months since 2011 to make it easier for employees to participate in donations. On Life's Good Day, the number of side dishes is reduced and employees who chose this option can donate the money to the community in need. In 2018, as many as 72,661 people participated and about KRW 28 million was raised through the program. The donations were used for volunteer activities and for international disasters.

In addition, employees working at business sites in Korea participate in a program that donates the space change of their salary (less than USD 1) to social contribution funds.

We have been operating a separate 'Executive Social Contribution Fund' which executives working in Korea can voluntarily contribute to since 2004. The funds raised are delivered to and used by people in need in an appropriate and transparent manner and in accordance with decisions made by the Committee for Operating Executive Social Contribution Fund.

**Volunteer Relay Activities**

Since 2010, LGE has designated June 5 as 'LG Global Volunteer Day' in commemoration of World Environment Day. This is a day when corporations and employees carry out environmental protection campaigns around the world led by labor unions. In 2018, about 5,332 employees from 45 business sites in 26 countries participated in unique environmental protection campaigns.

In particular, in Korea, we commemorate 'LG Global Volunteer Day' through our '1 Voluntary Activity per 1 Department' policy wherein employees can easily participate in protecting and preserving the environment. We have implemented environmental preservation activities at parks and rivers in communities near our business sites. In 2018, 1,913 people from 98 organizations participated in volunteering activities.



Life's Good Volunteer Group



Life's Good Day



1 Voluntary Activity per 1 Department





# SUSTAINABILITY FACT BOOK

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# Together With Our Customers

## Customer Satisfaction Service

LG Electronics provides customers with various direct and indirect experiences when selecting products, and improves customers' accessibility to services that reduce any inconveniences customers may face while using its products. The company is equipped with a customer consultation channel to respond to various service requests according to age group and preference, and provides guidelines for customers to handle issues by themselves when using products. Aiming at market expansion, LG Electronics intends to strengthen its service system to enable customers to experience and use products more conveniently.

## Customer-centered Management Goals

- LG Electronics will strengthen service-driven, customer-centered management by improving customer satisfaction through the company's competitive advantages in service.

## Mid- and Long-term Goals

 <b>Strengthening service competitiveness in each country</b>	<ul style="list-style-type: none"> <li>• Change Korea Service Center's system so it can be directly operated in order to strengthen customer care</li> <li>• Expand the direct management of service centers overseas and customized services for each country and product</li> </ul>
 <b>Taking pre-emptive measures for VOC</b>	<ul style="list-style-type: none"> <li>• Improve customer service quality by integrating, managing and responding to feedback from customers in all areas</li> </ul>
 <b>Taking pre-emptive measures for future service</b>	<ul style="list-style-type: none"> <li>• Lead customer service using artificial intelligence (AI) and IoT convergence technologies</li> </ul>

## Enhancement of the VOC Management System

- Use internal channels including call centers and the website, and online channels such as blogs, communities and social networks (SNS) to collect grievances and suggestions from customers, and make improvements through external agencies such as the Korea Consumer Agency.
- Handle customer complaints raised through the internal and external channels according to the following process: VOC acceptance, VOC type analysis, VOC Care, and notice of result.
- Change processes to swiftly respond to VOCs, subdivide response strategies through earlier VOC detection and transform the system to maximize the customer experience.



- Actively monitor and improve customer requests and complaints in the USA, Canada, Middle East, Africa, etc.
- Analyze customer requests and complaints to determine the most common inconveniences and share them with relevant departments to improve activities and performance management.
- Plan an expansion of VOC management activities to 19 major markets in the first half of 2019.



Ranked first in Korean Standard-Service Quality Index (KS-SQI) | Ranked first in Korea Top Brand Award

## Enhancement of Accessibility to Customer Service

- Enable customer counseling without restrictions on time and place through the AI-equipped.
  - communicate with customers via smartphone and PC, provide solutions such as making reservations and purchasing consumables by identifying customers' concerns
  - provide 24/7 consultations
  - provide more specific responses through AI learning of the Chatbot service over time.
- Allow customers to register for visiting services by implementing vocal recognition technology in Voicebot, eliminating the need to wait for call center representatives.

## On-site Training in Customer Service to R&D Personnel

Provide training to develop products that reflect customer needs by enhancing the R&D personnel's understanding and experience of customer service

Year	Training characteristics/Number of trainees
2017	Started on-site training programs for 658 employees (Executives and team leaders)
2018	Organized a regular R&D curriculum for 639 employees (Managers and leaders)

## Customer Satisfaction Surveys

- Conducted a satisfaction survey in Korea after sending text messages to customers who have experienced LG Electronics' service.
- Surveyed the satisfaction level of overseas customers who have experienced LG Electronics' service, and managed the percentage of customers who have been satisfied with the service.

## Customer Satisfaction in Korea (Unit: score)



## Awards for Customer Satisfaction

Country	Awards
Korea	Ranked first in Korean Standard Service Quality Index (KS-SQI) for home appliance after-sales service
	Ranked first in Korean Standard Contact Service Quality Index (KS-CQI) for home appliance after-sales service
	Ranked first in Korea Customer Surprise Brand Index (K-CSBI) for home appliance after-sales service
	Ranked first in Customer Loving Brand Awards for home appliances after-sales service
Thailand	Received 'Customer Care Standard Award', a ministerial commendation for excellent customer service
New Zealand	Award for Excellent Customer Service Quality
Indonesia	SVC Excellence Award

## Overseas Net Promoter Score (NPS) (Unit: score)

	2016	2017	2018
Overall	65.5	68.6	68.3
USA	53.5	53.4	63.0

## Provided Training to Improve the Quality of Customer Service

- Operated 12 service academies around the world to improve the quality of customer service in global markets
- Launched training courses for customer service technicians to improve repair skills and customer service capabilities.
- Established a global online education system to provide customized training suitable to technicians of every level.
- Reinforced quality competitiveness by providing an average of 10 hours of training per year to about 60,000 customer service technicians worldwide.

## Defect Recurrence/Rate of Repeat Service Requests



## Began Preparations for Future Services

### 1. Provided Proactive Services for Customers in the USA.

- Provided product error alerts and tips for maintaining products by tracing of a customer's product usage history.
- Plan to expand 'Before Service', which helps customers resolve issues when a product error occurs.

### 2. Strengthened Video Consulting Service

- Deployed professional video agents to help with troubleshooting through remote connection with customers.
- Plan to secure a web-based video consulting service system to improve convenience and quality of video consulting services.

### 3. Provided Training to Service Technicians Using AR Glass<sup>1)</sup>

- Started repair training for service technicians using AR Glass, and checked the causes of failures and repair methods using AR Glass.
- Plan to utilize AR Glass not only to solve customer problems, but also to provide technical support in the field.

1) AR Glass: Augmented Reality Glass

### 4. Improved B2B Customer Service

- Expanded specialized services for hotel TV and signage products, and monitored and controlled the operational status and errors of products connected to signage in real-time.
- Provided low-cost, high-efficiency service by ensuring the stable operation of products and minimizing site visitation through real-time monitoring.

## Held Global Service Olympics for Service Technicians



Held 'The 1st LG Global Service Olympics', where service technicians shared their product repair capability and know-how and selected 11 winners after evaluating their precise repair talent and the time required to repair defective TVs, refrigerators, washing machines, air conditioners, mobiles, etc.



### Protection of Personal Information and Product Security

LG Electronics complies with the basic principles of data security and privacy and thoroughly manages customer information. The company also analyzes privacy laws in Korea and overseas, systems, and industrial practices to respond immediately to key risk factors. In addition, LG Electronics conducts security activities (LG-SDL) at each software development phase for product security, and we operate a representative contact point, PSRT (Product Security Response Team), and process as well as a Bug Bounty in order to receive information on security vulnerabilities from external sources and proactively communicate with the customers at key points of contact.

#### Basic Principles of Data Security & Privacy

##### 1. Collection of the Minimum Amount of Information

We collect only the minimum amount of information that is absolutely necessary and strictly refrain from any activity to collect unnecessary information.

##### 2. Protection of Right to be Informed

We inform our customer about the items to be collected, purpose, period of possession and use before collecting any personal information, and we obtain consent from the customers.

##### 3. Measures to Ensure Data Security

In transferring and storing personal information, we implement all necessary technical, physical and managerial measures such as access control, access privilege management, maintenance of access logs and data encryption.

##### 4. Use of Information Within Collection Purposes

We strictly prohibit the use of personal information for purposes other than those intended. When providing information to a third party, we inform customers in advance and obtain their consent.

##### 5. Safe Disposal of Collected Information

We destroy all personal information without delay once it has served its purposes and the retention period has lapsed and ensure that the information is completely destroyed and unrecoverable.

#### Data Security and Privacy System

- Operating a 'Data Protection Division' to protect personal information and the establishment of a data risk management system led by the Division.
- Deeming the name and phone number of an individual, other information that can be identified from such data, and any information that carries the

- potential for the infringement of privacy, to be categories to be protected.
- Complying with local and international laws, regulations and industry practices at every step of the process and carrying out the review process in strict compliance with our principles for personal data protection.

#### Technical Measures for Data Security and Privacy

- Guaranteeing secure personal information transfer (SSL) using encryption algorithms
- Controlling unauthorized access using an external access control solution
- Saving identity authentication information such as passwords using a one-way encryption system
- Specifying the purpose and minimizing output items for each purpose when printing personal information
- Requesting approval from the manager before printing or copying personal information

#### Managerial Measures for Data Security and Privacy

- Restricting access to personal information to the minimum number of persons necessary and controlling access by designating the computer room as a special protection area.
- Changing or cancelling the personal information controller (administrator)'s right to access the personal information processing system in the case of a change in the personal information controller(administrator).
- Setting up a personal information processing system and a personal information controller(administrator) PC so that personal information is not disclosed to unauthorized persons.
- Recording the grounds for data collection in accordance with the standards recommended by law when collecting, utilizing and destroying personal information.
- Archiving personal information and general data separately using separate servers.

#### Conditions for Sending Personal Information to a Third Party

When there is a prior consent on provision to a third party.	When it is necessary for the settlement of charges according to the service provision.	When it is necessary for contract performance, such as in delivery/ service, etc.	When there are sufficient grounds to disclose personal information in order to take legal actions regarding mental or physical harm done to others.	When it is provided to external organizations for data compilation, marketing analysis, or market research in a form where specific individuals cannot be identified.	When it is necessary for the implementation of the service contract, but it is significantly difficult to obtain normal consent for economic or technical reasons.
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Except under the provisions of related laws, we will not use personal information beyond the scope consented to by customers, or provide it to any third party, except in the above cases.

#### Rights of Data Subjects

- Customers, their legal representatives, or, in the case of children under the age of 14, their parents, may inquire about or make corrections to their personal information at any time, or unsubscribe from the service where it is collected.
- Customers may read or correct personal information, unsubscribe from services that collect personal information, or request other action in writing or by phone or email.
- We process and retain personal information only within the period of retention and use, and delete it without delay upon request or when consent is withdrawn.

#### Principles of Product Security

- Detected/removed potential vulnerabilities to product security from the early stages of product development.
- Secured and ensured consistent product security.
- By establishing processes to respond to new security vulnerabilities found after the launch of new products, promptly analyzed identified security issues and provided timely SW updates to keep the products up to date.

#### Dedicated Product Security Team

- Upgraded product SW security and established a security strategy to reflect global Cyber Security regulation.
- Received external feedback on security vulnerabilities after releasing products and operated a dedicated team to actively communicate with customers.

#### Training SW Security Experts

- Opened a software security expert training course in 2018 in order to enhance the ability of software developers to drive software security activities and develop core security technologies
- Operated a training program to improve expertise aimed at nurturing 150 specialists by 2022.
  - Employees certified in the 1<sup>st</sup> Program: 11 people
  - Candidates for the 2<sup>nd</sup> Program: 20 people

#### Activities to Check Systematic Vulnerabilities in IoT Products

- Checked vulnerabilities in IoT products and internal/external systems using LG Electronics Information Security Analysis Center (ISAC), a professional penetration testing body.

<b>Web Server Penetration Testing</b>	<ul style="list-style-type: none"> <li>• Prepared for server-intrusion through illegal access and hacking</li> <li>• Blocked fraudulent accounts</li> </ul>
<b>Mobile App Hacking</b>	<ul style="list-style-type: none"> <li>• Prepared for unauthorized access and remote control of home appliances</li> <li>• Prevented personal information leakage</li> </ul>
<b>Internet Service Hacking</b>	<ul style="list-style-type: none"> <li>• Analyzed smart product controllability</li> <li>• Prevented personal information leakage</li> </ul>
<b>Smart Product Diagnostics</b>	<ul style="list-style-type: none"> <li>• Analyzed information exposure on servers</li> <li>• Prevented infection from malicious code and viruses</li> </ul>

#### Signed an Agreement for the Development of Integrated Security Solutions for Autonomous Vehicles

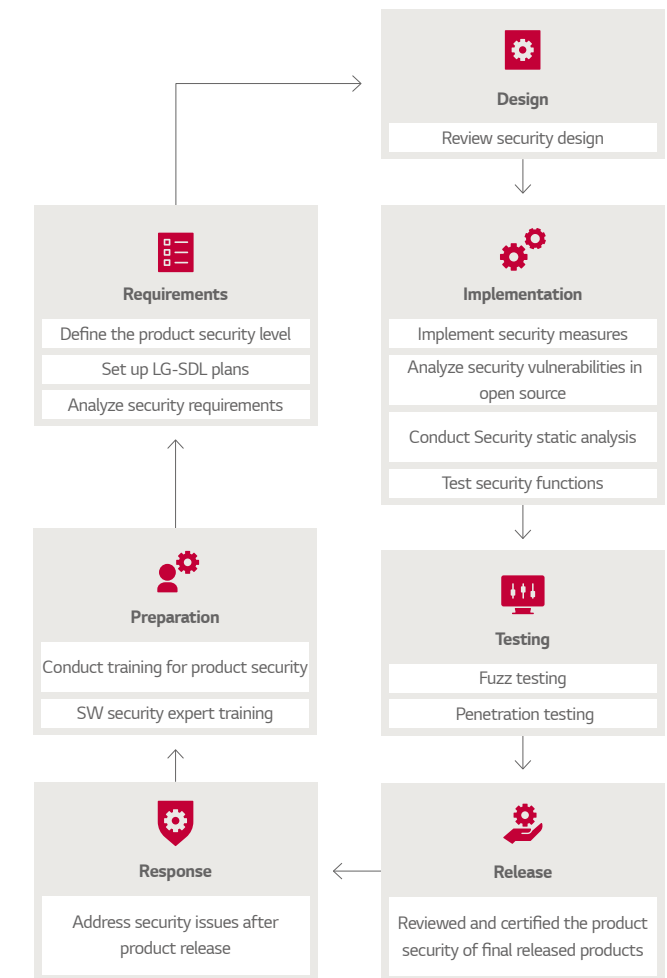
Demand for security solutions to cope with cyber security risks caused by the commercialization of autonomous vehicles has expanded.	As a company that manufactures autonomous vehicle components such as Telematics, LG Electronics needs to develop countering solutions.	In January 2018, LG Electronics signed the 'Agreement for the Joint Development of Security Solutions for Next Generation Vehicles' with Honeywell, a U.S. car security company.	LG Electronics plans to develop an all-in-one security solution to solve issues such as external hacking detection and defense, response to internal vehicle security threats, and electronic parts security.	LG Electronics obtained external certification for the functional safety of its autonomous vehicle components such as driving assistant systems, infotainment systems, and displays, etc.
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#### Security Vulnerability Report System (Bug Bounty)

- Have operated a system under which rewards are given to those who report security vulnerabilities in product software since September 2017.
- When a vulnerability is reported, the cash prize provided by LG Electronics is paid through a rewards program jointly operated with KISA (in Korea) and LG Electronics' own reward program (overseas).

#### LG-SDL Security Activities at each Development Phase

- Conducted security activities according to development life cycle (LG-SDL) to detect and remove potential security vulnerabilities in products from the early stages of SW development
- Issued a product security certificate once all software security activities met the pass criteria.



# Together With the Environment

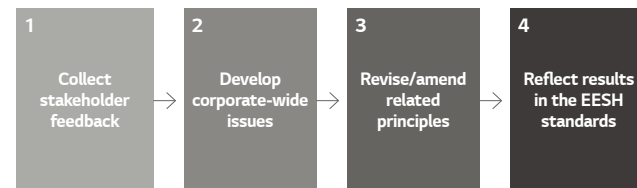
## Integrated EESH Management

LG Electronics strives to build a unified operating system for energy, the environment, and health and safety and to improve the level and performance of its integrated management system. LGE is committed to following national and global environmental, health and safety, and energy principles, earning trust from its stakeholders through management, and becoming the Global Top Company in EESH.

### Establishing an Integrated EESH Standards System

- Since the establishment of our corporate-level EESH standards system in 2009, we have responded to changing internal and external requirements in the fields of energy, the environment, safety and health.
- We review the effectiveness of the EESH standards system annually and update management standards, by establishing new corporate standards when necessary.
- In April 2014, LG Group declared 'Green 2020' with the goal of expanding its green business sites, creating new green products, and strengthening new green businesses.
- LG Electronics sets long-term and challenging goals in the energy, environment, safety and health sectors and establishes mid- and long-term strategies to achieve these goals.
- LGE shares and reviews the progress in the EESH by holding performance report meetings and strategy report meetings to achieve the mid- and long-term goals every year.

### Manage and Supplement the EESH Standards System

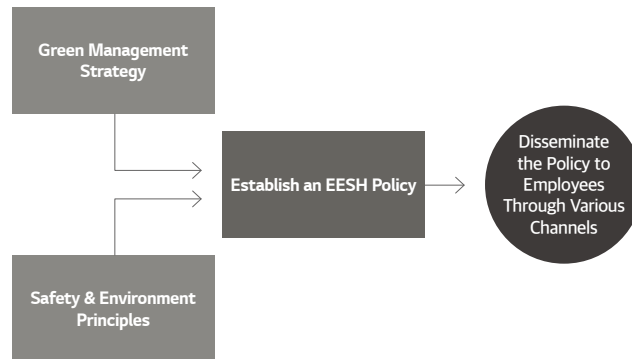


### Establish an EESH Policy

- LG Electronics presented an 'EESH Policy' based on the Green Management Strategy and Safety & Environment Principles.
- We seek to implement activities such as energy efficiency optimization, eco-friendly process operation and product development, safety and health of business sites, and enhancement of employee health.
- We are striving to obtain more certifications for our EESH management system (ISO 14001, OHSAS18001, ISO 45001, ISO 50001)
- We formulated an EESH Policy rooted in our green management scheme and Safety & Environment Principles, which were disseminated to all employees.

### Disseminate the EESH Policy

- We are strengthening the professional ability of our employees so that the EESH policy and standards system become implemented in the field and knowledge and ability of the safety environment group can be improved.
- We include safety & environment education in the mandatory curriculum for each position to enhance the safety awareness of all employees.



### Operate an EESH Assessment System

- Operate GEARS<sup>1)</sup> 3.0, an EESH Assessment System for safety, the environment and energy at business sites in Korea and overseas.
- Strengthen safety and environmental assessment standards based on site risk detection using GEARS 3.0, newly introduced in 2016.
- Aim to prevent safety accidents, and create safe and healthy business sites.
- Identify safety and environmental risk factors at business sites in advance and explore improvement tasks through assessments.
- Require internal safety management capabilities that are higher than legal standards
- The president of each business site and corporation continuously monitors the improvement process for risk factors based on the safety and environment assessment system.

1) GEARS: Global EESH Assessment Rating System

## Manage EESH Assessment Systems in Korea and Abroad

- Apply an EESH assessment system that takes into consideration differences in the management level of business sites in Korea and overseas from 2017.



### Establishing a Safety and Environment Committee

- Preemptively respond to safety and environmental regulations that are continuously being strengthened and increase the need for preventive measures.
- Establish and operate a 'Safety and Environment Committee' (2019 -) to discuss safety and environment risk-management strategies.
- Relevant executives participate in the 'Safety and Environment Committee' to discuss mid- to long-term safety and the environment as well as GHG emissions reduction strategies.
- Preemptively manage EESH risks by checking the performance of the EESH management system and making relevant investment and support plans.

### Managing EESH Compliance Risks

- Minimize safety and environmental risks through compliance with the global safety and environment risk management system introduced in 2014.
- Comply with laws and regulations on safety, the environment, health, disaster prevention, facilities, permits and approvals, and check risk status with external safety and environment experts.
- The status of improvement for risks discovered by the corporate system can be managed at any time.
- Establish an 'Integrated Safety and Environment Risk Management System' reflecting the characteristics of business sites in 2019.

### Prepare Safety Specifications for Industrial Robots

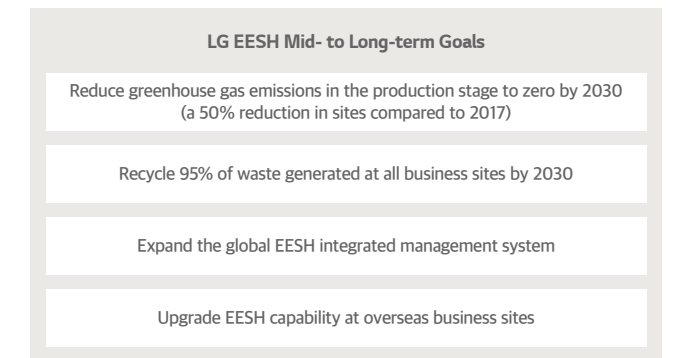


Installation and Operation of Industrial Robots

LG Electronics expects that the number of industrial robots operated at business sites in Korea and overseas will increase more than six-fold by 2022 as 'Smart Factories' expand. Accordingly, we have prepared 'Safety Specifications for Industrial Robots' so that industrial robots are installed and operated according to relevant standards in order to prevent safety accidents. These specifications include 'control system guidelines' which concern malfunctioning, 'safety protective device installation guidelines', and 'safe operation guidelines' for all types of robots.

## Changes in the EESH Assessment System

-	GEARS 2.0	Document-based
2015		
2016	GEARS 3.0	Emphasis on work sites
2017		Korea: Revision of evaluation standards Overseas: Focus on fire safety
2018		Korea: Maintain evaluation standard Overseas: Apply GEARS scheme



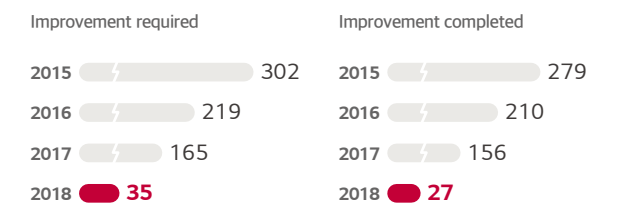
## EESH Compliance Risk Management Audit Status

### Business Sites Audited for Risks



\* LGE audits compliance risk management of business sites every 4 years and audited new business sites in China, in 2018.

### Risk Improvement Status (Unit: case)



\* excluded cases where improvements required but physically impossible to perform



### Establishing a Management System for Water Resources

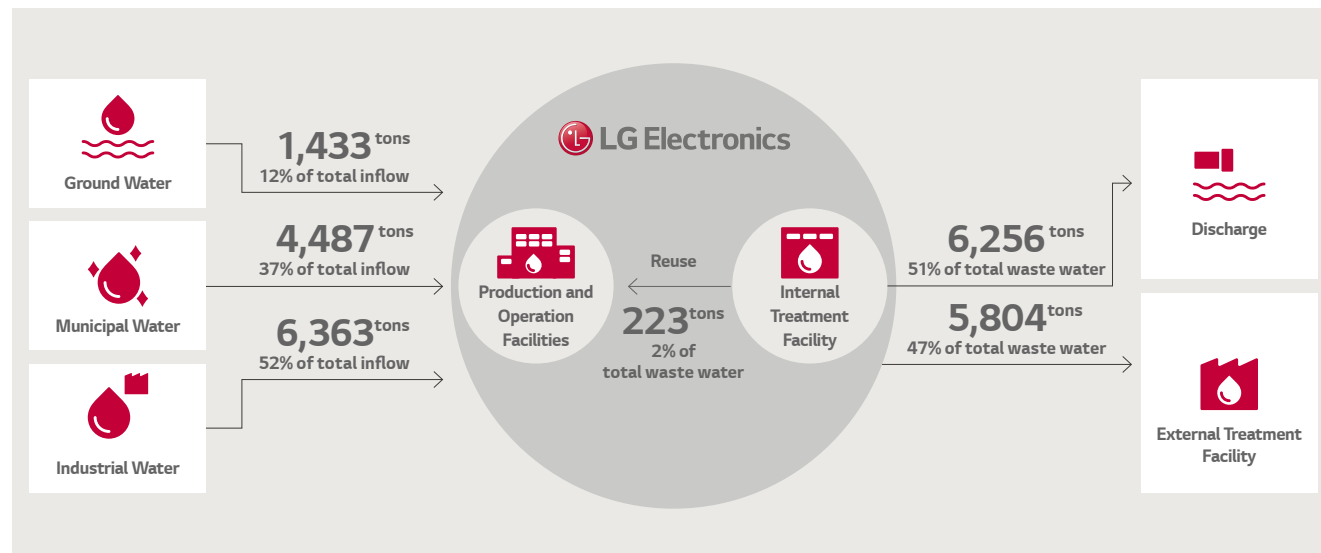
- Manage water usage and re-use and wastewater discharge at production sites in Korea and overseas and at laboratories.
- Improve the wastewater recycling rate by establishing wastewater treatment facilities and reduce water consumption through wastewater recycling facilities.
- Introduce a zero-emission system that recycles used water for operating processes or watering plants.
- Attempt to create emergency water reserves that can be used at business sites for at least two days in the case of an unexpected interruption in the water supply.

### Wastewater Discharge in Korea

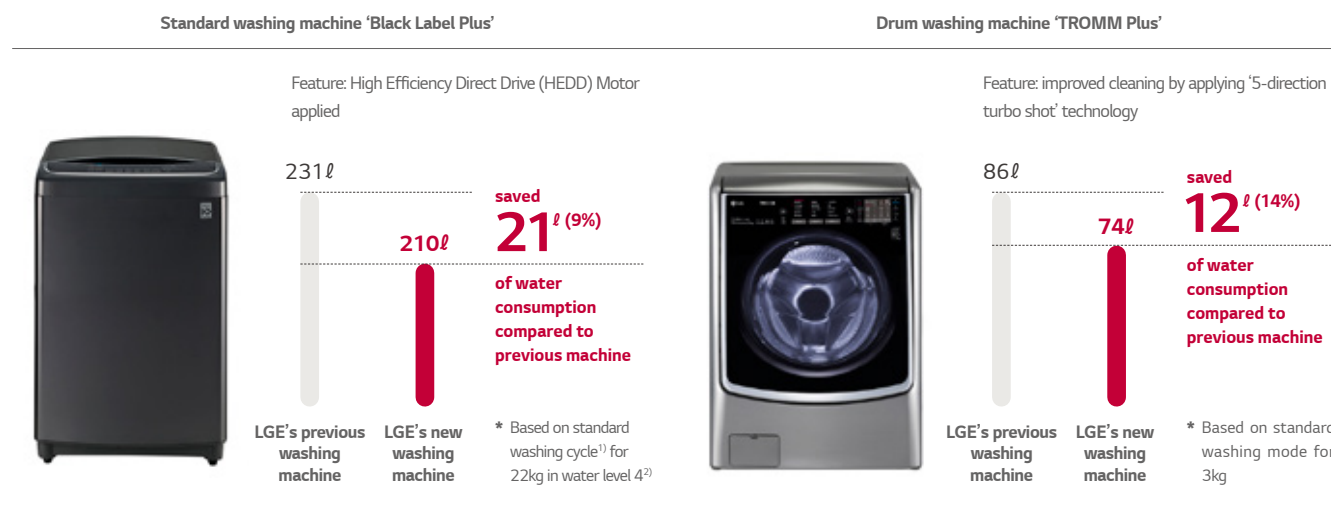
Production Sites	Secondary Treatment	Facility Discharged Into
Yangjae R&D	Tancheon Water Reuse Center	Tancheon
Science Park	Southwest Water Reuse Center	Han River
Cheongju	Cheongju Sewage Treatment Center	Seoknam Stream
Gumi	Gumi Sewage Treatment Center	Gwangam Stream
Changwon	Deokdong Sewage Treatment Center	Jinhae Bay

\* Based on those production sites in Korea with an internal waste water treatment facility

### Flow of Water Resources in Korea



### Water-saving Products



1) standard washing cycle: wash → rinse → rinse → dry  
2) water level 4 : 65-70ℓ

### Strengthening the Management of Chemicals

- In Korea, we strictly control all chemicals according to the LG Chemical Management System (LGCMS)
- In accordance with our corporate policies for chemical control, we are implementing preliminary screening on all chemicals stored and used at our production sites.
- Chemicals used not only for productions but also for R&D are strictly examined in advance as to their environmental safety.
- We are applying thorough preliminary screening based on systems for raw materials procured from suppliers.

When storing	When keeping	When using
<ul style="list-style-type: none"> <li>• Appoint chemical managers and provide them with training</li> <li>• Evaluate the safety of chemicals in advance</li> <li>• Select and store at appropriate chemical storage locations</li> </ul>	<ul style="list-style-type: none"> <li>• conduct regular inspections of storage facilities</li> <li>• Install and inspect chemical leakage prevention facilities</li> <li>• Emergency response procedures for fire, explosions, and leaks</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize chemical waste by tracking usage</li> <li>• Discharge within acceptable limits through physicochemical methods</li> </ul>

### Responding to Chemical Substances Regulation



### Complying with Environmental Laws

- Establish effective environmental pollution prevention facilities and operate them properly to comply with environmental laws and regulations.
- Continuously monitor laws and regulations and set up countermeasures to preemptively respond to future environmental laws and regulations.
- No lawsuits, fines or penalties for violations of environmental regulations were imposed in 2018.

### Strengthening Standards for Environmental Pollutant Emissions

- Operate a system to reduce emissions of air and water pollutants based on the characteristics of raw materials and chemicals used at each business site.
- Reduce the concentration of chemicals to 50% lower than the legal discharge standards, and attempt to maximize the efficiency of pollutant disposal.
- In 2018, there was no leakage of pollutants that exceeded legal standards, and no damage resulting from any leak

### Providing Chemical Management Training

- Conduct on-site, on-line chemical safety training for workers at production sites using hazardous substances
- Provide education on the hazards and safety management of chemical substances, evacuation in the case of chemical accidents, countermeasures and behavior guidelines, and handling of hazardous materials.
- Provide special training on safety and health management taking into consideration the characteristics of laboratories in the R&D sectors.



On-line Training on Chemical Substance Management

### Preempting Environmental Pollution and Social Issues

- LG Electronics strives to fulfill its social responsibilities more actively by preventing environmental pollution.
- In Korea, we select any substance that is not regulated by law but may be harmful to the human body or environment in the future, and track emissions of the substance closely.
- We precisely and voluntarily analyze/monitor the final emissions of Substances of Very High Concern candidates<sup>1)</sup> designated by the European Union (EU REACH), and preemptively make substitutions and improve emissions.

1) Substances of Very High Concern candidates: Chemicals suspected of toxicity, such as carcinogens, reproductive toxins, mutagenic substances, and persistent and enriched toxins.

### CASE

Gumi A1 Site Certified as a Safe Business Site for the Handling of Hazardous Chemical Substances

- The Gumi A1 business site in Korea was certified as a Best Business Site for managing chemical substances by the Daegu Regional Environment Office in June, 2019
- A Safe Business Site is selected from business sites where any no violations against the Chemical Substance Management Law or chemical accidents have occurred since 2015, after thorough document screening and on-site inspection by external experts



# Together With Our Suppliers

## Win-Win Growth Initiative

Due to the rapid integration and convergence of new technologies, a single company's capability is insufficient to respond to today's rapid technological changes, and different approaches are required to secure competitiveness in the rapidly changing business environment. LG Electronics and its suppliers must secure world-class manufacturing competitiveness based on win-win cooperation with small- to medium-sized enterprises (SMEs) to prepare the future industries that will lead the 4<sup>th</sup> Industrial Revolution. Through its win-win growth strategies, LG Electronics supports suppliers with its managerial and technological expertise so they can develop their competitiveness, and the suppliers supply the high-quality parts that enable LG Electronics to be competitive.

LG Electronics recognizes all suppliers in the supply chain as key business partners, and we have set up five major objectives in order to realize win-win growth founded on unwavering trust and to continuously nurture and support our suppliers.

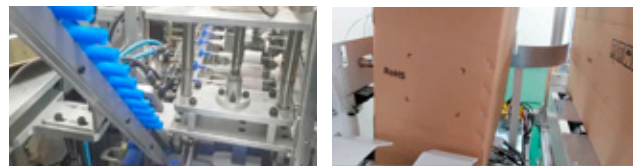
### Support for Building Global No.1 Competitiveness

- **Innovative Manufacturing Competitiveness of Suppliers:** LG Electronics supports its suppliers to enhance their manufacturing competitiveness in connection with the overall productivity (output per person · hour) improvement activity of the company.
- LG Electronics continues to share its know-how on production line automation and information infrastructure (IT) which has been accumulating since 2018.
- The company contributes to the improvement of supplier productivity, sales increases and the creation of new jobs.

#### CASE

Supported the Automation of Supplier Factories

- By relocating washing machine suspension ass'y boxes and improving logistics, we supported factory automation for simple parts input and packaging completion discharge conveyor installation, thereby enhancing productivity.
- Improved productivity per worker for suppliers : 550% increase



Supported Suppliers' Factory-Automation of Inputting Parts and Packing Boxes

#### CASE

Supported the Construction of IT Infrastructure for Suppliers

- Established information-linking infrastructure between LG Electronics and its suppliers to streamline demand management, production management, purchasing management, material management, and standard information management.
- Reduced time required for suppliers to set up production : 58% reduction



Supported Suppliers to Establish MES (Manufacturing Execution System)

### Support for the Development of Next-generation Technologies

- **Support for the Development of New Technologies and Processes:** Created new injection molding techniques and blow-down technology for automatic robot parts in partnership with our suppliers.
- Strengthened support for the joint development of new technologies and new methods by participating in government support projects.
- LG Electronics made its technology patents accessible to SME's, thereby contributing to improving their R&D capabilities.



Support for the Development of the New Technologies and Processes

- **Support for the Protection of Core Technologies of Suppliers:** LG Electronics provides an escrow system for technical data to protect any new technology developed with its suppliers. LGE pays all the costs of escrow.
- **Process for New Transactions:** LG Electronics established a 'trading process' on the portal site for suppliers to strengthen the process of seeking new technologies and new materials. LG Electronics allows new suppliers, who have not traded with the company before, to propose new technologies and new materials.



## Win-Win Growth Initiative



### Financial Support

- **Zero-interest Direct Financing :** LG Electronics provides zero-interest direct loans to suppliers as part of its efforts to improve productivity and quality, expand capacity and facilities, establish overseas operations, and develop advanced technologies.
- Since 2018, LG Electronics has increased the amount of funding support for its suppliers to build automated production lines from KRW 20 billion to KRW 40 billion.



Funded Suppliers to Build Automated Production Lines

- **Win-Win Growth Fund:** LG Electronics has a Win-Win Growth Fund of KRW 200 billion to offer low-interest financing to its suppliers in order to ensure their financial stability in joint dealings with financial institutions.
- **Implemented Win-Win Payment System:** Since 2015, LG Electronics has been running the "Win-Win Payment System", which ensures that payments are made to 2<sup>nd</sup>- and 3<sup>rd</sup>-tier suppliers by the 1<sup>st</sup>-tier suppliers after they receive payment.

## Five Objectives for Win-Win Growth



### Training Support

- LG Electronics opened the "Win-Win Growth Academy" within its training facility, and designated it as a place to train the employees of our suppliers.
- LG Electronics provides special technical training in cooperation with local universities (Kyungnam University and Korea Polytechnics).

### Innovation of Processes

- **Operated the 'Win-Win Grievance Hot Line' for suppliers:** LG Electronics has been operating the 'Win-Win Grievance Hot Line', dedicated to resolving difficulties experienced by its suppliers and receiving information on corruption and unfair conduct by employees and executives of LGE. LG Electronics follows appropriate procedures for fact checking and takes appropriate measures.
- **Supplier Online Shopping Mall:** LG Electronics has launched a discount shopping mall for employees (<http://with.lglifecare.com>). This selective employee welfare service was originally for LGE employees only, but we now allow the employees of our suppliers access the site under the same conditions.
- **Communication with Suppliers:** LG Electronics regularly operates workshops and general meetings where LGE and suppliers can discuss promoting Win-Win growth.



Regular General Meeting of LGE's Suppliers



# Together With the Community

## Social Contribution Framework

Based on its management philosophy of creating value for our customers and respecting human dignity, LG Electronics is striving to provide differentiated value for the sustainable development of humanity and to make social contribution that are substantially needed in local communities. In particular, LGE carries out social contribution activities in accordance with its social contribution strategy, which was established considering our business characteristics and status, sustainable management policy, and the UN Sustainable Development Goals (UN SDGs). Our three strategic initiatives for social contribution are 'Technology that Cares', which solves social and environmental issues, 'Building partnerships based on trust', which emphasizes communication with stakeholders, and 'Sharing with others', in which employees participate.

LG Electronics is capable of achieving its social contribution vision and goals, and will take the lead in solving social and environmental problems in the global society through activities that are highly related to the strategic policies.

### About the UN SDGs

- Sustainable development is a concept that meets today's needs while also meeting the needs of future generations.
- The SDGs include 17 goals and 169 targets to be achieved by member countries of the UN for the sustainable development of humanity by 2030.
- Involvement in and partnerships with civil society including private companies and government agencies must be expanded.

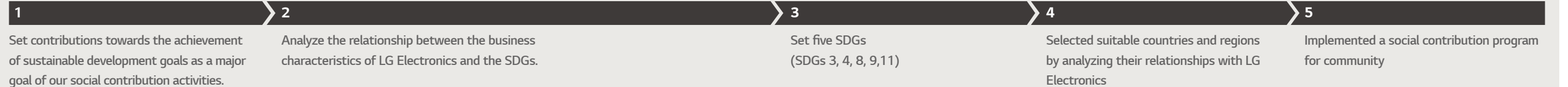
### LG Electronics Supports UN SDGs

- We reaffirm the direction of our social contribution activities to reflect the opinions of major stakeholders and keep in line with SDG announcements.
- We select five goals that are highly relevant for LG Electronics to contribute to achieving sustainable development goals.
- These five goals cover health and welfare, high quality education, job creation and growth, industrial and infrastructure innovation, and sustainable cities and residences.

## Social Contribution Framework



### Procedures for Social Contributions



### LGE's Social Contribution Activities and the UN SDGs

UN SDGs	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	11 SUSTAINABLE CITIES AND COMMUNITIES
	<b>3.8</b> Achievement of universal healthcare, including access to quality health services, medicine and vaccines.	<b>4.3</b> Provision of quality technical, vocational and tertiary education  <b>4.4</b> Expansion of the professional/vocational training needed for business activities	<b>8.3</b> Encouragement of the formalization and growth of SMEs  <b>8.6</b> Reduction of the proportion of youth not in employment, education or training	<b>9.a</b> Increase in financial, technological and technical support to African countries, least developed countries  <b>9.c</b> Improvement of ICT and Internet accessibility	<b>11.4</b> Contribution to protect and safeguard the world's cultural and natural heritage
<b>Relevance to LG Electronics</b>	<ul style="list-style-type: none"> <li>• Use of products related to health such as refrigerators, washing machines, water purifiers, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Recruitment of talent to provide high-quality home appliance/ICT repair service</li> <li>• Promotion of Industry-Academia Cooperation to strengthen human capacity and technical capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of opportunities for training and education using the core competencies of LG Electronics</li> <li>• Development competencies for sustainable development and provision of financial support</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of the brand image of LGE in new markets</li> <li>• Infrastructure construction in developing countries</li> </ul>	<ul style="list-style-type: none"> <li>• Protection of World Cultural Heritage sites and establishment of partnerships with government organizations</li> <li>• Improvement of awareness of world cultural heritage by using the company's infrastructure</li> </ul>
<b>LG Electronics' Activities</b>	<ul style="list-style-type: none"> <li>• Operating a visiting healthcare service to promote health in Asia</li> <li>• Operating free laundromats for the improvement of hygiene in Nigeria</li> <li>• Providing Japanese encephalitis diagnostic kits to Indonesia</li> </ul>	<ul style="list-style-type: none"> <li>• Operating a vocational training school in the field of electronics repair to enhance technical capabilities in Ethiopia                             <ul style="list-style-type: none"> <li>- Special lectures from master repair engineer</li> <li>- On-site training for the Dubai Service Center</li> <li>- Training for instructors at vocational schools</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Supporting social and economic corporation in environmental sectors in Korea                             <ul style="list-style-type: none"> <li>- Providing funds or zero-interest loans</li> <li>- Providing space at LG Social Campus</li> <li>- Supporting growth through education and seminars</li> <li>- Operating human talent development programs for youth</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Providing solar power to hospitals and libraries, etc., in Pakistan and Syria</li> <li>• Establishing an LG IT library in the Vietnam vocational training school and Providing scholarships</li> <li>• Providing prosthetics in Kenya</li> </ul>	<ul style="list-style-type: none"> <li>• Conducting volunteer activities at 45 business sites with the theme of protecting World Cultural Heritage</li> <li>• Screening the World Cultural Heritage Promotion Video at Piccadilly Circus in London</li> </ul>

## Global Social Contribution Activities

LG Electronics actively engages in community-centered social contribution activities at all of its business sites around the world, using LG Electronics' CSR slogan, 'Life's Good with LG'. We conducted environmental conservation poverty eradication, educational and volunteer activities with our employees and customers at 56 sites in 28 countries.



### Prosthetics in Kenya

We provided artificial limbs for patients who lost limbs due to terrorism and civil wars at Kikuyu hospital in Nairobi, Kenya.



### Healthcare Activities in Myanmar/Cambodia,

We provided free healthcare services and training to local residents in areas where people do not have access to healthcare and sanitation services in Myanmar and Cambodia.



### Vacation Together in China

Students from 50 universities, including Peking University, conducted volunteer activities for children in their hometowns during vacation.

### Free Laundromats in Nigeria

We opened a free laundromat in Ogba village in an undeveloped area of Nigeria to improve the hygienic environment for residents.



### LG IT Library in Nepal

We established the LG IT Library utilizing our IT products, contributing to a resolution in the digital divide of Nepalese youth.



### LG AMBASSADOR in Bangladesh

Since 2017, we have been operating the LG Ambassador program to resolve community issues. Ten projects including bridge construction, university entrance fee support, and job creation were selected and carried out.



## Social Contribution Costs (Unit: KRW billion)

	2016	2017	2018
Program operation	3.0	11.4	103.8
Volunteer activity	2.8	1.7	2.0
Commercial activity	20.5	28.6	14.4



### IT Angel in Korea

We provided one-on-one IT education for the disabled through our talent sharing activities.

## Raising Social Contribution Funds (Unit: KRW million)

	2016	2017	2018
Executive social contribution fund	284	311	334
Employee social contribution fund	378	244	243



### Supporting Youth Employment in Korea

We donated Styler Plus (3 units) to the non-profit organization 'Open Closet', and employees donated 279 suits to aid in the employment of young people.

## Participation in Voluntary Activities (Unit: person)

	2018
Korean employees	76,565
Overseas employees	7,204
A corporate program that gives employees paid leave so they can invest one whole day in volunteer activities	1,155

\* Accumulated number of activities included



### Donating Eco Bags by Employees in Korea

We donated eco bags to the African region through the volunteer activities of all employees at CTO business sites.

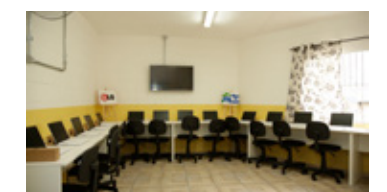
### Life's Good: Experience Happiness in the U.S.

Through partnerships with various institutions such as industry-academia cooperation and discovery education with U.C. Berkeley, we are running a program to fund youth happiness. In the second year, 1.3 million students from 2,500 schools, an increase of more than two times from the previous year, participated in the education.



### Improving the Youth Educational Environment in Brazil

We carried out environmental improvement projects such as improvements to libraries, playgrounds and restrooms at Sao Paulo Regional Children's Youth Center in Brazil.





# Together With Our Employees

## With Our Employees

LG Electronics strives to create value for customers and implement a management system based on respect for people with the corporate philosophy, "LG Way".

### Key Initiatives for 2019

LGE encourages its employees to innovate for sustainable growth even in new business environments. We are endeavoring to operate an HR management system so that every employee can maximize their professional skills.

#### 1. Compensation

LG Electronics is constantly improving its HR system to accelerate the creation of business performance. LGE changed its compensation system into a voluntary performance management system by securing objectivity and impartiality through absolute evaluations and peer group evaluations, and operated the 'Work Talk' system, which is a performance management tool based on SNS that operates regularly.

In addition, we are strengthening our performance-based compensation system through occasional incentives paid to employees who have achieved outstanding results.

#### 2. Types of Positions

In order to re-engineer HR Systems for the promotion of horizontal, creative, and voluntary corporate culture, the company has changed its seniority-based position ranking system comprised of five job categories to a system with three types of positions based on roles, capabilities and performance. We also accelerated the speed, efficiency and execution of projects by simplifying the types of positions. In addition, we are continuously promoting employees who have achieved outstanding results to encourage employees to take a more active and challenging attitude.

#### 3. Talent Development

LGE establishes strategic business rapidly and helps the organization secure competitiveness through intensive training programs for future leaders and high-potential employees. We are expanding the identification and rotation of talented human resources and support for new growth engines.

In addition, we are strengthening training tailored to the individual and corporate needs necessary to fulfill roles.

#### 4. Work-life Balance

We limit working hours to 40 hours per week and have implemented a flexible work schedule for efficiency and to improve work-life balance for employees and create a corporate culture where it is encouraged. In addition, we are making fundamental changes in our work style by expanding best practices, distributing the Ground Rule to improve meeting culture, and conducting monitoring on an organizational level to strengthen practices. We also proactively operate counseling sessions with visits from a professional counselor and promote casual dress codes.

### Key Initiatives

#### 1. Compensation



- Secured objectivity of evaluation through the introduction of an absolute evaluation system
- Developed/utilized 'Work Talk', a regular evaluation system
  - Ensured impartiality and objectivity through occasional and regular business communication
- Ensured impartiality of performance/competency evaluation through peer group evaluations
  - Referred to common vision and performance/contributions
- Strengthened the performance-based compensation system
  - Promoted project incentives and non-regular incentives

#### 2. Types of Positions



- Built a horizontal/creative culture through the simplification of the position system
  - From 5 levels → 3 levels (Assistant/ Specialist/ Professional)
- Created a leading/active atmosphere through promotions
  - Strengthened the promotion of talented employees with outstanding performance

#### 3. Talent Development



- Strengthened the development of core talents
  - Operated courses customized to positions
  - Expanded rotation to support new growth businesses
- Enhanced personalized education
  - Provided a competency improvement program through job credits and a job college

#### 4. Work-life Balance



- Managed working hours through a flexible work system
  - Autonomous commuting, selective commuting, tele-working, etc.
- Collected and expanded best practices in working methods
- Held 'Casual Day'
- Improved the meeting/reporting culture
  - Operated counseling sessions with a visiting professional counselor
- Implemented the 'Refresh System' to encourage employees to take vacations

### Respecting the Diversity of Employees

- All LG Electronics employees have the right to pursue happiness in terms of dignity, value, and work as human beings.
- We announced our 'Global Labor Policy' under which all employees can perform their duties according to competencies and capabilities without discrimination.
- An institutional system has been adopted to avoid penalties or disadvantages due to reasons of gender, race, education, religion, etc., at all business sites.
- We support talented people such as women, foreigners and persons with disabilities so that they can be respected and be able to fully demonstrate their ability.

### Labor Relations

- LG Electronics introduced the concept of a 'Labor-Management Relationship' to demonstrate the company's endeavors to create common values by having both the employees and the management play their role based on trust and respect.
- Once a year, the management and labor union discuss current issues including labor conditions through a number of channels in addition to the official committee meeting for the collective bargaining agreement.
- In-depth discussions and negotiations with the labor union take place immediately after any major change in the business.

### Junior Board Activities

- Junior Board is a system for representing staff in Top & Bottom communications.
- As many as 323 employees and 23 Junior Board representatives participate in the company's Junior Board.
- The Junior Board operates a council to communicate with the management in order to deliver the Voice of Employees (VOEs) and requests.
- The Junior Board leads a sound organizational culture by sharing corporate culture, corporate BP cases, and publicizing the products of the company.
- The Junior Board participates in internal and external social contribution activities utilizing the company's products and promotes donations.



Junior Board Appointment Presentation Ceremony

### Global Labor Policy of LGE

Respect for Humans: Personal Treatment	Working hour compliance
Prohibition of forced labor	Improvement of wages and welfare systems
Prohibition of child labor	Freedom of association
No Discrimination	Compliance with labor laws and regulations

### Labor Relations in Korea

Labor union members (As of the end of 2018)

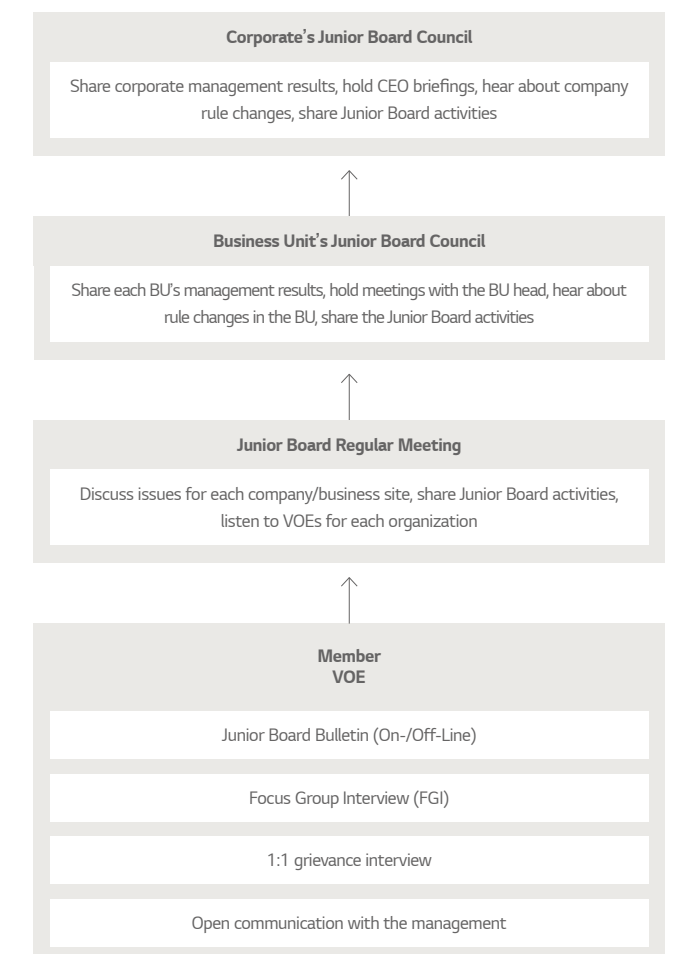
**7,261** Employees

(19% of the employees in Korea)

Agreement on wages and collective bargaining without labor disputes

**30** years

### VOE (Voice Of Employees) Handling Procedure of the Junior Board



### Directions for HR Development

- Contributing to the creation of business performance by fostering creative and challenging talents through the provision of optimal learning solutions for continuous business performance and the creation of future growth engines
- Systematically nurturing biz leaders and core talents and securing employees' capabilities in their jobs and future technology/new business capacity
- Strengthening on-site constant learning programs through the establishment of nurturing and learning platforms customized for each of the subsidiaries

### Systematic Development of Future Business Leaders and Talented People

- The LGE Assessment Center offers various training programs for employees to create customer value and play a leading role in the market as biz leaders and core talents. We identified and supplemented the strengths and weaknesses of each employee to enhance their capabilities.
- Established a job-training system for each track so that a business leader can perform his or her duties immediately after being appointed, and we also conducted in-depth training through case studies to secure insight.
- Established a core talent track-specific training system to ensure that core human resources are systematically and continuously developed, and we operated educational programs for GLP/EIP and specialized training for experts.

### Enhancing Employee Capabilities

- Established a competency development plan required for carrying out tasks and provided optimal learning methods according to competency so that employees could systematically acquire job competencies.

Operated an organization-wide learning system through the competency subcommittee to strengthen on-site constant learning

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Developed optimal learning methods to make on-the-job strategic tasks and resolve issues (consulting, on-site learning, etc.)

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Provided a customized intensive competency development program

### Securing Future Technology/New Business Capabilities

- We plan to systematically implement competency improvement programs for major future technology areas and expand understanding of the fundamentals of technology and case studies to secure basic capabilities for practical skills and new business discovery.
- We plan to select/identify specialists through an expert certification system in major technical fields, and we will resolve technical difficulties, discover new projects, and transfer competencies.

### Strengthening On-Site Constant Learning

- We promote various regular learning systems so that all employees can enhance training efficiency through advance/repeated learning without restriction on place or time.

#### Supported a Self-directed Learning Environment for Employees



### Enhancing Nurturing-Programs Customized for Each of the Subsidiaries

- Responded to the rapidly changing global environment through the provision of rapid and standardized job competency programs centered on regional educational bases in North America, Europe and Central Asia.

#### Operated 'e-Library', a Global Education Platform

- Standardized job-performing methods and improved job competencies by providing contents customized for each competency level of subsidiary employees through the e-Library

### LGE's Corporate College

- Established the First Corporate College certified by the Ministry of Employment and Labor in Korea
  - 2 Colleges and 6 Departments
- Curriculum that systematically provides training for highly-skilled employees

### Consortium for the HRD Ability Magnification Program

- Training through the Consortium for the HRD Ability Magnification Program (2006-)
- Customized training to develop talents needed by suppliers with practical on-site skills
- Designated as "Best Training Center" seven times by the Ministry of Employment and Labor

Supported the design of education programs for suppliers

Conducted training for leadership/work skills

Signed agreements with **450** suppliers

**1,400** employees

\* Plan for 2019

### Training Programs by Position and Work Criteria

All Employees							Business Leaders		
Korea				Overseas					
Required for Job Position	Duty	Business Function College		Life Planning	Required per Position/Job		Business Function		Global CEO Conference
MVP-V	'Shil' Leader/ Division Leader	Design	Product Planning	My LG, My Life	Global Biz. Leaders				EnDP
MVP-IV		R&D	SW	Design Happiness (50s)	Manager Enhancement	Global Core Talents			
MVP-III	Team Leader Enhancement	Procurement	Materials	Happiness Plus (40s)	First-Time Managers		Marketing/Sales	Production/Quality/SCM	Business Management (Finance/HR)
MVP-II	First-time Team Leader	Quality	SCM	Dream Happiness (30s)					
MVP-I		Product/Parts Leaders	Manufacturing	Marketing	Self-Reflection (From fourth-year employees)	New Employee			
New employees		B2B	CS	Self-Development (From second-year employees)	Global New Hire On-Boarding				First-Time Division
		Finance	HR						Business Leader Candidates
									GLP Pre-Expatriate FSE Candidates
									EIP MBA

MVP: My Vision Planning / GLP: Global Leadership Pool / EIP: Early Identified Pool



Job Training in the Corporate College





# Corporate Governance

## Responsible Business Management from the BOD

LG Electronics' Board of Directors functions to ensure checks and balances, secure professionalism and diversity and ensure sustainable growth and stakeholder protection. It operates in accordance with transparent business processing criteria and procedures. We are maximizing shareholder and corporate value on the basis of board-led management and the responsible management of professional executives.

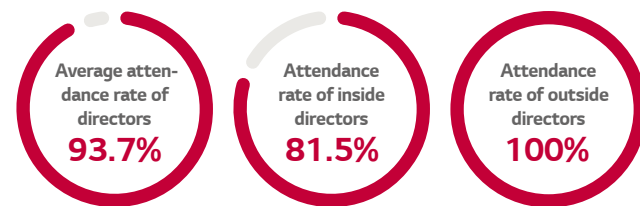
### Board of Directors

- The Board of Directors is composed of seven members for efficiency in meeting operation and decision-making.
- Our BOD has three inside directors and four outside directors so that more than half of the total number of directors are external.
- When appointing the BOD, LG Electronics does not discriminate in terms of gender, race, religion, politics, culture, etc., and examines independence/professionalism/diversity from a comprehensive point of view.

### Selection of BOD Chairman

- In accordance with the Board of Directors regulations, the chairman of the board may be appointed from among inside directors, other non-executive directors, and outside directors.
- The CEO of the company cannot be appointed as the chairman of the board to ensure the transparency of the Board of Directors and board-led management.
- The board explores development plans from a macro perspective, such as finding new growth engines, while the management concentrates on professional roles such as product development and strategy establishment.

Attendance Rate (Unit: % as of 2018)



Board Activities (Unit: number, cases as of 2018)

Number of Meetings Held	Approved agendas	Briefed agendas
9	46	11

Category	Name	Position/Main Career	Last Appointed in	Note
Non-executive Director	Young Soo Kwon	COO of LG Corp.	March, 2019	• Chairman of the Board • Management Committee
	Seong Jin Jo	CEO	March, 2018	• Chairman of the Management Committee • Chairman of the Outside Director Candidate Recommendation Committee
Inside Directors	David Jung	CFO	March, 2019	• Management Committee
	Joon Keun Choi	Former Representative Director of HP Korea	March, 2018	• Audit Committee • Outside Director Candidate Recommendation Committee
Outside Directors	Dae Hyung Kim	Former CFO of GE Plastics Asia/Pacific	March, 2019	• Audit Committee • Outside Director Candidate Recommendation Committee
	Yong Ho Baek	Professor, Graduate School of Policy Science, Ewha Woman's University	March, 2017	• Audit Committee • Outside Director Candidate Recommendation Committee
	Sang Gu Lee	Professor, Computer Science, Seoul National University	March, 2019	-

### Activities of the Board of Directors

- The board clearly evaluates and supervises major business management issues and business activities.
- Outside directors are given the opportunity to participate in the business by serving as objective supporters in monitoring and checking the management.
- The Board of Directors deliberates on and approves matters that have passed the General Meeting of Shareholders, financial statements, amendment to the articles of incorporation, capital supply and other important business of the company.

### Expertise of the Board of Directors

- Outside directors are appointed based on their expertise and experience in relevant sectors to ensure management expertise and efficiency.
- Currently, the four outside directors have expertise in management/accounting, policy/administration, electronics/electricity, and advanced equipment.
- The company provides training (on the company as a whole, the activities of the Board of Directors, the responsibilities of the board of directors and legal responsibilities) to help outside directors understand the management status as quickly as possible.
- The company provides outside directors with the opportunity to directly visit and inspect business site in Korea and overseas to enhance their understanding of the business.
- The company establishes a board secretariat to support the smooth operation of the BOD and its subcommittees, and to provide support upon request.

### Independence of the Board of Directors

- LG Electronics separately delegates decision-making rights to the board of directors and business execution rights to management to ensure checks and balances in the operation of the company.
- In the case of transactions where conflicts of interest may arise between the directors and the company, the company only approves the transactions after the full consideration of the board.
- A majority of the members of the board are independent outside directors to ensure that the board checks the management.
- The earliest appointed outside director assumes the role of senior outside director, representing the other outside directors and coordinating their opinions.

### Grounds for Ineligibility for Outside Directors

- Directors, executive directors and employees who are engaged in the regular business of the relevant company, or directors, auditors, executive directors and employees who have been engaged in the regular business of the relevant company within the previous two years
- The principal shareholder, his/her spouse, lineal ascendants, and lineal descendants in cases where the largest shareholder is a natural person
- Directors, auditors, executive directors and employees of the corporation, in cases where the largest shareholder is a corporation
- Spouses, lineal ascendants, and lineal descendants of directors, auditors and executive directors
- Directors, auditors, executive directors and employees of a parent company or a subsidiary company of the relevant company
- Directors, auditors, executive directors and employees of a corporation which has a significant interest in the relevant company, such as business relations with the company
- Directors, auditors, executive directors and employees of another company for which directors, executive directors and employees of the relevant company serve as directors and executive directors

### Board Committees

Category	Responsibilities and Activities
<b>Audit Committee (Three Outside Directors)</b>	<ul style="list-style-type: none"> <li>• Conducts audits on corporate accounting and management</li> <li>• Reviews and presents comment on matters that may affect the independence of external auditors</li> <li>• Holds the authority to request changes of appointment or dismissal of external auditors.</li> </ul>
<b>Management Committee (Two Inside Directors, and One Non-executive Director)</b>	<ul style="list-style-type: none"> <li>• Improves the efficiency of board operation</li> <li>• Discusses the management direction of the company through contact with shareholders and stakeholders and feedback</li> <li>• Reviews and makes decisions on management issues, etc., delegated by the board</li> </ul>
<b>Outside Director Candidate Recommendation Committee (One Inside Director, and Two Outside Directors)</b>	<ul style="list-style-type: none"> <li>• Recommends candidates when appointing a new outside director</li> <li>• Conducts substantial reviews of recommended outside directors in accordance with the Outside Director Candidate Recommendation regulations</li> </ul>

### Evaluation of the Management

- Management is evaluated using quantitative and qualitative indicators.
- Performance is evaluated for up to three years for the payment of bonuses.

Category	Indicators
Quantitative Indicators	Sales, Operating profit, etc.
Qualitative Indicators	Cash flow, Liquidity, Product, risk, etc.

### Compensation System for the Management

- Compensation for the management is paid in accordance with the criteria for the Board of Directors, taking into account the position and duties, and within the amount approved by the AGM.
- Compensation for the management is paid fully in cash as it is allocated as a cash-based budget without additional deferred payment.
- Bonuses corresponding to 0-150% of the total remuneration are paid based on the evaluation of quantitative and qualitative indicators and in accordance with the executive remuneration regulations.

Status of Compensation for the Board (Unit: KRW million)

Category	Remuneration	Bonus	Total Amount	Average Amount per 1 Person
CEO Seong Jin Jo	1,654	1,467	3,121	-
CFO David Jung	988	476	1,464	-
Outside Director	-	-	366	84

# Jeong-Do (Right-Way) Management

## Pledge to Fulfill Jeong-Do Management

'Jeong-Do Management' is LGE's unique guideline for employee conduct, based on its commitment to fair competition and ethical management practices.

### Code of Ethics

- The LG Code of Ethics sets the tone and direction for ethical management practices.
- Content:** It comprises the 'LG Way' and Jeong-Do Management as well as the 'Code of Ethics', our public declaration of our ethical values, the "Guidelines for Practice", which provides employees with practical guidelines for their conduct, and a Q&A regarding responses to violations of the Code.
- Revisions/Enactment:** The Code of Ethics has undergone six rounds of amendments since it was first introduced in 1994, and related regulations and sub-guidelines for practice have been strengthened.
- Distribution and Sharing:** It is distributed to 120 global subsidiaries so that all the employees and executives can understand it.

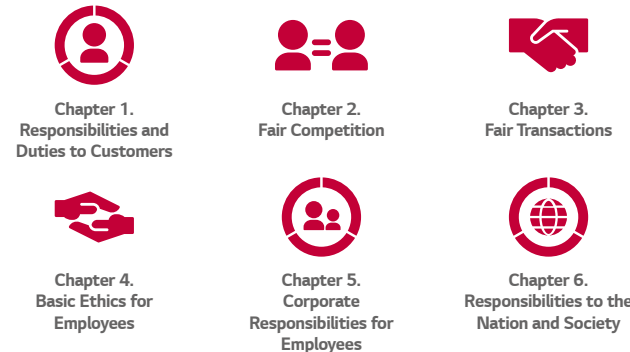
### Whistleblower System

- We have established a whistleblower system as a means of reporting any violation of Jeong-Do Management by LG employees.
  - Jeong-Do Management Portal
  - Online whistleblower system (<http://ethics.lg.co.kr>)
  - Mobile reporting system
- Outside stakeholders can also make complaints anonymously through the Suppliers Win-Win channel.
- All reports received through the whistleblower system are thoroughly protected by the internal reporting system, and any matters related to corruption and illegalities are subject to disciplinary action depending on the seriousness of the violation, as determined through investigation.

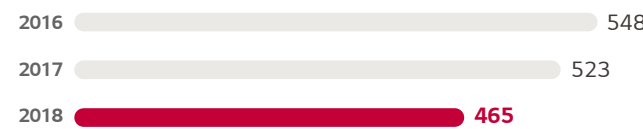
### Voluntary Reporting System

- LG Electronics' Code of Ethics strictly prohibits employees from receiving any gifts or cash and/or other valuables from stakeholders regardless of the price or reason.
- Principle of Reporting and Returning Gifts:** Despite this prohibition, gifts received in unavoidable circumstances must be reported and they will be returned.
- If Returning a Gift is Not Possible:** The employee must donate it to charity and send an official letter signed by an LG Electronics executive to the party which provided the gift and their company's CEO, requesting that such gift-giving not be repeated, along with documented proof of the donation. If donating the gift is not possible, an auction is to hold and the entirety of the proceeds are to be directed to our social contribution programs.

### LG Code of Ethics



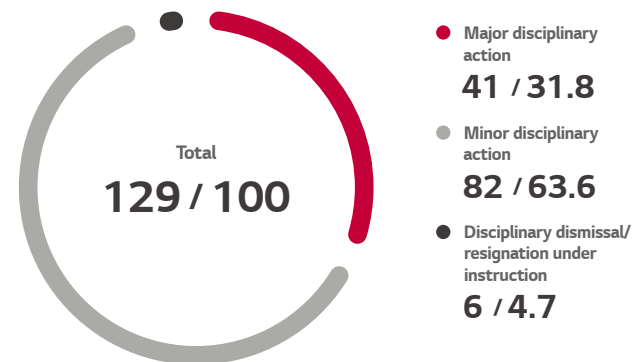
### Number of Cases Reported (Unit: EA)



### Type of Cases Reported

Complaints (Customer Complaints, Supplier Grievances, etc.)	Corruption and Irregularities	Other (HR issues, Unfair Trade, etc.)
73.1%	12.1%	14.8%
340 cases	56 cases	69 cases

### Actions Taken After Internal Inspections in 2018 (Unit: EA / %)



### Training and Awareness Activities

- LG Electronics emphasizes that 'Jeong-Do Management' is not a choice but an essential requirement for company survival and provides regular training to fully familiarize employees with Jeong-Do Management.
- Education:** LG Electronics provides collective education for employees and executives in Korea and overseas, and provides examples of violations and cases of noncompliance on company bulletins or the Jeong-Do Management Portal to prevent recurrences.
- Public Relations:** LG Electronics periodically distributes the 'Jeong-Do Management Newsletter' to raise employee's awareness of Jeong-Do Management and we strive to establish a transparent trading culture by providing LG Electronics' Code of Conduct to suppliers.

### Jeong-Do Management Counseling Center

- Offers one-on-one counseling to employees for inquiries about Jeong-Do Management.
- Counseling Channel:** we provide counseling through channels such as intranet, telephone, and e-mail to improve accessibility.
- Principle of Disclosure:** The content of counseling may be disclosed at the discretion of the person receiving counseling, but if the person does not want it to be disclosed, all such information as well as their identity is kept confidential.
- Education and Sharing:** Frequently asked questions (FAQ) are compiled and shared with all employees during training programs in Korea and overseas.

### Informant Protection and Ethics Hotline

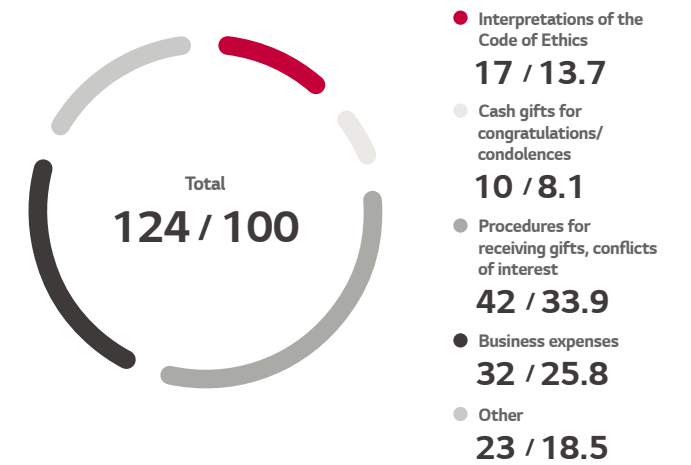
- We comply with the Informant Protection Regulation and operate an Ethics Hotline to encourage reporting on irregularities.
- The Principle of Priority Protection for Whistleblowers:** We do not disclose the ID of informants or any information which could suggest it without the consent of the informant, and handling of reports is carried out under a confidentiality oath.
- Whistleblower Protection System:** The reporting system is protected by a security system. If any disadvantages to the informant are recognized as being caused by the report, measures to recover damages or to make equivalent compensation are taken.
- Ethics Hotline:** LG Electronics operates an Ethics Hotline for employees or the general public in order to eradicate irregularities that undermine customer value, and to further enhance transparency and accountability.

### Status of Employee Training on Jeong-Do Management in 2018

Employee(In Korea/Overseas)

**11,155** Number of persons

### Types of Inquiries Made at the Jeong-Do Management Counseling Center (Unit: EA / %)



### Ethics Hotline

Category	Content
<b>Information Needed</b>	<ul style="list-style-type: none"> <li>Report a suspected case of corruption by submitting an explanation of the case along with evidence.</li> <li>In emergency cases, reports may be made based on facts but without provision of evidence.</li> </ul>
<b>How to Report a Case</b>	<ul style="list-style-type: none"> <li>Online whistleblower system, mail, telephone, fax, or a visit to an LG office</li> </ul>
<b>Where to Report a Case</b>	<ul style="list-style-type: none"> <li>LG Jeong-Do Management TFT, Subsidiary Ethics Bureau</li> </ul>
<b>Rewards and Compensation</b>	<ul style="list-style-type: none"> <li>When a given case generated profit or caused loss: As much as KRW 1 billion</li> <li>When direct increase in profit or recovery of loss is confirmed: 20% or less of the given amount</li> <li>When it is difficult to assess the increase or decrease in profit: rewards of KRW 10 million or less are provided</li> </ul>



# Compliance Risk Management

## Compliance Risk Management

LG Electronics aims to secure customer trust and corporate competitiveness by adopting compliance management as a basic management principle in all its business activities. No employees can remain silent while facing inappropriate situations in the course of their day-to-day work, and the company spreads a compliance culture that follows local laws and regulations throughout its business operations.

### Compliance Risk Management Goals and Plans

Mid- and Long-term Goals	Implementation Plans
<ul style="list-style-type: none"> <li>Enhance pre-emptive compliance risk management capability by strengthening monitoring of regulatory trends in Korea and overseas.</li> <li>Expand autonomous management systems at business sites</li> </ul>	<ul style="list-style-type: none"> <li>Provide consulting services for the establishment of compliance management systems at business sites and for compliance risk management methodology</li> <li>Establish a real-time trend monitoring system for regulations</li> </ul>

### Compliance Risk Management System

- Establish a compliance risk management system for voluntary compliance with national and international laws and regulations
- Operate compliance programs including compliance trainings for employees to prevent risks, internal process improvement, hotline operation, monitoring and assessment, etc.
- Continue to maintain team independence under the direct supervision of the CEO in 2019, and reinforce teams and manpower in the compliance office in accordance with organizational restructuring:
  - Compliance Management Team:** Establish a systematic compliance management system and spread the compliance management culture through compliance support activities
  - Compliance Team:** Reduce risk through effective compliance risk control activities and regular compliance checks
- Establish a Compliance Office in North America to facilitate regular and systematic management of major compliance risks and to rapidly share information and take countermeasures (from March 2019)

### Compliance Risk Control System

Compliance Policy	
Code of Conduct	Compliance Risk Management Standards
Standards for Each Compliance Risk	Compliance Activity Guidelines

### Compliance Key Performance Indicator(KPI)

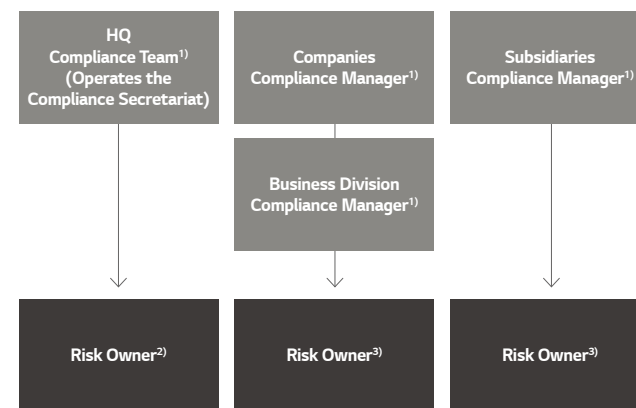
- Operate Key Performance Indicator (KPI) linking the result of each organization's compliance management activities to performance evaluation.
  - KPI:** Completion level of conducting risk prevention activities, Completion level of holding compliance committee meetings, and occurrence of major violations

### Compliance Committee

- Operate a Corporate-level Compliance Committee and Company/Subsidiary-level Compliance Committee to spread compliance culture and substantial improvements.

<b>4</b> times	Corporate-level Compliance committee meetings	<ul style="list-style-type: none"> <li>Members of Top Management</li> <li>Risk Managing Team for the entire Company</li> </ul>
<b>3</b> times	Company/Subsidiary-level Compliance committee meetings	<ul style="list-style-type: none"> <li>Head of the organization and managers</li> <li>Compliance Manager</li> <li>Risk owners and other working-level employees</li> </ul>

### Composition of the Compliance Risk Management Organization



**155** persons appointed  
Compliance Manager

**553** persons appointed  
Risk Owner

- 1) Operates and supports compliance programs for the organization  
 2) Corporate Risk Management Group  
 3) Organizational Risk Management Organization

### Reporting Channel for Compliance

- Receive reports on the receipt of rewards from stakeholders and participation in activities unfair to suppliers, lack of transparency in the process of selecting suppliers, illegal/unfair use of company assets, manipulation and false report of documents/figures.
- <http://ethics.lge.com>

### Composition of Compliance Program

Evaluating	Improving	Monitoring	Reporting
Survey recent trends in legal regulation	Provide online/offline compliance training	Conduct compliance checks and audits	Report compliance criteria to the board
Investigate violations within the company or at other companies	Improve processes	Conduct/verify risk prevention activities	Operate a Compliance Committee
Conduct risk self-assessments/verification	Conduct compliance consulting	Operate a Compliance Portal	Operate a Compliance Council
Conduct compliance surveys	Respond to stakeholder's requests	Operate a Compliance KPI	

### Development of Advanced Online Compliance Training Courses

- Develop and operate differentiated and customized online compliance courses for different types of work (general, sales and marketing, technology, etc.)
- Collaborate with external compliance training agencies and provide content developed by lawyers and compliance professionals around the world.
- Provide learning opportunities to employees at global business sites in five languages: Korean, English, Chinese, Spanish, and Portuguese.

### Status of the Advanced Online Compliance Training Course (Unit: person)

Number of training targets in Korea	Number completed
2016 30,108	2016 28,547
2017 29,649	2017 27,346
2018 <b>29,715</b>	2018 <b>27,342</b>

Number of training targets overseas	Number completed
2016 19,186	2016 15,803
2017 19,850	2017 17,954
2018 <b>18,253</b>	2018 <b>15,807</b>

Total number of training targets
2016 49,294
2017 49,499
2018 <b>47,968</b>

Total number completed
2016 44,350
2017 45,300
2018 <b>43,149</b>

### Offline Compliance Training for Employees with Certain Positions or Certain Duties (Unit: person(time))

Category	2016	2017	2018
Training for New Team Leaders	305(8)	378(15)	140(7)
Training for experienced New Hires <sup>1)</sup>	473(7)	405(7)	0
Training for FSE Candidates	215(6)	232(6)	210(6)

1) Training for experienced new hires has been in operation since 2018 after the existing offline training was replaced with the online pre-requisite training.

### Establishment of the Global Sanctions Compliance Program

- LG Electronics has established and operates the global sanctions compliance program to restrict and monitor any transactions subject to international trade/economic sanctions.
- We have amended sanctions-related policies and standard contracts, screened transactions with entities subject to international sanctions, and provided training to employees to raise awareness.

### Compliance Surveys

- Compliance surveys are conducted to measure employees' compliance awareness level and to discover and improve on factors that deter compliance.

(Unit: person)

Category	Category2	2016	2017	2018
Compliance Surveys (Korea)	Target	30,021	29,594	29,247
	Respondents	24,435	25,618	25,225
Compliance Surveys (Overseas)	Target	19,098	17,947	15,356
	Respondents	14,726	15,232	13,444
Compliance Surveys (Total)	Target	49,119	47,541	44,603
	Respondents	39,161	40,580	38,669

### On-site Inspections and Improvements

- Visit business sites in Korea and overseas with consideration of various business environments
- Check the status of compliance risks and how they are managed in relevant regions
- Help to mitigate compliance that are detected (five in Korea and three in overseas operations)

# Fair Trade

## Complying with Fair Trade Provisions

Stakeholders demand that the company take steps to protect itself from market competition and to pursue performances based on competency rather than expediency. LG Electronics is fully committed to fair competition and fair trade in the practice of the “LG Way”, the guiding principle for our thoughts and actions.

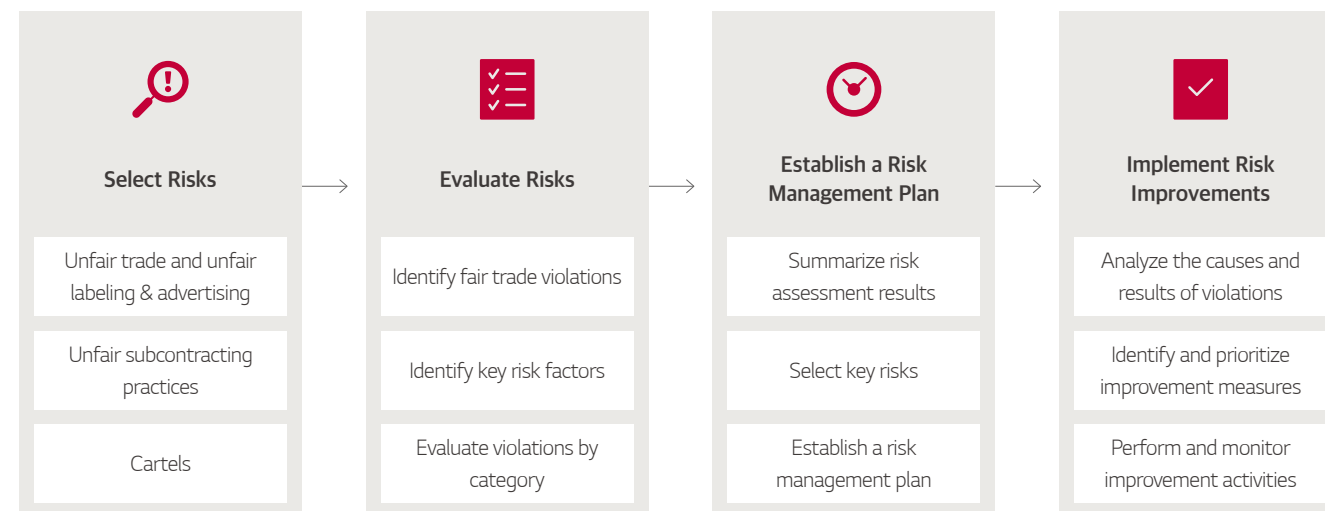
### Expanding Awareness of Fair Trade

- LG Electronics believes that we can create even better customer value by establishing strong trust with customers, suppliers and competitors around the world through fair competition and transactions.
- Fair trade is not only our duty to society as a corporate citizen but also a basis for our competitiveness.
- We prevent monetary losses as well as non-monetary losses such as reputation degradation through the promotion of fair trade.

### Operation of the Fair Trade Compliance Program

- Established the ‘Fair Trade Compliance Program’ in order to pursue win-win growth with stakeholders through mutual trust and cooperation.
- Let all employees know about management’s strong commitment to fair trade and created and disseminated guidelines on how to act to all employees of the company, and distribute guideline on how to act.
- Designated managers with substantial responsibility and authority to constantly monitor compliance.
- Conducted periodic fair trade compliance training with consideration for the characteristics of each business site/department/type of work.
- Plan to increase internal monitoring and control activities to prevent risks related to fair trade violations in advance.
- Plan to strengthen the responsibilities and duties of each business site so that fair trade compliance programs can be firmly established.

### Inspection and Management of Fair Trade Risk



### Eradication of Unfair Trade and Unfair Labeling & Advertising

- Analyze cases of violations to the ‘Act on Fair Labeling and Advertising’ and conduct employee training based on the findings to prevent non-compliance.
- Screen all labels and advertisements for potential noncompliance and provide accurate information to customers.
- Plan to provide relevant departments with guidelines on notices related to the disclaimer for 2019 labeling and advertising, etc., and improve business procedures.
- Inspect unfair trade practices of sales departments and provide job guidance to the relevant departments to prevent unfair trade practices.

### Pursuit of Fair Subcontracting Practices

- Provide regular training on subcontracting laws to ensure fair, transparent subcontracting transactions.
- Conduct regular inspections of subcontracting practices and strive establish a fair cooperation culture.
- Have developed a system to protect the technologies and intellectual property rights of suppliers and amended the Standard Contract for Joint Development (2018).
- Plan to continue efforts to improve subcontracting processes through constant monitoring (2019).

### Prevention of the Formation of Cartels

- Communicate management’s message against the formation of cartels and provide online training, and conduct activities to raise the awareness of employees through newsletters and training.
- Set basic principles prohibiting employees from making contact with competitors to prevent the formation of cartels, and follow strict internal control procedures for any cases that arise.
- Manage the business to prevent any suspected cartel activities and conduct monitoring throughout the system to ensure compliance with control procedures.

### Antitrust Compliance Newsletter

Antitrust Compliance Newsletter
May 2019

## Cartel Prevention: No Bid Rigging

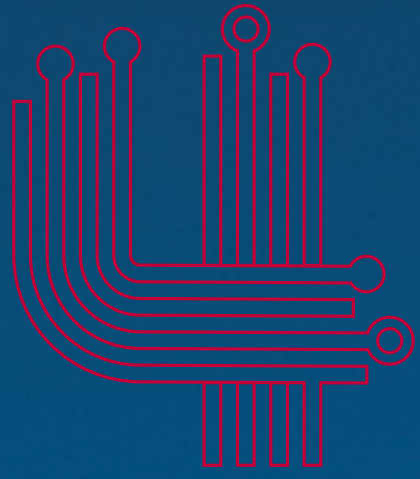
Competition authorities consider cartels to be the biggest threats to the market economy. Among the biggest problem is bid-rigging, which severely limits competition.

< Prohibited Acts >

- 1. Bid Price**
  - Agreeing with competitors on the lowest bid price
  - Agreeing with competitors on a specific bid price in any way, including no limitations, by exchanging any relevant information
- 2. Bid Winner**
  - Deciding the bid winner or participating in any related acts
  - Claiming a preemptive right on the bid or cooperating on such right
- 3. Noncompetitive Bid**
  - Agreeing with competitors to submit bids which are higher than the expected bid price or to intentionally not participate in the bid thus causing the bid to be noncompetitive
- 4. Bid Volume**
  - Agreeing with competitors on the bidding volume, volume allocation, method of allocation, etc.

In case of unavoidable contact with a competitor, employees must report and obtain approval through the Reporting and Approval Program for Contacts with Competitors (RAPCC) procedure.  
For further inquiries, please contact your local legal counsel.  
Thank you.





# APPENDIX

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# Sustainability Management Performance Data

## Economic Data

### Summary of Consolidated Statements of Income

Classification	Unit	15 <sup>th</sup> Year(2016)	16 <sup>th</sup> Year(2017)	17 <sup>th</sup> Year(2018)
1. Net sales	KRW million	55,367,033	61,396,284	61,341,664
2. Cost of sales	KRW million	41,630,293	46,737,563	46,260,620
3. Gross profit	KRW million	13,736,740	14,658,721	15,081,044
4. Selling and marketing expenses	KRW million	12,398,977	12,190,172	12,377,753
5. Operating income	KRW million	1,337,763	2,468,549	2,703,291
6. Financial income	KRW million	490,593	483,665	487,370
7. Financial expenses	KRW million	884,051	831,114	796,569
8. Gain (loss) from equity method	KRW million	268,738	667,475	(77,161)
9. Other non-operating income (expenses)	KRW million	(491,326)	(230,463)	(308,356)
10. Profit (loss) before income tax	KRW million	721,717	2,558,112	2,008,575
11. Income tax expense	KRW million	595,402	688,594	535,761
12. Profit (loss) for the year	KRW million	126,315	1,869,518	1,472,814

### Summary of Consolidated Statements of Financial position

Classification	Unit	15 <sup>th</sup> Year(2016)	16 <sup>th</sup> Year(2017)	17 <sup>th</sup> Year(2018)
I. Current Assets	KRW million	16,990,563	19,194,969	19,362,854
Trade receivables	KRW million	7,059,889	8,178,213	6,371,594
Inventories	KRW million	5,171,015	5,908,437	6,021,356
Other current assets	KRW million	4,759,659	5,108,319	6,969,904
II. Non-current Assets	KRW million	20,864,706	22,025,990	24,965,589
Investments in jointly controlled entities and associates	KRW million	5,104,558	5,620,331	5,537,556
Tangible assets	KRW million	11,222,428	11,800,782	13,333,951
Intangible assets	KRW million	1,571,087	1,854,620	3,001,155
Other non-current assets	KRW million	2,966,633	2,750,257	3,092,927
Total assets	KRW million	37,855,269	41,220,959	44,328,443
I. Current liabilities	KRW million	15,744,364	17,536,470	17,135,029
II. Non-current liabilities	KRW million	8,754,163	9,010,805	10,886,507
Total liabilities	KRW million	24,498,527	26,547,275	28,021,536
I. Paid-in capital	KRW million	3,992,348	3,992,348	3,992,348
Capital stock	KRW million	904,169	904,169	904,169
Share premium	KRW million	3,088,179	3,088,179	3,088,179
II. Retained earnings	KRW million	9,233,416	10,964,155	12,075,414
III. Accumulated other comprehensive loss	KRW million	(1,028,962)	(1,522,478)	(1,604,730)
IV. Other components of equity	KRW million	(209,708)	(209,764)	(209,764)
V. Non-controlling interest	KRW million	1,369,648	1,449,423	2,053,639
Total equity	KRW million	13,356,742	14,673,684	16,306,907
Total liabilities and equity	KRW million	37,855,269	41,220,959	44,328,443

### Financial Assistance Received from Government

Classification	Unit	2016	2017	2018
Tax relief and tax credits	KRW	5,849,837,379	15,334,866,547	3,214,306,335
Investment grants, R&D grants, and other relevant types of grant	KRW billion	1,053.8	1,372.4	873.4

### Defined Benefit Plan Obligations and Other Retirement Plans

Classification	Unit	2016	2017	2018
Expected amount	KRW	2,125,961,190,907	2,341,284,109,982	2,386,160,855,068
Expected ratio	%	90	92	97
The extent to which the scheme's liabilities are estimated to be covered by the assets that have been set aside to meet them	KRW	1,922,461,900,503	2,163,152,227,263	2,308,876,880,984
Percentage of salary contributed by employee or employer	%	100	100	100

### Ratios of Standard Entry Level Wage by Gender Compared to Local Minimum Wage

Classification	Unit	2016	2017	2018	
Male New Employee	Office Position	%	226	210	181
	Technical Position	%	155	147	117
Female New Employee	Office Position	%	226	210	181
	Technical Position	%	155	147	117

### Amount of Local Purchases by Key Subsidiaries by Product

Classification	Unit	Total Purchase of 2018	Total Local Purchase of 2018
Korea	KRW trillion	14.4	10.5
Nanjing, China	Washing machine	KRW trillion	0.5
Yentai, China	Mobile Phone	KRW trillion	0.7
Qingdao, China	Mobile Phone	KRW trillion	0.4
Nanjing, China	Monitor	KRW trillion	0.9
Taizhou, China	Refrigerator	KRW trillion	0.7
Rayong, Thailand	Air Conditioner	KRW trillion	0.5
Reynosa, Mexico	TV	KRW trillion	2.0

### Amount of Direct Purchase from Local Suppliers

Classification	Unit	2018
Korea	KRW trillion	12.6
Asia	KRW trillion	5.7
China	KRW trillion	4.4
Americas	KRW trillion	4.3
Europe-CIS	KRW trillion	2.0
MEA	KRW trillion	0.1

### Percentage of Direct Purchases by Category

Classification	Unit	2018
Display Components	%	28
Mechanical Parts	%	30
Electronic Parts	%	21
Semi-conductors	%	13
Raw Materials	%	5
Others	%	3



# Sustainability Management Performance Data

## Environmental Data

### Energy Consumption within the Organization

Classification	Unit	2016	2017	2018*	
Non-renewable sources	LNG (Korea)	TJ	639	1,243	744
	LNG (Overseas)	TJ	447	538	390
	Coal (Korea)	TJ	-	-	-
	Coal (Overseas)	TJ	-	-	-
	Others (Korea)	TJ	78	117	71
	Others (Overseas)	TJ	804	441	260
	Subtotal	TJ	1,968	2,339	1,465
Renewable sources	Solar Power	TJ	0.6	0.7	6.6
	Wind Power	TJ	-	-	-
	Biomass	TJ	-	-	-
	Others	TJ	17.4	16.7	45.4
	Subtotal	TJ	18	17.5	52
Energy purchased	Electricity (Korea)	TJ	2,695	3,902	2,959
	Electricity (Overseas)	TJ	2,223	2,315	2,386
	Steam (Korea)	TJ	427	450	453
	Steam (Overseas)	TJ	33	35	40

\* Applicable business sites  
 - Korea : Business sites in Korea under operational control of LG Electronics  
 - Overseas : Overseas production subsidiaries of LG Electronics (32 subsidiaries)  
 \* Applicable energy usage: Combustion facilities in business sites, and external electricity and heat usage.  
 \* Energy consumption was calculated based on the net calorific value. Steam includes the consumption of steam recovered from waste heat generated at our locations in Korea.  
 \* Verification status: Third party assurance was completed on all Korean and overseas production sites(verification of fugitive emissions from refrigeration is excluded).

### GHG Emissions (Scope 1/2)

Classification	Unit	2016	2017	2018*	
Direct GHG emissions (Scope1)	Korea	1,000 tons of CO <sub>2</sub> e	191	967	650
	Overseas	1,000 tons of CO <sub>2</sub> e	150	138	135
Indirect GHG emissions (Scope2)	Korea	1,000 tons of CO <sub>2</sub> e	357	396	391
	Overseas	1,000 tons of CO <sub>2</sub> e	403	432	461
<b>Total (Scope1 + Scope2)</b>		1,000 tons of CO <sub>2</sub> e	1,101	1,933	1,637
<b>GHG emissions intensity (unit: KRW)</b>		1,000 tons of CO <sub>2</sub> e/ KRW 100 billion	1.99	3.15	2.68

\* Applicable business sites  
 - Korea: Business sites in Korea under operational control of LG Electronics  
 - Overseas: Overseas production subsidiaries of LG Electronics (32 subsidiaries)  
 \* Basis of Assessment  
 - Korea: GHG Trade Scheme for quantification and reporting of GHG emissions, Guideline for GHG Trade Scheme management  
 - Overseas: ISO 14064-3:2006 (GHG - Part 3: Specification with guidance for the validation and verification of GHG assertions)  
 \* Assessment  
 - Korea: LGE's GHG Inventory Report, LGE's Process of managing and collecting GHG Data, calculating and reporting emissions  
 - Overseas: LGE's GHG Emission Report, LGE's Process of managing and collecting GHG Data, calculating and reporting emissions

### GHG Emissions (Scope 3)

Classification	Unit	2016	2017	2018	
Other indirect GHG emissions (Scope3)	Rental building	Ton CO <sub>2</sub> e	8,991	8,829	10,610
	Business trip	Ton CO <sub>2</sub> e	57,743	56,559	60,853

\* Assessment: Emissions from rental buildings and business trips by employees are assessed by a third party.

### Air Emissions

Classification	Unit	2016	2017	2018	
NOx (Nitrogen Oxide)	Korea	Tons	6.9	11.1	20.9
	Overseas	Tons	52.6	36.1	34.5
	Total	Tons	59.5	47.2	55.4
SOx (Sulfur Oxides)	Korea	Tons	0.4	1.7	5.8
	Overseas	Tons	45.8	43.3	32.5
	Total	Tons	46.2	45	38.3
VOCs (Volatile Organic Compounds)	Korea	Tons	25.3	27.9	18.0
	Overseas	Tons	3.6	3.0	3.7
	Total	Tons	28.9	30.9	21.7
Dust	Korea	Tons	8.6	11.4	7.5
	Overseas	Tons	21.9	55.7	57.9
	Total	Tons	30.5	67.1	65.4

### Waste by Type and Disposal Method

Classification	Unit	2016	2017	2018		
Total weight of hazardous waste	Recycling	Tons	367	404	1,060	
	Incineration	Tons	841	932	927	
	Landfill	Tons	7	-	66	
Total weight of non-hazardous waste according to treatment methods	Recycling	Korea	Tons	40,277	42,528	40,419
		Overseas	Tons	88,612	93,446	91,489
		Total	Tons	128,889	135,974	131,908
	Incineration	Korea	Tons	6,340	7,751	8,160
		Overseas	Tons	2,908	4,159	2,437
		Total	Tons	9,248	11,910	10,957
	Landfill	Korea	Tons	3,852	1,945	400
		Overseas	Tons	22,216	24,951	31,312
		Total	Tons	26,068	26,896	31,712
Total	Korea	Tons	50,469	52,224	48,979	
	Overseas	Tons	113,737	122,556	125,238	
	Total	Tons	164,206	174,780	174,217	

\* All the wastes generated from the business sites of LG Electronics are treated by a local certified waste treatment service provider.

### Significant Spills

Classification	Unit	2016	2017	2018
Number of Spills	Cases	0	0	0
Volume of Spills	Tons	0	0	0

### Non-compliance with Environmental Laws and Regulations

Classification	Unit	2016	2017	2018
Total monetary value of significant fines	KRW	0	0	0
Total number of non-monetary sanctions	Cases	0	0	0

# Sustainability Management Performance Data

## Environmental Data

### Water Withdrawal by Source

Classification	Unit	2016	2017	2018
Surface water	1,000 Tons	N/A	N/A	N/A
Ground water	1,000 Tons	2,182	1,219	1,433
Waste water from another organization	1,000 Tons	309	245	223
Municipal water supplies or other public or private water	1,000 Tons	7,228	9,526	10,850
Municipal water	1,000 Tons	3,727	4,249	4,487
Industrial water	1,000 Tons	3,501	5,277	6,363
<b>Total</b>	1,000 Tons	9,719	10,990	12,506

\* Applicable business sites: 13 Korean (production and R&D) and 32 overseas (production) sites

\* Scope2 (Indirect water consumption) excluded

### Waste Water Treatment

Classification	Unit	2016	2017	2018
Water reused	1,000 Tons	309	245	223
Internal Treatment Facility	1,000 Tons	3,647	5,945	6,256
External Treatment Facility & Others	1,000 Tons	5,454	4,555	5,804

### Water Discharge by Quality and Destination

Classification	Unit	2016	2017	2018		
Water drainage (Limited to treatment facilities at the company)	Korea	Tons	3,017,007	5,226,310	5,437,589	
	Overseas	Tons	629,993	718,470	818,768	
	<b>Total</b>	Tons	3,647,000	5,944,780	6,256,357	
Wastewater quality	COD	Korea	Tons	39.3	40.0	48.9
		Overseas	Tons	124.5	121.7	141.0
		<b>Total</b>	Tons	163.8	161.7	189.9
	SS	Korea	Tons	10.4	21.1	24.6
		Overseas	Tons	72.7	73.3	59.0
		<b>Total</b>	Tons	83.1	94.5	83.6
	T-N	Korea	Tons	71.9	115.8	141.7
		Overseas	Tons	4.6	2.9	2.9
		<b>Total</b>	Tons	76.6	118.7	144.6
	T-P	Korea	Tons	0.9	1.2	1.3
		Overseas	Tons	0.7	0.7	0.8
		<b>Total</b>	Tons	1.6	1.8	2.1

## Social Data

### The Number of Employees by Region

Classification	Unit	2016	2017	2018
Korea	Employees	37,912	37,655	37,700
China	Employees	9,068	8,483	7,671
Asia	Employees	5,858	6,070	6,059
CIS	Employees	1,718	1,679	1,638
North America	Employees	2,215	2,341	3,052
Europe	Employees	4,777	4,390	4,483
India	Employees	4,561	4,506	4,317
Japan	Employees	204	243	266
Central and South America	Employees	6,982	6,742	6,135
Middle East & Africa	Employees	1,855	1,664	1,291
<b>Total</b>	Employees	75,150	73,773	72,612

### Total Number of Employees by Employment Contract

Classification	Unit	2016	2017	2018		
The number of employees by employment contract and gender	Permanent	Male	Employees	57,597	57,280	56,657
		Female	Employees	15,567	15,270	15,047
	Temporary	Male	Employees	1,161	657	515
		Female	Employees	825	566	393

### New Employee Hires and Employee Turnover

Classification	Unit	2016	2017	2018	
Number of newly hired employees by age group	Below 30	Employees	6,007	5,770	5,506
	30-50	Employees	3,847	3,391	3,927
	Over 50	Employees	404	242	358
Ratio of newly hired employees by age group	Below 30	%	58.7	61.4	56.2
	30-50	%	37.6	36.1	40.1
	Over 50	%	3.9	2.6	3.7
Total number of newly hired employees by gender	Male	Employees	7,493	6,828	7,017
	Female	Employees	2,765	2,575	2,774
Ratio of newly hired employees by gender	Male	%	73	72.6	71.7
	Female	%	27	27.4	28.3
Number of employees who changed their job by age group	Below 30	Employees	5,122	4,835	4,827
	30-50	Employees	6,626	5,455	5,691
	Over 50	Employees	668	618	538
Ratio of employees who changed their job by age group	Below 30	%	39	36.8	43.6
	30-50	%	50.4	41.5	51.5
	Over 50	%	5.1	4.7	4.9
Number of employees who changed their job by gender	Male	Employees	8,713	7,650	7,806
	Female	Employees	3,703	3,263	3,250
Ratio of employees who changed their job by gender	Male	%	70.2	70.1	70.6
	Female	%	29.8	29.9	29.4



# Sustainability Management Performance Data

## Social Data

### Proportion of senior Management Hired from the Local Community

Classification	Unit	2016	2017	2018
Number of local employees	Employees	7,599	7,669	6,858
Senior employees	Employees	257	161	126
Ratio	%	3.4	2.1	1.8

### Parental Leave (In Korea)

Classification	Unit	2016	2017	2018	
Total number of employees who took parental leave	Male	Employees	105	148	194
	Female	Employees	516	510	491
Total number of employees who came back to work after parental leave	Male	Employees	54	103	142
	Female	Employees	507	480	414
Ratio of employees who came back to work after parental leave	Male	%	71.1	89.6	73.2
	Female	%	96	92.7	84.3
Total number of employees that returned to work after parental ended that were still employed 12 months after their return to	Male	Employees	17	25	59
	Female	Employees	268	296	307
Ratio of employees that returned to work after parental ended that were still employed 12 months after their return to	Male	%	48.6	46.3	30.4
	Female	%	56.7	58.4	62.5

### Percentage of Employees Receiving Regular Performance and Career Development Reviews

Classification	Unit	2016	2017	2018
Male	%	100	100	100
Female	%	100	100	100
Office position	%	100	100	100
Technical position	%	100	100	100

### Average Hours of Training per Year per Employee (In Korea)

Classification	Unit	2016	2017	2018
Male	Hours	65.1	62.4	64.8
Female	Hours	58.5	58.4	59.8
Office position	Hours	77.4	74.0	78.4
Technical position	Hours	15.3	15.0	12.2

### Incidents of Violations Involving Rights of Indigenous Peoples

Classification	Unit	2016	2017	2018
Incidents of violations involving rights of indigenous peoples	Cases	0	0	0

### Total Number and Percentage of Operations Assessed for Risks Related to Corruption

Classification	Unit	2016	2017	2018*
No. of business sites	Sites	105	107	107
Ratio of business sites	%	100	100	99

\* Out of 108 business sites in Korea and overseas, one overseas business site that did not manufacture commercially in 2018 was excluded.

### Communication and Training about Anti-corruption Policies and Procedures

Classification	Unit	2016	2017	2018	
Korea	Number and ratio of the members of the Board of Directors who received a notice or training	Members(%)	8(100)	7(100)	7(100)
	Number and ratio of members who received a notice or training	Members(%)	28,547(95)	27,346(92)	27,342(92)
	Number and ratio of suppliers who received a notice or training	Suppliers(%)	1,334(100)	1,764(100)	1,684(100)
Overseas	Number and ratio of members who received a notice or training	Members(%)	15,803 (82)	17,954 (90)	15,807(87)

### Confirmed Incidents of Corruption and Actions Taken

Classification	Unit	2016	2017	2018
No. of Corruption Cases	Cases	0	0	0
Confirmed incidents in which employees were dismissed or disciplined for corruption	Cases	0	0	0
Confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption	Cases	0	0	0

### Business Sites that have been Subject to Human Rights Impact Assessments

Classification	Unit	2016	2017	2018
The number business sites where the company operates	Business sites	37	37	37
The number of business sites subject to assessment of human rights impact	Business sites	37	37	37
The ratio of business sites subject to assessment of human rights impact	%	100	100	100

\* Out of 41 global business sites, 4 business sites under construction and trial-based operation were excluded.

### Training on Human Rights Policies or Procedures

Classification	Unit	2016	2017	2018	
The number of hours of training on the Human Rights Policy and procedures related to the business.	Hours	3,281	2,751	3,175	
The number of employees who received training on the Human Rights Policy and procedures related to the business.	By position	Employees	2,052	954	1,519
	By job type	Employees	334	346	480
	Online	Employees	557	405	492

### Ratio of Security Personnel Trained in Human Rights Policies or Procedures

(Unit: persons)

The 3<sup>rd</sup> security personnel of LG electronics in 2018 are **475 in number and all trained in human rights policies or procedures.**

### Incidents of Discrimination and Corrective Actions Taken

Classification	Unit	2016	2017	2018
The number of cases of discriminatory incidents	Cases	0	0	0

# Sustainability Management Performance Data

## Social Data

### Substantiated Complaints Concerning Breaches of Customer Privacy and Losses of Customer Data

Classification	Unit	2016	2017	2018
Complaints received from outside parties and substantiated by the organization	Complaints	0	0	0
Complaints from regulatory bodies	Complaints	0	0	0
Total number of identified leaks, thefts, or losses of customer data	EA	0	0	0

### Assessment of the Health and Safety Impacts of Product and Service Categories

Classification	Unit	2016	2017	2018
Percentage of major product and service categories for which health and safety impacts are assessed	%	100	100	100

### Incidents of Non-compliance Concerning the Health and Safety Impacts of Products and Services

Classification	Unit	2016	2017	2018
Incidents of non-compliance with regulations resulting in a fine or penalty	Incidents	0	0	1
Incidents of non-compliance with regulations resulting in a warning	Incidents	0	0	0
Incidents of non-compliance with voluntary codes	Incidents	0	0	0

### Non-compliance with Laws and Regulations in the Social and Economic Area

Classification	Unit	2016	2017	2018
Total monetary value of significant fine	KRW	0	30,000,000	0
Total number of non-monetary sanctions	Sanctions	0	0	0

### Impact Assessments on Local Community

Classification	Unit	2016	2017	2018
Ratio of business sites subject to social impact assessments (including gender impact assessments) based on participatory processes	%	None	None	None
The number of local community development programs based on local communities' needs	EA	93	85	160
The number of countries which held stakeholder consultation on CSR	EA	3	2	2
The number of local community consultation committees and processes that include vulnerable groups	EA	2	2	2
The number of representation bodies to deal with impacts	EA	None	None	None
Ratio of formal local community grievance processes	%	None	None	None

### New Suppliers that were Screened Using Social Criteria

Classification	Unit	2016	2017	2018
Percentage of new suppliers that were screened using social criteria	%	100	100	100

### Negative Social Impacts in the Supply Chain and Actions Taken

Classification	Unit	2016	2017	2018
Number of suppliers assessed for social impacts (Suppliers that have performed self-assessment by year)	Suppliers	1,334	1,764	1,684
Number of suppliers identified as having significant actual and potential negative social impacts	Suppliers	0	0	0
Percentage of suppliers identified as having significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment	Suppliers	100	100	100

### Free Training for Suppliers

Classification	Unit	2016	2017	2018
The number of suppliers	Suppliers	302	316	281
The number of participating employees	Employees	2,220	2,408	2,121

### Amount of Funding for Suppliers

Classification	Units	2016	2017	2018	
Direct Funding	The number of funded suppliers	Suppliers	18	21	35
	The amount of fund	KRW billion	20.0	20.0	24.3
Win-Win Growth Fund	The number of funded suppliers	Suppliers	172	124	127
	The amount of fund	KRW billion	113.2	98.8	104.9
Win-Win Payment	The number of funded suppliers	Suppliers	1,169	1,424	1,574
	The amount of fund	KRW billion	6,756.2	7,780.5	7,807.9

### Safety Data

Classification	2016	2017	2018
LTIFR <sup>1)</sup>	1.15	0.67	0.65
OIFR <sup>2)</sup>	0.00	0.00	0.00
Fatality (No. of case)	2	0	0
Lost-time Injuries (No. of case)	178	104	91
Total Hours Worked	154,855,315	155,421,107	140,129,484

1) LTIFR: Lost-Time Injuries Frequency Rate (Number of lost-time injuries x 1,000,000)/(Total hours worked in accounting period)

LTIFR (Lost-Time Injuries Frequency Rate) is an accident index that differs from occupational accident rate and Frequency Rate of Injury (FR) and includes not only industrial accidents, but also all labor losses of more than one day.

2) OIFR: Occupational Injuries Frequency Rate (Number of occupational illness cases x1,000,000)/(Total hours worked in accounting period)

LG Electronics has employees who work in special conditions or who work with special materials undergo a special medical checkup on an annual basis. The results indicate that none of our employees contracted occupational diseases for the period between 2015-2017.

\* LTIFR figures changed in 2016 and 2017, according to the revised calculations of the number of labor losses of less than one day and total hours worked.

\* Applicable employees: All employees home and abroad including those in overseas production subsidiaries of LG Electronics.



# EESH-Quality Certification Status

as of April 2018

Region	Subsidiary	Country	Environmental Management	Health and Safety	Energy	Business Continuity Management	Quality	
South America	LGEMX	Mexico	ISO 14001	-	ISO 50001	-	ISO 9001	
	LGERS	Mexico	ISO 14001	-	-	-	ISO 9001	
	LGEMM	Mexico	ISO 14001	-	-	-	ISO 9001, ISO 17025	
	LGESP_T	Brazil	ISO 14001	-	-	-	ISO 9001	
	LGEBR_M	Brazil	ISO 14001	OHSAS 18001	-	-	ISO 9001, IATF 16949	
North America	LGEUS_TN	U.S.A	-	-	-	-	-	
	LGEVU	U.S.A	-	-	-	-	-	
	LGEAI	U.S.A	-	-	-	-	-	
Europe	LGEMA	Poland	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001, IATF 16949	
	LGWR	Poland	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001	
	LGEAK	Kazakhstan	ISO 14001	OHSAS 18001	-	-	ISO 9001	
	LGERA	Russia	ISO 14001	OHSAS 18001	-	-	-	
CIS Africa	LGEEG	Egypt	ISO 14001	OHSAS 18001	-	-	ISO 9001	
	LGEAT	Turkey	ISO 14001	OHSAS 18001	-	-	ISO 9001, ISO 27001	
	LGESR	Saudi Arabia	ISO 14001	OHSAS 18001	-	-	ISO 9001	
	LGESA	South Africa	-	-	-	-	-	
Asia	LGEIL_P	India	ISO 14001	OHSAS 18001	-	-	ISO 9001, ISO/IEC 17025	
	LGEIL_N	India	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001	
	LGETH	Thailand	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001	
	LGEVH	Vietnam	ISO 14001	OHSAS 18001	ISO 50001	ISO 22301(VS)	ISO 9001, IATF 16949	
	LGEIN_C	Indonesia	ISO 14001	OHSAS 18001	-	-	ISO 9001	
	LGEIN_T	Indonesia	ISO 14001	OHSAS 18001	-	-	ISO 9001	
	China	LGENT	China	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001
LGEBN		China	-	-	ISO 50001	-	ISO 9001, IATF 16949	
LGENV		China	ISO 14001	OHSAS 18001	-	-	ISO 9001, IATF 16949	
LGEHZ		China	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001	
LGEKS		China	ISO 14001	OHSAS 18001	-	-	ISO 9001, IATF 16949	
LGEQD		China	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001	
LGEYT		China	ISO 14001	OHSAS 18001	ISO 50001	ISO 22301 (Mobile)	ISO 9001	
LGEHN		China	ISO 14001	OHSAS 18001	-	-	ISO 9001	
LGETR		China	ISO 14001	OHSAS 18001	-	-	ISO 9001	
LGETA		China	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001	
LGEQH		China	ISO 14001	OHSAS 18001	-	-	ISO 9001, ISO/TS 16949	
LGEQA		China	ISO 14001	OHSAS 18001	-	-	ISO 9001	
LGEPN		China	ISO 14001	OHSAS 18001	ISO 50001	-	ISO 9001, IATF 16949	
Korea		Pyeongtack	Korea	ISO14001	OHSAS 18001	ISO 50001	ISO 22301 (VS, Mobile)	ISO 9001, IATF 16949, ISO/TL 9000, ISO 13485
		Gumi_TV	Korea	ISO14001	OHSAS 18001	ISO 50001	-	ISO 9001, ISO 13485
	Gumi_Solar	Korea	ISO14001	OHSAS 18001	ISO 50001	-	ISO 9001	
	Cheongju	Korea	ISO14001	OHSAS 18001	ISO 50001	-	-	
	Changwon1	Korea	ISO14001	OHSAS 18001	ISO 50001	-	ISO 9001	
	Changwon2	Korea	ISO14001	OHSAS 18001	ISO 50001	-	ISO 9001, IATF 16949	
	Incheon	Korea	ISO14001	OHSAS 18001	ISO 50001	ISO 22301 (VS)	ISO 9001, IATF 16949	
	Pyeongtaek Chiller	Korea	ISO14001	OHSAS 18001	-	-	ISO 9001	

# Membership-Awards & Recognition

## Memberships

Responsible Business Alliance	Trade related IPR Protection Association	Korea Micro-Joining Association	Korea Electronics Association (Private Sector Council for Electronics Trade promotion)
UN Global Compact	Korea Audit Bureau of Certification	Korean Academy for Trade Credit Insurance	Korea Association for ICT Promotion
UN Global Compact Korea	Korea Authorized Economic Operator Association	Korea International Trade Association	Korea Radio Promotion Association
ZigBee Alliance	Korea Investor Relations Service	Korea Invention Promotion Association	Korea Association of Information & Telecommunication
Council of Economic Organizations	Korea Employers Federation	Korea Association of Industrial Technology	Korea Products Safety Association
Organization of Consumer Affairs	Korea Economic Research Institute	Korea Association of Industrial Technology Security	Korea Intellectual Property Protection Association
Professionals in Business Industrial Health Association	Fair Competition Federation	Korea Association of Industrial Designers	Korea Intellectual Property Association
Korea Society of Mechanical Engineers	Accreditation Board for Engineering Education of Korea	Korea Listed Companies Association	Korea Intellectual Property Association Society of CAD/CAM Engineers
Korea Chamber of Commerce and Industry	Korea Advertisers Association	Korean Society for Noise and Vibration Engineering	Korea Chemicals Management Association
The Korean Institute of Electrical Engineers	Korea Management Association	Korea Smart Grid Association	
Maekyung Safety & Environment	Korea Display Industry Association	GS1 Korea	

## Awards & Recognition

Date Awarded	Awards & Recognitions	Awarded by
2018. 07.	Green Products of the year 2018 in Korea (for 7 models including LG code-zero A9)	Korea Green Purchasing Network
2018. 10.	2018 Good Design Award (for 10 models)	Japan Institute of Design Promotion
2018. 11.	Best Innovation Award and Innovation Award at 2019 CES	Consumer Technology Association U.S.A
2019. 01.	Grand prize at 2019 Korea First Brand (LG Cinebeam-lazer 4K Projector)	Korea Customers' Council
2019. 01.	Performance Award (for 6 Air-conditioning Equipment)	American Society of Heating, Refrigerating and Air-Con. Engineers
2019. 03.	Gold prize at IF Design Award (15 models, 1 model won Gold)	U.S. Department of Energy
2019. 03.	Red Dot Design Award (27 models, 2 models won Best of the Best) International	International Forum Design GmbH of Germany
2019. 03.	Gold prize in 2018 Sustainable Material Management Award	Reddit of Germany
2019. 04.	Economic Design Award (in 3 categories)	Ergonomics Society of Korea
2019. 04.	2019 Best Washing Machine Award (for 4 models)	U.S. Consumer REPORT
2019. 04.	Awarded as "Excellence in Sustainability" by the Energy Star Award 2019	U.S. Department of Energy

# Materiality Assessment

## Materiality Assessment Process

LG Electronics conducted a materiality assessment for this report in accordance with the principles of 'Sustainability', 'Materiality', 'Stakeholder participation', and 'Completeness', which are information disclosure principles of the GRI (Global Reporting Initiative) Standards. LGE has analyzed the global sustainability management initiatives and evaluation system, the company's vision and strategy, issues in the electronics industry, and media exposure from a comprehensive perspective in order to identify important issues related to sustainability management at LG Electronics. We also conducted surveys of internal and external experts to assess the priorities and impact of key issues.

### Step 01 Identification of the Issue Pool

We have identified trends in the field of sustainability management through a review of the global sustainability management standards and initiatives, and evaluation of system analysis and best practices in the same industry, and have reviewed internal directions and major achievements through business outlines, vision and strategies. In addition, we have identified stakeholders' requests and media interest in LG Electronics.

We have identified 52 pools linked to LG Electronics' sustainability management initiatives based on analysis of our internal status, standards and evaluation, and external stakeholder perspectives.

<b>Standards for Information Disclosure on Sustainability Management</b> <ul style="list-style-type: none"> <li>Global Reporting Initiative (GRI) Standards                     <ul style="list-style-type: none"> <li>Items to be disclosed, such as requirements and recommendations</li> </ul> </li> <li>Sustainability Accounting Standards Board (SASB)                     <ul style="list-style-type: none"> <li>Important issues in the appliance manufacturing industry</li> </ul> </li> </ul>	<b>Assessment Scheme for Sustainability Management</b> <ul style="list-style-type: none"> <li>Dow Jones Sustainability Indices (DJSI)                     <ul style="list-style-type: none"> <li>Assessment index for the leisure equipment industry</li> </ul> </li> <li>Financial Times Stock Exchange (FTSE) 4GOOD                     <ul style="list-style-type: none"> <li>Sustainability assessment index</li> </ul> </li> <li>Responsible Business Alliance (RBA)                     <ul style="list-style-type: none"> <li>Self-Assessment Questionnaire (SAQ)</li> </ul> </li> <li>ESG assessment index of the Korea Corporate Governance Service</li> </ul>
<b>Sustainability Management Implementation Status</b> <ul style="list-style-type: none"> <li>Company Overview and Business Status in the LG Electronics Business Report</li> <li>LG Electronics' Sustainability Reports for the past three years                     <ul style="list-style-type: none"> <li>Goals, major tasks, specific targets</li> </ul> </li> <li>LG Electronics' mid- to long-term sustainability management goals                     <ul style="list-style-type: none"> <li>Goals, major tasks, specific targets</li> </ul> </li> <li>LG Electronics' Sustainability Management Policy                     <ul style="list-style-type: none"> <li>Regarding ethics, labor, suppliers, codes of conduct, and environmental management</li> </ul> </li> </ul>	<b>External Stakeholders' Concerns</b> <ul style="list-style-type: none"> <li>Stakeholders' requests                     <ul style="list-style-type: none"> <li>Customers, suppliers, evaluation agencies, communities</li> </ul> </li> <li>Important issues and best practices of leading companies in the same industry                     <ul style="list-style-type: none"> <li>Top-5 consumer electronics companies evaluated by DJSI</li> </ul> </li> <li>Investigate domestic media and press releases</li> <li>World Knowledge Forum Global Risk, etc.</li> </ul>

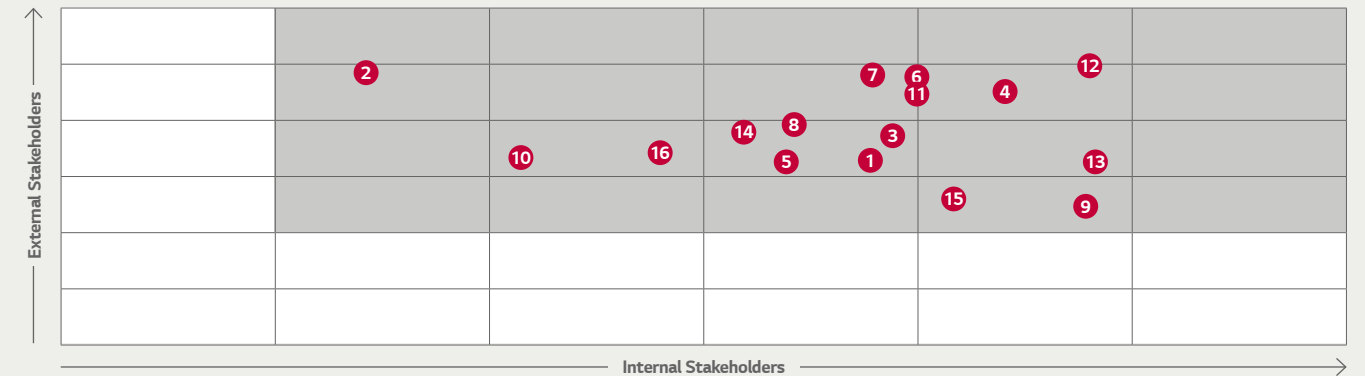
### Step 02 Prioritization of Issues

We set the importance of issues based on surveys in order to identify which ones LG Electronics should focus on out of the 52 issues in the pool. In addition, we quantified the impact of the issues from four perspectives: strategy, finance, management, and reputation.

Survey Overview			
Survey period	2019. 02. 01 - 2019. 02. 28	Survey respondents	LG Electronics employees, external experts
Survey method	Written instructions and on-site evaluation	Survey contents	<ul style="list-style-type: none"> <li>Determination of important issues for sustainability management</li> <li>Strategic, financial, operational, and reputational impact of important issues</li> </ul>

### Step 03 Materiality Assessment

LG Electronics has identified 16 important issues through the prioritization process. These have been classified into three categories: 'Promotion of Intelligent Lifestyles', 'Realization of Zero Carbon and a Circular Economy', and 'Creation of a Better Society', in connection with our mid- to long-term sustainability management goals. This is faithful reporting on the MA (Management Approach), strategic direction, activities and achievements, goals and progress.



### Classify and Report Important Issues

Sixteen Important Issues	Reporting Topics (Mid- to Long-term Sustainability Management)	Report Content (Mid- to Long-term Goals for Sustainable Management Major Tasks)	Page of Report
1 Establish a product/solution connectivity (AI, IoT, etc.)	Promoting Intelligent Lifestyles [GRI 201]	Intelligent Life	22 - 27
2 Develop a products/solutions for vulnerable groups		Healthy Life	28 - 31
3 Innovate technology and R&D with consideration for society and the environment		Green Business	32 - 35
4 Introduce an eco-friendly business model		Zero Carbon	36 - 39
5 Assess business risks resulting from climate change	Achieving Zero Carbon and Circular Economy [GRI 301]	Product Responsibility	40 - 47
6 Reduce greenhouse gas emissions		Circular Economy	48 - 51
7 Track hazardous substances in products and develop alternative substances			
8 Use raw materials and resources efficiently			
9 Handle hazardous substances and waste in a safe manner			
10 Assess and inspect the risks of suppliers	Creating a Better Society [GRI 403]	Sustainable Supply Chain	52 - 57
11 Manage the flow of conflict minerals and refineries	[GRI 412]		
12 Establish a safety and health system and spread the culture	[GRI 413]	Decent Workplaces	58 - 63
13 Expand an investment for safety accident prevention	[GRI 414]		
14 Pursue work-life balance and corporate culture improvement			
15 Respect human rights and manage related risks			
16 Operate strategic social contributions		Social Contribution	64 - 69

### Other Issues

Strengthen governance independence/transparency /professionalism	Collect customer feedback and respond promptly	Comply with labor standards	Expand renewable energy use
Assess directors' activities and ensure impartial compensation	Product/solution labling and information disclosures	Support and invest in employee competency development	Manage water resources and protect sources
Strengthen ownership of board of directors and managements	Manage product/solution quality and safety	Provide fair performance evaluations and rational compensation	Reduce environmental pollutant emissions (air, water quality)
Protect shareholders' rights and ensure the exercise of shareholders' rights	Strengthen the service network quality management system	Disclose expenditure on donations in a transparent manner	Protect biodiversity
Enter and diversify global markets	Protect customer privacy	Evaluate social contribution effectiveness and influence	Develop eco-friendly products/solutions
Actively disclose sustainability management information	Build and manage brand image and reputation	Build cooperation systems with local communities	Enhance Suppliers' Code of Conducts and requirements
Manage financial/non-financial risks comprehensively	Create jobs	Establish sustainability management targets and manage progress	Operate a win-win growth program for suppliers
Internalize ethical management/code of conduct	Secure diversity of employees and prohibit discrimination	Strengthen environmental policies and norms	Settle fair trade practices with suppliers
Increase tax transparency	Promote labor-management relations	Manage GHG emissions and energy consumption	Comply with all laws and regulations



# Independent Assurance Statement

## Introduction

LG Electronics Inc. ("LG Electronics") commissioned DNV GL Business Assurance Korea Ltd. ("DNV GL"), part of DNV GL Group, to undertake independent assurance of the 2018-2019 LG Electronics Sustainability Report (the "Report"). The directors of LG Electronics have sole responsibility for the preparation of the Report. The responsibility of DNV GL in performing the assurance work is to the management of LG Electronics in accordance with the terms of reference. DNV GL's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been prepared in good faith.

## Scope and Basis of assurance

Based on non-financial data and sustainability activities and performance data of 2018 generated from LG Electronics, we have evaluated the adherence to AA1000 Accountability Principles (AP) 2018. We have reviewed that the Topic-specific disclosures of GRI Standards which are identified in the process for defining report content;

Reporting Topics	GRI Disclosure
1. Promoting Intelligent Lifestyles	201-1, 201-2
2. Achieving Zero Carbon and Circular Economy	301-3, 302-1, 305-1, 305-2, 306-2, 306-3, 416-1
3. Creating a Better Society	403-2, 412-1, 412-2, 412-3, 413-1, 414-1

We performed our work using AA1000AS (2008) and DNV GL's assurance methodology VeriSustain™<sup>1)</sup> which is based on our professional experience, international assurance best practices. DNV GL provides Type 1 and the moderate level of assurance, and we applied the Type 2 for the selected data. The assurance was carried out from May till June 2019. The site visits were made to the headquarters of LG Electronics in Seoul and Pyeongtaek production site. We undertook the following activities as part of the assurance process:

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

## Limitations

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

## Conclusion

On the basis of the work undertaken, nothing comes to our attention to suggest that the reported data and information disclosed in the Report do not give a fair representation of LG Electronics related sustainability performance nor is prepared 'in accordance' with GRI Standards Core option. Further opinions with regards to the adherence to the Principles are made below;

### 1 The Principle of Inclusivity

LG Electronics has identified internal and external stakeholder groups such as Customers, Suppliers, Evaluation agencies, Communities. LG Electronics conducts interviews and consultations with stakeholders to check the status and direction of LG Electronics' sustainability management. In particular, LG Electronics has been holding a stakeholder consultation meeting to share opinions on LG Electronics' management activities with experts in each field. In addition, LG Electronics reflects the opinions of stakeholders

1) The VeriSustain protocol is available upon request at DNV GL Website ([www.dnvgl.com](http://www.dnvgl.com))

related to the sustainable growth of the company in its management activities. The assurance team reviewed the stakeholder engagement process with which LG Electronics understands the impact on stakeholders. In the future, LG Electronics could present the reasonable expectations and interests of respective stakeholders in detail

### 2 The Principle of Materiality

LG Electronics has conducted the materiality assessment to prepare the Report. LG Electronics identified the sustainability issues through analysis of global initiatives and standards, the topics which industry peer group and the subject covered by mass media. LG Electronics used the internal and external stakeholder survey to prioritize the issues and finally selected 16 important issues as material topic. LG Electronics reports the material topic regarding three mid-to long-term goals for LG Electronics' sustainability management.

### 3 The Principle of Responsiveness

The Report helps stakeholders understand LG Electronics' sustainability management by explaining three midto long-term goals for LG Electronics' sustainability management: promoting an intelligent lifestyle, realizing a zero carbon, circular economy, and creating a better society. LG Electronics' three sustainability management goals are subdivided into 9 major tasks, each of which is setting specific goals. In addition, the Report presents key performance and relevant cases on key sustainability issues during the reporting period. LG Electronics discloses the group's decision making, performance and future plans for important issues as sustainability aspect and this is considered to properly report in accordance with GRI Standards.

### 4 The Principle of Impact

The Report presents the direct and indirect impacts of material topics identified from the material assessment. LG Electronics identified and monitors the impacts of material topics to stakeholders and tries to quantify these as possible.

### 5 Reliability of specific sustainability performance information

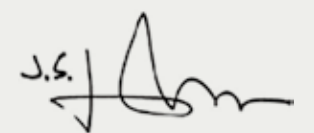
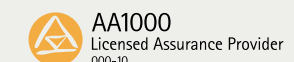
DNV GL has evaluated the adherence to the AA1000 AccountAbility Principles as described above by applying Type 1 methodology. The reliability of the selected data including water consumption, waste volume, air pollutant emissions and lost-time injuries frequency rate are tested with Type 2 methodology. DNV GL has interviewed the data owners in order to figure out the data control process and verified the selected data against the relevant documents and records. DNV GL also conducted in-depth review the business ethics management process. Data owners in LG Electronics can explain the source of data and data handling process and demonstrate to trace the consolidated data back to the raw data set in a reliable manner. The assurance team has not noted any intentional error or misstatement regarding the selected data.

## Competence and Independence

DNV GL applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have complied with the DNV GL Code of Conduct<sup>2)</sup> during the assurance engagement and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV GL was not involved in the preparation of statements or data included in the Report except for this Assurance Statement. DNV GL has provided LG Electronics' 2018 greenhouse gas emission verification. In our opinion, this does not affect the independence or impartiality of our work.

June 2019  
Seoul, Korea

Jang-Sup Lee  
Country Representative  
DNV GL Business Assurance Korea Ltd.

2) DNV GL Code of Conduct is available from DNV GL website ([www.dnvgl.com](http://www.dnvgl.com))

## Universal Standards

Standard Indicators			Reporting	
No.	Core	Title	Page	Note
102-01	Core	Name of the organization	10	
102-02	Core	Activities, brands, products, and services	13 – 17	
102-03	Core	Location of headquarters	10	
102-04	Core	Location of operations	10 – 11	
102-05	Core	Ownership and legal form	10 – 11	
102-06	Core	Markets served	10 – 11, 13 – 17	
102-07	Core	Scale of the organization	11 – 12	
102-08	Core	Information on employees and other workers	105 – 106	
102-09	Core	Supply chain	101	
102-10	Core	Significant changes to the organization and its supply chain	-	No major changes
102-11	Core	Precautionary Principle or approach	94 – 95	
102-12	Core	External initiatives	111	
102-13	Core	Membership of associations	111	
102-14	Core	Statement from senior decision-maker	6 – 7	
102-15		Key impacts, risks, and opportunities	13 – 17	
102-16	Core	Values, principles, standards, and norms of behavior	4 – 5, 92 – 93	
102-17		Mechanisms for advice and concerns about ethics	92 – 93	
102-18	Core	Governance structure	90 – 91	
102-19	Core	Delegating authority	94	
102-20		Executive-level responsibility for economic, environmental, and social topics	94	
102-21		Consulting stakeholders on economic, environmental, and social topics	112 – 113	
102-22		Composition of the highest governance body and its committees	90 – 91	
102-23		Chair of the highest governance body	90	
102-24		Nominating and selecting the highest governance body	90	
102-25		Conflicts of interest	91	
102-26		Role of highest governance body in setting purpose, values, and strategy	90	
102-27		Collective knowledge of highest governance body	91	
102-28		Evaluating the highest governance body's performance	91	
102-29		Identifying and managing economic, environmental, and social impacts	90 – 91, 94	
102-30		Effectiveness of risk management processes	60 – 61	
102-31		Review of economic, environmental, and social topics	112 – 113	
102-32		Highest governance body's role in sustainability reporting	91	
102-33		Communicating critical concerns	94	
102-34		Nature and total number of critical concerns	112 – 113	
102-35		Remuneration policies	91	
102-36		Process for determining remuneration	-	Corporate Governance report
102-37		Stakeholders' involvement in remuneration	-	Corporate Governance report
102-38		Annual total compensation ratio	-	Annual report
102-39		Percentage increase in annual total compensation ratio	91	
102-40	Core	List of stakeholder groups	112	

Standard Indicators			Reporting	
No.	Core	Title	Page	Note
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102-42	Core	Identifying and selecting stakeholders	112	LGE Website*
102-43	Core	Approach to stakeholder engagement	112	LGE Website*
102-44	Core	Key topics and concerns raised	113	
102-45	Core	Entities included in the consolidated financial statements	-	Annual report
102-46	Core	Defining report content and topic Boundaries	Report overview	Annual report
102-47	Core	List of material topics	113	N/A
102-48	Core	Restatements of information	-	
102-49	Core	Changes in reporting	-	Footnotes
102-50	Core	Reporting period	Report overview	
102-51	Core	Date of most recent report	-	LGE Website**
102-52	Core	Reporting cycle	Report overview	
102-53	Core	Contact point for questions regarding the report	119	
102-54	Core	Claims of reporting in accordance with the GRI Standards	Report overview	
102-55	Core	GRI content index	116 – 118	
102-56	Core	External assurance	114 - 115	

\* <https://www.lge.co.kr/lgekor/company/sustainability/system.do>

\*\* <https://www.lge.co.kr/lgekor/company/sustainability/report.do>

## Topic Specific Standards

Standard Indicators			Reporting	
	No.	Title	Page	Note
<b>Economic Performance</b>	103	Management Approach	22 – 25	
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	201-2	Financial implications and other risks and opportunities due to climate change	32 – 35, 38	
	201-3	Defined benefit plan obligations and other retirement plans	101	
	201-4	Financial assistance received from government	101	
<b>Market Presence</b>	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	101	
	202-2	Proportion of senior management hired from the local community	102	
<b>Indirect Economic Impacts</b>	203-1	Infrastructure investments and services supported	30 – 31	
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<b>Procurement Practices</b>	204-1	Proportion of spending on local suppliers	101	
<b>Anti-corruption</b>	205-1	Operations assessed for risks related to corruption	107	
	205-2	Communication and training about anti-corruption policies and procedures	107	
	205-3	Confirmed incidents of corruption and actions taken	107	
<b>Anti-competitive Behavior</b>	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	-	1 incident in 2018 (see Annual report)



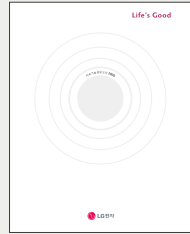
Topic Specific Standards

	Standard Indicators		Reporting	
	No.	Title	Page	Note
<b>Materials</b>	103	Management Approach	40 – 45	
	301-1	Materials used by weight or volume	-	
	301-2	Recycled input materials used	-	
	301-3	Reclaimed products and their packaging materials	45	
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	302-2	Energy consumption outside of the organization	-	
	302-3	Energy intensity	-	
	302-4	Reduction of energy consumption	-	
	302-5	Reductions in energy requirements of products and services	39, 46, 78	
<b>Water</b>	303-1	Water withdrawal by source	104	
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	303-3	Water recycled and reused	104	
<b>Emissions</b>	103	Management Approach	36 – 39	
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	305-3	Other indirect (Scope 3) GHG emissions	102	
	305-4	GHG emissions intensity	102	
	305-5	Reduction of GHG emissions	39	
	305-6	Emissions of ozone-depleting substances (ODS)	-	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	103	
<b>Effluents and Waste</b>	103	Management Approach	48 – 51	
	306-1	Water discharge by quality and destination	104	
	306-2	Waste by type and disposal method	103	
	306-3	Significant spills	103	
	306-4	Transport of hazardous waste	79	
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<b>Environmental Compliance</b>	307-1	Non-compliance with environmental laws and regulations	103	
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	403-3	Workers with high incidence or high risk of diseases related to their occupation	59	
	403-4	Health and safety topics covered in formal agreements with trade unions	76 - 77	

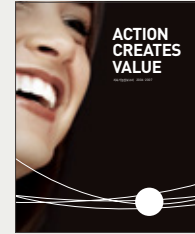
	Standard Indicators		Reporting	
	No.	Title	Page	Note
<b>Training and Education</b>	404-1	Average hours of training per year per employee	106	
	404-2	Programs for upgrading employee skills and transition assistance programs	88 – 89	
	404-3	Percentage of employees receiving regular performance and career development reviews	106	
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<b>Non-discrimination</b>	406-1	Incidents of discrimination and corrective actions taken	107	
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	417-2	Incidents of non-compliance concerning product and service information and labeling	-	None incident occurred in 2018 (see Annual report)
	417-3	Incidents of non-compliance concerning marketing communications	-	None incident occurred in 2018 (see Annual report)
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<b>Socioeconomic Compliance</b>	419-1	Non-compliance with laws and regulations in the social and economic area	108	

# History of Sustainability Reports Publication

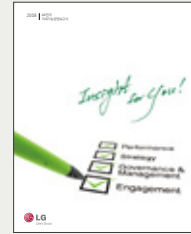
## 2006-2012



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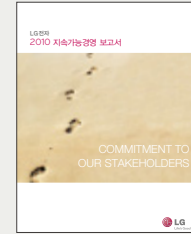
Released in October 2008



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Released in June 2010



Released in May 2011



Released in May 2012

## 2013-2018



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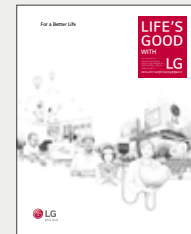
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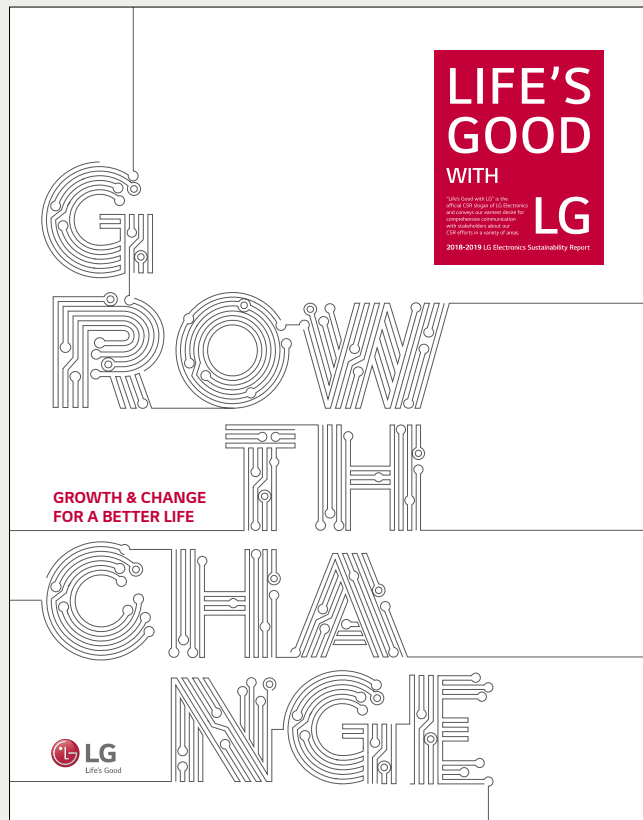


Released in June 2017



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## 2019



## 2018-2019

### LG Electronics Sustainability Report (June 2019)

- Establish and Provide Mid- to Long-Term Sustainability Commitments
- Apply GRI (Global Reporting Initiative) Standards

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