

An aerial photograph of a cityscape featuring a prominent, tall, blue glass skyscraper on the left side. The building is surrounded by a dense urban environment with various other buildings and a river or waterway in the foreground. The sky is bright with scattered clouds.

Think new,  
Go global!

## Cover Story



We seek harmony between the sky and the land by highlighting LOTTE World Tower of Creativity and new technologies as an icon of LOTTE E&C.

Using the slogan “Think new, Go global!,” the landmark expresses LOTTE E&C’s commitment to corporate management to enable it to become a world-class sustainable company.

## 2014 LOTTE E&C Sustainability Report

## About This Report

This LOTTE E&C Sustainability Report is the company's second report of its kind after the first one of 2013. This report covers the company's sustainable management activities and performance throughout the year of 2013. Strategies, goals and performance for six key areas of sustainable management are reported. A section of the ‘Special Issue’ is included to cover major issues considered critical by stakeholders based on the materiality test.

### Reporting Period and Scope

This report elaborates on the performance of the past three years for stakeholders to identify the trends in the quantitative performance. Data for 2014 are included for some major agenda or significant activities and performance. This report covers our 197 domestic sites as well as Company Headquarters, Saerom Building and Wonhyo Building, and overseas sites for such major issues as safety and social contribution.

### Reporting Standards

This report was prepared in accordance with the guidelines of the Global Reporting Initiative (GRI) G3.1 and ISO 26000. Related information on the GRI G3.1 and ISO 26000 is described in the GRI Index (p. 82~85).

### Reporting Assurance

This report was assured independently by a third-party entity to raise the level of credibility and reliability. The related information on assurance is described in the assurance report (p.80~81).

### GRI G3.1 Guidelines Application Level

The LOTTE E&C Sustainability Report adheres to the current Guidelines (G3.1) of the Global Reporting Initiative (GRI) including the CRE final version of the GRI Construction and Real Estate Sector Supplement (CRE). Conformity of the information provided with the requirement profiles has been checked by GRI G3.1 and the report was classified as Application Level A+.

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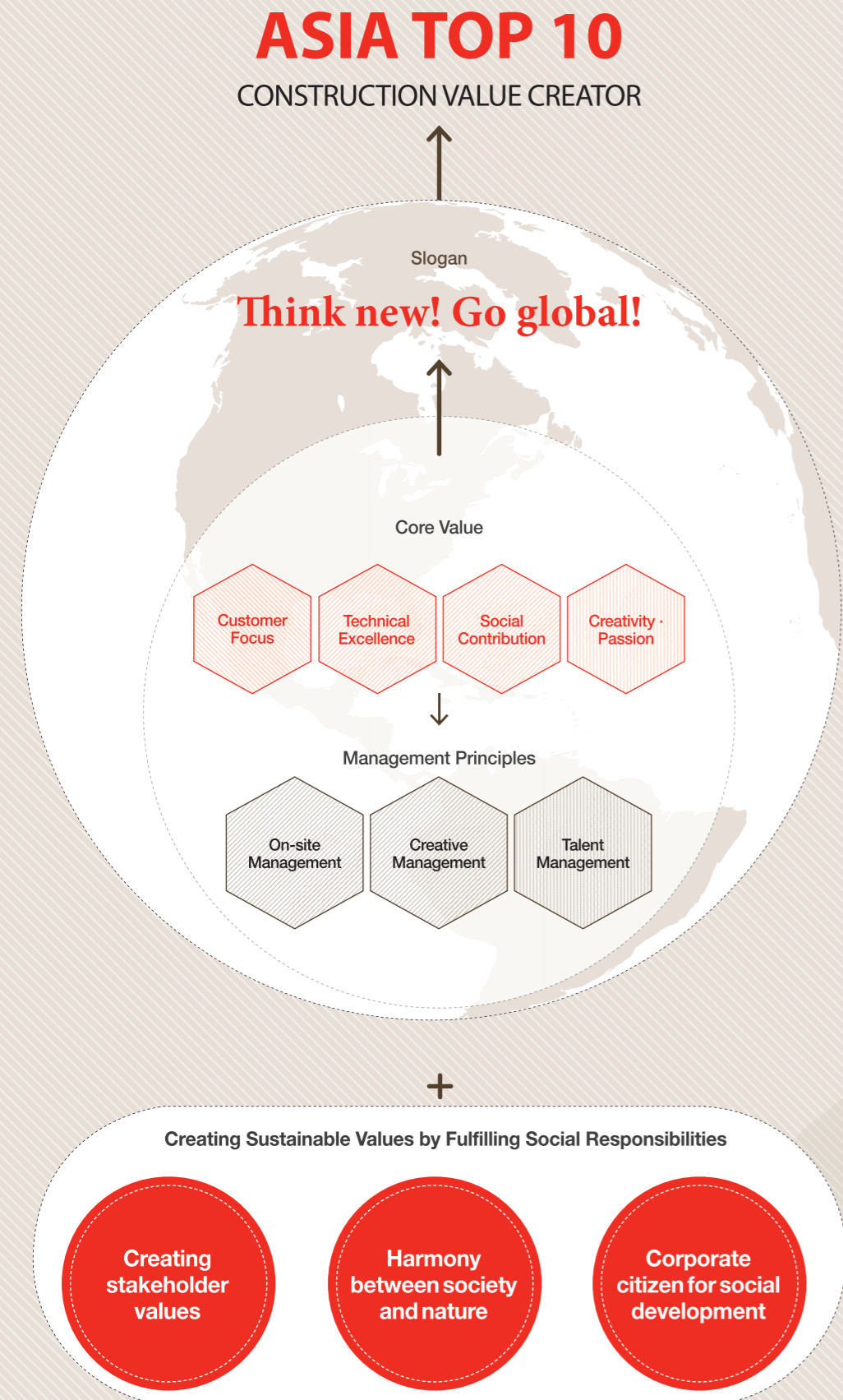


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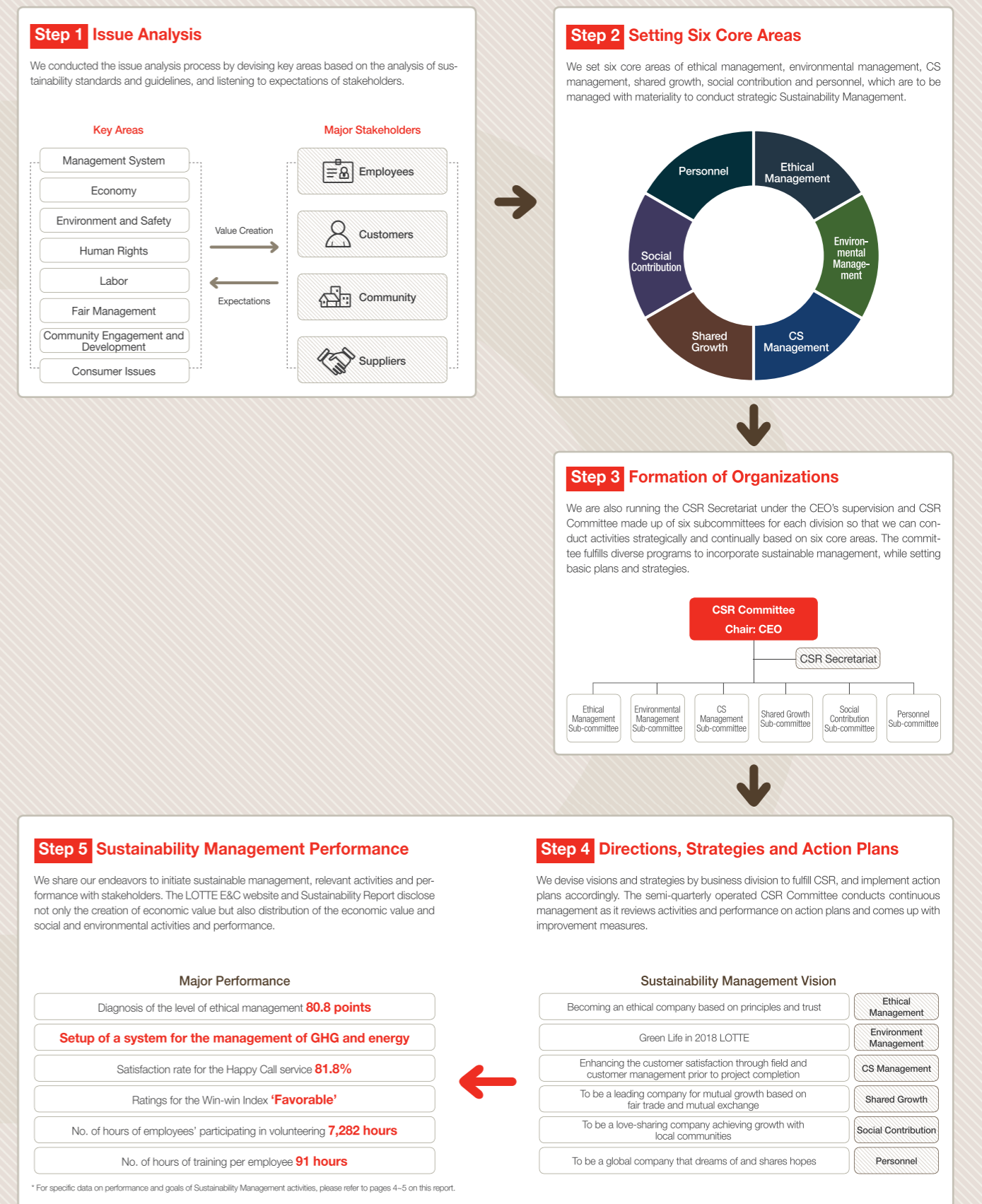
# Sustainability Management

## Vision and Strategies












LOTTE E&C is creating sustainable values for the company and society based on the system of Sustainability Management. The system consists of key areas of Sustainability Management and expectations of stakeholders. The system also manages performance in six areas of ethical management, environmental management, CS management, shared growth, social contribution and personnel, which are to be managed as critical ones in order to conduct Sustainability Management activities strategically.







## Sustainability Management Process





## Major Performance and Goals for Sustainable Management

Six areas	Environment and Safety Management	Talent management	Ethical Management
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Reducing the environmental impact on the field</li> <li>Developing eco-friendly technologies</li> <li>Strengthening safety management for worksites</li> </ul>	<ul style="list-style-type: none"> <li>Diversifying employment</li> <li>Reinforcing global competencies</li> </ul>	<ul style="list-style-type: none"> <li>Incorporating ethical management</li> <li>Managing ethical risks company-wide</li> </ul>
<b>Background</b>	<ul style="list-style-type: none"> <li>Scaling up the needs for eco-friendly buildings</li> <li>Expanding projects that are based on eco-friendly business</li> <li>Requiring to establish a system to respond to the United Nations Framework Convention on Climate Change</li> <li>Raising the social awareness and demand for safety</li> </ul>	<ul style="list-style-type: none"> <li>Requiring to secure talent based on diversity</li> <li>Confronting a higher need to develop talent in alignment with global strategies</li> <li>Enhancing the environment for employment qualitatively</li> <li>Having a need to establish a communication culture based on mutual trust between the management and labor</li> </ul>	<ul style="list-style-type: none"> <li>Confronting a global demand for ethical management</li> <li>Requiring to strengthen the control over the prevention of reoccurrence of unethical incidents</li> <li>Requiring to spread ethical management among suppliers</li> <li>Requiring to revitalize stakeholder communication</li> </ul>
<b>2013 Major Performance</b>	 <p>Setup of a system for the management of GHG and energy</p>	<p>No. of trainings for training by employee</p>  <p><b>91 hours</b></p>	<p>No. of trainees on ethical management</p>  <p><b>2,900 people</b></p>
	 <p>Acquisition of an international patent for LOTTE Carbon Assessment System (LOCAS)</p>	<p>No. of employees that completed the Global Capability Training Course</p>  <p><b>142 people</b></p>	<p>Outcome of the diagnosis for ethical management</p>  <p><b>80.8 points</b></p>
	 <p>Establishing a core strategies for safety management</p>	<p>GWP Index points of the Group</p>  <p><b>74.2 points</b></p>	<p>No. of cases on discovering ethical risks by department</p>  <p><b>94 cases</b></p>
<b>Goals</b>	<ul style="list-style-type: none"> <li>In 2015: Reducing the GHG emissions by 3.2% The industrial accident rate of less than 0.1%</li> </ul>	<ul style="list-style-type: none"> <li>In 2018: To raise the GWP Index points over 75</li> </ul>	<ul style="list-style-type: none"> <li>In 2015: Ethical Index 83 points Discovering matters for improvement for headquarters and sites - Up by 20%</li> </ul>
<b>Directions</b>	<ul style="list-style-type: none"> <li>Expanding the scale of eco-friendly business</li> <li>Establishing a system to respond to climate change</li> <li>Establishing a safety and health management system</li> <li>Setting up a safety and health management system based on principles and fundamentals</li> </ul>	<ul style="list-style-type: none"> <li>Managing the value-driven development and performance of human capital</li> <li>Managing the satisfaction level of employees</li> <li>Diversifying welfare benefit schemes reflecting social issues</li> </ul>	<ul style="list-style-type: none"> <li>Spreading suppliers ethical management</li> <li>Reinforcing ethical awareness abroad and on sites</li> <li>Revising conduct codes and regulations in tandem with the code of ethics of the Group</li> </ul>
<b>Pages</b>	20~35	36~43	44~47

Six areas	Sharing Management for Society	Customer Value Management	Win-Win Management
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>Engaging in site-oriented social contribution activities</li> </ul>	<ul style="list-style-type: none"> <li>Achieving customer satisfaction reflecting customer's needs</li> </ul>	<ul style="list-style-type: none"> <li>Bolstering the capacity for shared growth</li> </ul>
<b>Background</b>	<ul style="list-style-type: none"> <li>Catering to a higher demand for iconic social contribution programs</li> <li>Requiring us to revitalize site-driven volunteering units and to establish the basis for social contribution</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening the system for pre-completion management and defect management</li> <li>Witnessing the Basic Act on Personal Information Protection</li> <li>Requiring of diverse customer communication channels</li> <li>Reinforcing the customer relationship management and addressing the need for a feedback system</li> </ul>	<ul style="list-style-type: none"> <li>Noting the government's intensified policies on fair trade and shared growth</li> <li>Incorporating changes in the global economic paradigm (corporate eco-system)</li> <li>Requiring us to secure competitiveness by raising suppliers' capacities</li> <li>Facing a higher demand for the eradication of unfair trade and autonomous compliance with relevant laws</li> </ul>
<b>2013 Major Performance</b>	<p>No. of volunteering teams</p>  <p><b>77 teams</b></p>	<p>Satisfaction rate for the Happy Call</p>  <p><b>81.8%</b></p>	<p>Ratings for the Shared Growth Index</p>  <p><b>'Favorable'</b></p>
	<p>Hours of volunteering of employees</p>  <p><b>7,282 hours</b> <small>(A total of 22,666 hours in total from 2011 to 2013)</small></p>	<p>Defect handling rate prior to project completion</p>  <p><b>83.9%</b></p>	<p>Introduction of Suppliers CSR Sharing Program</p> 
<b>Goals</b>	<ul style="list-style-type: none"> <li>In 2014: A total of 32,000 hours for company-wide volunteering activities Managing 70 volunteering teams nationwide</li> </ul>	<ul style="list-style-type: none"> <li>In 2015: Defect handling rate prior to project completion 85%</li> </ul>	<ul style="list-style-type: none"> <li>In 2015: Winning the Top Excellence Prize in shared growth</li> </ul>
<b>Directions</b>	<ul style="list-style-type: none"> <li>Managing the performance and effects of social contribution activities</li> <li>Conducting global social contribution activities related to overseas projects</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing the construction quality through pre-management</li> <li>Establishing a system to protect customer information</li> <li>Intensifying the customer relationship</li> </ul>	<ul style="list-style-type: none"> <li>Reviewing the introduction of suppliers CSR sharing program</li> <li>Advancing communication with suppliers</li> <li>Sharing the management system with suppliers</li> </ul>
<b>Pages</b>	48~51	52~55	56~61



# CEO's Message



We will continue to strive to offer services of the highest value to all stakeholders, and create a more enriching world where people live in harmony with nature.

## Greetings to all the stakeholders who have shown unwavering interest and affection to LOTTE E&C.

It is a great pleasure to greet you with the second Sustainability Report following the first one in 2013

It is a great pleasure to greet you with the second Sustainability Report following the first one in 2013. LOTTE E&C aims to create corporate values for the future in order to enhance corporate competitiveness. To this end, we secure cost competitiveness by running the VE Evaluation Committee and adopting the target cost management system. We seek to secure technological competitiveness by introducing core technologies for high-rise buildings, while enhancing future competitiveness by exploring new projects as new growth engines in a new perspective for each business portfolio aligned with technological prowess. Moreover, we are continuously seeking management innovation in all areas to leap ahead as a big growth company – corporate growth strategies, business structure, system and business processes, and HR capacities. We reinforce core competencies for steadfast growth by maximizing marketing competencies, securing differentiated competitive edge, enhancing management fundamentals, creating a culture of tapping into the world with a challenging spirit and inducing convergence and creative innovation. Furthermore, we have a sense of commitment and self-pride as a company, contributing to enriching the lives of people by presenting products and services that are valued and trusted. Accordingly, we set the Vision 2018 driven by communication and harmony among all employees to achieve the order volume of KRW 18 trillion, revenues of KRW 13 trillion and rank as one of ASIA's Top 10 companies.

LOTTE E&C launched the Sustainability Management Committee to better communicate with and cater to stakeholders in 2012, which has been up and running to date. We are striving to become one of the leaders, as a sustainable company with a new angle through sustained activities in six sub-committees.

In the environmental aspect, we are creating green values of our own by adopting the GHG target management system in the construction sector, and systematizing the environmental system and processes. We have completed the development of an advanced sewage treatment technology to be patented whereby separation membranes are used to purify polluted water and discharge it directly into the river. We are also in the middle of developing a technology to prevent desertification and respond to global warming by utilizing micro-organisms. These will generate economic effects by procuring new orders, while protecting the environment.

In the social aspect, we aim to upgrade our practices and performance in shared growth. To this end, we implement win-win management that leads the construction industry by strengthening partnerships with suppliers and firming the five key activities for shared growth, e.g. extension of technologies and finance. In the social contribution sector, we fulfill our differentiated roles and obligations as a corporate citizen that makes our society more loving and enriching. To this end, we offer our talent on construction, conduct volunteering with community engagement and implement volunteering where employees' families can participate.

In the economic aspect, meanwhile, we have secured a substantial basis for growth: developing a basis for stable acquisition of orders through the revenues of KRW 4 trillion and diversification of order portfolios, enhancing efficiency in investment, securing profitability through higher cost competitiveness, improving the financial structure and managing risks systematically.

We will always act along with you, offering you the utmost value as we find joy and pride in doing business. We will also continue to pour in every effort to make the world a more enriching one where people exist in harmony with Nature.

August 2014







President and CEO **Kim Chee Hyun**



# Company Profile

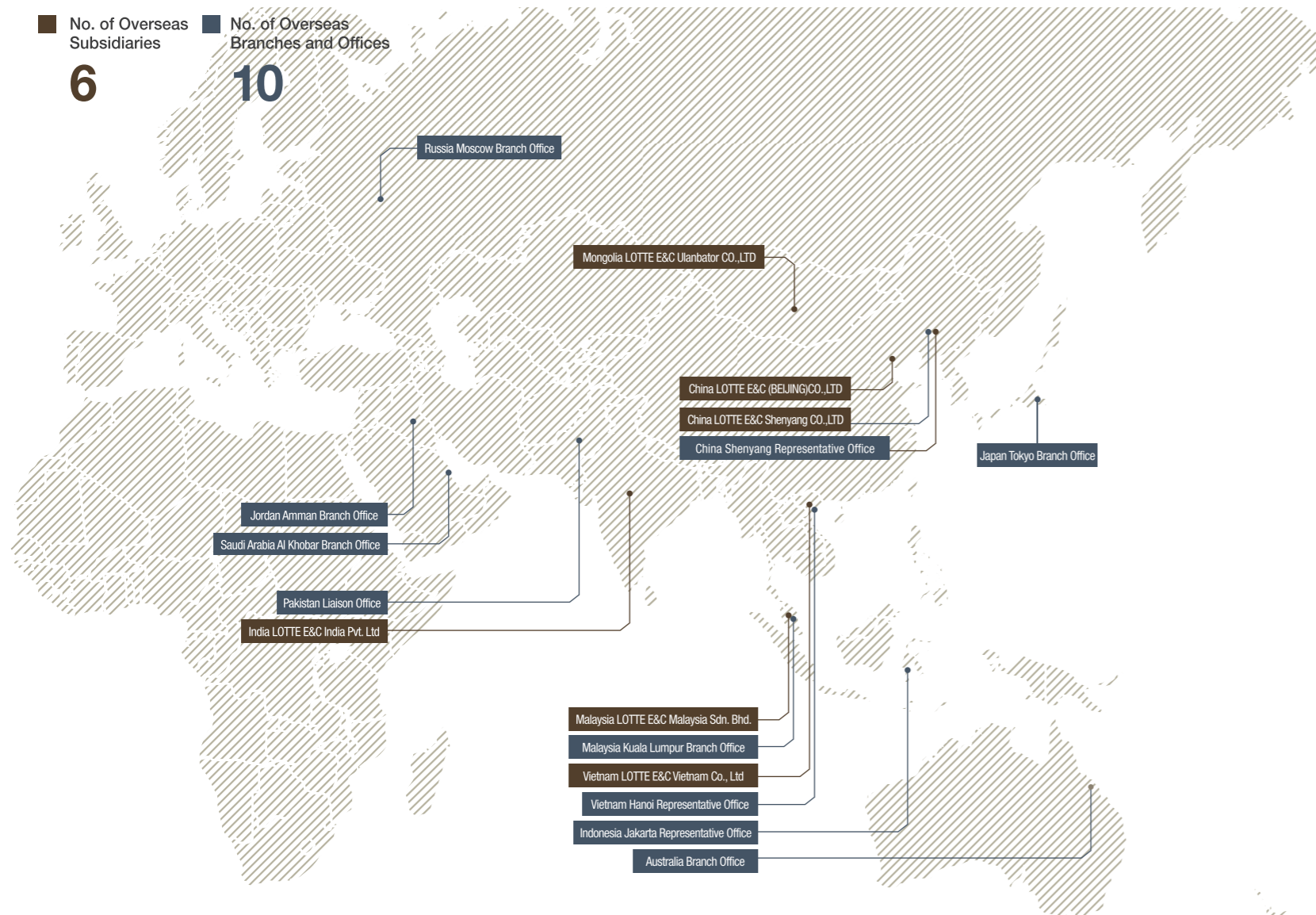
LOTTE E&C is a general contractor that has been providing integrated construction services for half a century since its foundation in 1959, ranging from housing, architecture, civil engineering, plant and overseas business. Through such a diversity of business areas, our unwavering efforts toward innovation are ongoing for a better tomorrow. We will grow further as a company that is cherished by customers, contributes to the society and seeks for an enriching life based on accumulated know-how, new differentiated technologies, creativity and freedom.

## General Information

	<b>Corporate Name</b>	Lotte Engineering & Construction (LOTTE E&C)
	<b>Date of Establishment</b>	February 3, 1959
	<b>Representative</b>	Kim Chee Hyun
	<b>Head Office</b>	29, Jamwon-ro 14-gil, Seocho-gu, Seoul, Korea
	<b>Main Businesses</b>	Housing, architecture, civil engineering, and plant
	<b>Credit Ratings</b>	A+ by Korea Ratings (as of Apr. 14, 2014)

## Global Network

■ No. of Overseas Subsidiaries **6**  
■ No. of Overseas Branches and Offices **10**



## History

**2004 ~ Now**

**New Vision**

- Received the Zero-Accident Award from the Japanese Ministry of Health, Labour and Welfare
- Won the Technological Innovation Management Award
- Won the 1st Construction Innovation Award sponsored by the Ministry of Construction and Transportation
- Established Moscow Branch Office, and subsidiaries in Beijing, India and Vietnam
- Received the Silver Industrial Award
- Won the Best Quality Award selected by women consumers
- Achieved new orders of KRW 10 trillion
- Won the Grand Prize in the apartment sector in the Korea Housing Culture Award for 13 consecutive years (2014)
- Won the Gold Industrial Contribution Award
- Received the Presidential Award at the National Quality Management Convention (Group)
- Achieved the revenues of KRW 4 trillion (KRW 4.3 trillion in 2013)

**1998 ~ 2003**

**Overcoming Crisis and the Second Expansion**

- Selected as an excellent construction contractor by LH Corp
- Received the Stone Tower industrial contribution award for completing Nok San National Industrial Complex
- Achieved new orders of KRW 1 trillion
- Received the Steel Tower industrial contribution award
- Won the Korea Management Association service award(Apartment Category)
- 2001 Korea Housing Culture Award
- Achieved the sales revenue of KRW 1 trillion
- Won the Best Brand award
- Acquired Korea's first Construction KOSHA 2000 program certification
- Received the Presidential Award for completing West Coast Highway and Gwangang Grand Bridge

**1988 ~ 1997**

**LOTTE E&C on Fast Growth Path**

- Won the Steel Tower Industrial Award
- Secured the overseas integrated construction business license
- Received the Presidential Award for completing Guro 3 railroad lines
- Opened subsidiaries in Tokyo, Beijing, and Vietnam
- Earned the ISO 9001 Certification
- Won the Gold Industrial Contribution Award

**1978 ~ 1987**

**LOTTE E&C's Growth**

- Earned an approval to receive foreign investment in integrated construction business
- Won an industrial contribution award for completing the Dongbuk dam
- Opened the LOTTE E&C Technology Research Institute
- Won Presidential citation for completing Sapkyo Stream dike

**1959 ~ 1977**

**Founding and establishing foundation**

- Renamed the company as Pyoung Hwa Construction, Inc.
- Merged with Dae Young Construction, Inc.
- Acquired a Licence for public works and construction
- Earned a license to pave roads
- Completed Gyoungbu Expressway from Seoul to Busan
- Won a road construction project in Saudi Arabia
- Earned an electric and telecom construction license
- Acquired a licence to build houses
- Acquired a licence for overseas construction business



# Main Business



LOTTE E&C has provided the highest quality and top-notch services based on differentiated technologies since its foundation in 1959. Our goal is to become a top-class integrated construction company encompassing a full variety of construction projects ranging from residential and living spaces such as apartment units, hotels, and department stores, to social infrastructure including roads, bridges, and plant.

## Overseas Works

LOTTE E&C has been raising the global standing of Korea's construction industry in a broad range of fields with its excellence in construction and technological prowess at home and abroad.

## Business Profile

After taking the first step in Saudi Arabia in the mid-1970s, LOTTE E&C has grown as an integrated construction company with global presence driven by top excellence in technologies, specialized workforce and systematized overseas network. Strategic projects are in the pipeline targeting the emerging markets of VRICs\* in line with the Group's overseas advancement strategy. Our construction works have flourished in such countries as Japan, Russia, Vietnam, China, Australia and Mongolia. We also strive to acquire orders from all over the world including Indonesia, Pakistan and the Middle East. We constructed commercial complexes including Lotte Hotel, Department Store and Business Center located on the New Arbat and garnered highest acclaims for technological prowess. Our construction operations include Lotte Center Hanoi in Vietnam, upgrading of Yen Vien-Lao Cai Railway, Da Nang-Quang Ngai Expressway, Lotte World Shenyang in China as a commercial complex, a hotel in Mongolia and an embassy compound in Japan. We have continued with our development projects and subcontract projects in such diverse fields as architecture, civil works and plant, paving the way to leap ahead as a global construction company.

\* VRICs: Vietnam, Russia, Indonesia, China



(Unit: KRW million)

**364,340**  
Revenues

**292,200**  
Amount of new orders acquired

1 2

- 1 Moscow Lotte Business Center**  
Site location: Moscow, Russia  
Construction Scale: Site area 7,400m<sup>2</sup>, Total floor area 58,660m<sup>2</sup>, B2F~22F
- 2 Lotte World Shenyang, China**  
Site location: Shenyang, China  
Construction Scale: Site area 165,944m<sup>2</sup>, Total floor area 1,494,500m<sup>2</sup>

## Sustainable Growth Strategies

Even amid the challenges of securing an adequate volume of orders and profitability due to the economic aggravation in the overseas construction market and heated competitions, we seek for sustainable growth by securing strongholds in strategic target countries and implementing localization strategies. A special focus is on execution strategies including selection and concentration and localization abroad. While focusing on strategic works including the development of roads, bridges, hotels, commercial complexes and high-rise buildings in such strategic countries as Vietnam, Russia and Indonesia, we have secured top-notch local suppliers in operating the key hub areas. We have also expanded business horizons by utilizing our experiences and competencies built up in the key areas to adjacent countries.

## Civil Works

We make people's lifestyle more convenient and enhance their quality of life by establishing infrastructure for national transportation including roads, railways and ports, thus paving the way for national economic development and acquiring land for housing and industrial complexes.

## Business Profile

LOTTE E&C has contributed to the development of construction of social infrastructure in tandem with the rapidly growing economic circumstances of home and abroad since the 1960s. In Korea, we have conducted projects for balanced development of the national territory including those of expressways as the main artery, railways and ports. We have also laid the foundation for residential and commercial activities by creating housing land and commercial complexes. Moreover, natural disasters are prevented and a stable supply of water is enabled through projects for dam, waterway and river development. Our construction of environmental facilities including sewage treatment facilities enhances the hygiene levels and health of the public, and contributes to environmental protection. In the global arena, we have successfully carried out construction of major infrastructure including roads, railways and tunnels driven by verified technologies and quality, thus contributing to the national economic development and the enhancement of national technological levels and reliability.



(Unit: KRW million)

**622,600**  
Revenues

**649,300**  
Amount of new orders acquired

1  
2

- 1 Yeongdo Bridge**  
Site location: Jungang-dong Jung-gu - Daegyo-dong Yeongdo-gu, Busan  
Construction Scale: extension 214.8m, width 25.3m (Two-way six-lane road - Bascule Bridge 540m, Girder Bridge 161.1m, Steel Girder Bridge 8.6m)
- 2 Eulsukdo Bridge (former Myeongji Bridge)**  
Site location: Myeongji-dong Gangseo-gu - Sinpyeong-dong Saha-gu, Busan  
Construction Scale: Total extension 5,205m (Two-way six-lane road, Bridge Section 3,605m, Surface Road 1,600m)



## Sustainable Growth Strategies

Due to institutional changes and a variety of new ordering methods in the civil works business, general management skill - on top of construction competence - has emerged as key competitiveness. Against this backdrop, we have established the Dynamic Organization System to promptly respond to changes, raise competitiveness and profitability. Also, we focus our energy on strengthening core competence of individual employees through a wide range of educational programs to nurture talents. LOTTE E&C is consolidating its position as a total solution provider by expanding business from construction to the entire value chain of planning-engineering-construction-maintenance.

Due to the recent growth of population, water shortage and environmental pollution have been aggravated. As the criticality of water as an eco-friendly energy source has been spotlighted, we designated overseas water treatment and hydro power projects as new growth engines, and carry them out strategically. Our plan is to expand our business over the long haul to countries like Vietnam and Indonesia, leveraging Pakistan as a springboard where we have our presence. We seek to spread CSR abroad by inducing stable profitmaking and solving such problems in the countries as water shortage, water pollution and electric power shortage. We are also aggressively developing new technologies and winning orders for high-tech projects such as green infrastructure business/intelligent transportation network/Great Train Express and underground tunnels in order to further leap ahead as a global player.





### Housing Works

We create a housing culture for the public that is stable and pleasant as the basis for happiness in life. This is driven by contracted construction projects, in-house projects for public housing land, and urban refurbishment projects for reconstruction and redevelopment.

#### Business Profile

In today's world, premium brands of apartment units are ever more spotlighted in Korea. "Lotte Castle" brand is a synonym for premium apartment units and has opened up a new chapter in the history of housing in Korea. Moreover, we offer differentiated values to customers, and set premium housing standards in Korea. By conducting redevelopment construction for apartments, residential and commercial buildings and officetels, and in-house developed constructions, we create a new paradigm in residential and cultural space.

(Unit: KRW million)

**1,184,933**  
Revenues

**1,400,500**  
Amount of new orders acquired



- 1
- 2
- 3

- 1 Bulgwang Lotte Castle**  
Site location: Bulgwang-dong Eunpyeong-gu, Seoul  
Construction Scale: 9 buildings, 588 units
- 2 2nd Jeonggwang Lotte Castle**  
Site location: Jeonggwang-myeon Gijang-gun, Busan  
Construction Scale: 15 buildings, 911 units
- 3 Shinjeong New Town Lotte Castle**  
Construction Site location: Sinwol-dong Yangcheon-gu, Seoul  
Construction scale: 11 buildings, 930 units

### Sustainable Growth Strategies

The housing market in Korea has grown sluggishly due to the shrinkage in the real economy amid concerns about the global economic downturn and the price drop in the domestic real estate market. However, we seek new growth momentum in such markets as one/two-family housing, town houses and silver housing against the backdrop of several changes: expectations toward the recent economic turnaround, the government's policy to boost the housing market, a higher demand for eco-friendly housing and demographic changes. In order to respond to these market changes in a proactive manner, we devise stable business plans and financial plans, while initiating business management through risk management and expansion of new business and products. We are equipped with seasoned know-how on order acquisition, business management and construction in reconstruction and redevelopment where poor housing space is refurbished. Thanks to our higher credit ratings than our competitors in outsourcing and in-house projects, we finance funds with ease.

Optimal efficiency is achieved in project implementation and construction by adopting the cost reduction system. As for apartments, striking harmony with surrounding infrastructure including nearby houses, parks, roads and schools is critical. We ensure that all concepts covering colors, design and entrances and the like could be harmonious with the existing buildings and facilities besides the exterior such as the number of floors and height. This is applied to all sites of Lotte Castle. In such sites as a mixed-use development project in Doksan-dong in Geumcheon-gu, a large-scale residential and commercial project in Songdo, Incheon, and a large-scale reconstruction project in Daeyeon-dong, Busan, Lotte Castle will serve as a premium landmark.

### Architecture

We offer convenient facilities in the living space of customers including commercial, tourism and retail facilities, enhancing the level of comfort in their lives. We also take the lead in advancing the construction culture by creating high-rise buildings where wide-ranging construction know-how can be encountered.

#### Business Profile

We offer greater conveniences and an enriching lifestyle to customers through projects of a host of facilities – tourism, shopping, culture, lifestyle, medical, business and entertainment. LOTTE E&C's landmark buildings of Lotte World, Lotte Department Store and Lotte Hotel are the fruits of unwavering researches on people and space. Our technological prowess in construction has garnered high acclaims as we construct Lotte World Tower where cutting-edge technologies are clustered based on our exclusive high-rise building know-how.



(Unit: KRW million)

**1,565,690**  
Revenues

**1,772,400**  
Amount of new orders acquired



- 1
- 2
- 3

- 1 Yonsei Cancer Center**  
Site location: 50-1 Yeonsei-ro Seodaemun-gu, Seoul  
Construction Scale: Site area 828,628㎡, Total floor area 105,201㎡, B6F-12F
- 2 Remodeling of Kyobo Life Insurance building in Incheon**  
Site location: 694 Michuhol-daero Nam-gu, Incheon  
Construction Scale: Site area 2,670㎡, Total floor area 11,322㎡, B3F-10F
- 3 Lotte World Tower**  
Site location: 90 Ogeum-ro Sincheon-dong Songpa-gu, Seoul  
Construction Scale: Site area 87,182㎡, Total floor area 807,686㎡, B6F-123F, height 555m

### Sustainable Growth Strategies

As it is increasingly tough to procure funding through project financing (PF) in the financial sector, and with more construction projects adopting the lowest bidding system in the midst of growing competition, we are faced with difficulty in securing a stable supply of projects and profitability. Nevertheless, by leveraging our strengths in the Group's stable acquisition of construction orders, capabilities in renewal construction for commercial facilities, and acquisition of technologies and workforce specialized in high-rise buildings, we explore diverse fields of projects, secure orders stably and scale up our profitability.

Our remodeling and repairing of old offices lead to economic benefits, and efficient management of buildings generates the effects of environmental enhancement. We are laying the foundation for market expansion by starting complex skyscraper development projects expecting a long-term synergy effect with the Group's affiliates. Currently, three projects are underway in Jamsil Seoul, Busan, and Hanoi Vietnam. The skyscraper business is forecast to grow further with new projects coming in China, the Middle East, and Southeast Asian regions. Once Lotte World Tower in Jamsil worth about KRW 3.5 trillion is completed, a total of 50 million tourists including 2.5 million tourists from abroad are expected to visit it. The project has a workforce of 4 million, and after its completion, 20,000 people will be additionally employed, thus generating economic inducement effects.





### Plant Works

We pave the way for a convenient lifestyle for the public and national economic development by constructing energy facilities and petrochemical and industrial production facilities. Aggressive overseas advancement also boosts our competitiveness.

### Business Profile

LOTTE E&C's projects of community energy supply are underway successfully along with power plants in Daegu, Gunsan, Andong, Pyeongtaek, Yeongheung and Gimpo. In South Chungcheong Province, we initiated a cogeneration plant fuelled by new and renewable energies, taking a lead in domestic power generation and energy fields. Also, we were able to successfully complete the Al Qatrana Power Plant project in Jordan, which accounts for 15 percent of the nation's power demand, and are currently building the Al Manakher Power Plant, the world's largest diesel power station. In the chemical engineering division, we are currently engaged in petrochemical plant complex projects in Yeosu, Daesan and Ulsan, and petrochemical plants in Malaysia and Indonesia in cooperation with Lotte Chemical. In the industrial plant division, meanwhile, we successfully completed a beer factory, while constructing the second large-scale one. Internationally, we acquired orders of a confectionery factory in India and Plant No.2 of Hankook Tire in Indonesia.

(Unit: KRW million)

**520,936**  
Revenues

**799,500**  
Amount of new orders acquired



- 1
- 2

- 1 **Lotte Chilsung Beer Factory**  
Site location: Daesowon-myeong Chungju, North Chungcheong Province  
Construction Scale: 50,000k per year (land area: 95,018㎡)
- 2 **Al Manakher Plant, Jordan**  
Site location: Al Manakher, Jordan, 30km east from the capital of Amman  
Construction Scale: 600MW diesel plant (16MW X 38 units)

### Sustainable Growth Strategies

LOTTE E&C identified coal-fired power plants, IPP (Independent Power Plants), renewable energy supply, and engineering competence as our new growth drivers to make timely responses to changing market conditions, such as rising oil price and increasing demand for electricity in emerging economies. Primarily, coal-fired power plants - a main base load along with nuclear power plants - are a business that requires core technological competence. We are making constant efforts to secure competence in the area and advance into overseas markets. As the power plant market expands from EPC (Engineering, Procurement, and Construction) to development and O&M (Operation and Maintenance), we may potentially face opportunities for growth in the construction market. LOTTE E&C is diversifying its business portfolio by actively engaging in the power plant market and trying to reduce risks from internal and external business environments. Also, we plan to enter the fuel supply industry including pellet production and supply as the renewable energy market is growing, according to the nation's RPS (Renewable Portfolio Standard) policy. Not only that, we are working towards bolstering our engineering competence to lay the cornerstone of growth in the increasingly competitive plant business. It is expected to bring more new orders and sales for the power plant division, paving the road for LOTTE E&C to enter the chemical engineering plant market.

# Sustainable Corporate Governance

### Composition and Management of the BOD

The LOTTE E&C BOD is the top decision-making body. Directors are elected at the general shareholder's meeting and the BOD constitutes 7 directors including inside directors and three non-executive directors. Regular BOD meetings are held quarterly. In addition to regular meetings, BOD meetings can be held when necessary. The quorum for a meeting of the Board should be majority of the Board and decisions will be made by majority rule. All directors are allowed to attend the meeting via any form of communication method which can send and receive video and sound signals. In this case, the directors are considered present at the meeting. The voting rights of the directors cannot be exercised by a proxy and a director with a conflict of interest in any matter has no right to vote on such matters.

### Auditing

LOTTE E&C appoints an auditor by vote at the general shareholder's meeting, and an auditor is in charge of auditing. The auditor has a right to attend the BOD meetings, supervise the BOD's tasks independently and ask a department to submit related documents on overall business activities. Also, the auditor is to be briefed by the company over its business and has access to management information in an appropriate manner.

### Evaluation and Reward

Directors and auditors of LOTTE E&C are rewarded within the limit approved at the general shareholder's meeting. Financial and non-financial performances of the management are evaluated, and yearly salaries and incentives are determined accordingly. The peak amount of remuneration for directors (including non-registered executives) was resolved as KRW 22,500 million at the 2013 general shareholder's meeting and in total, KRW 3,420 million was paid to the registered directors during the year.

### Management of the CSR Committee

LOTTE E&C established the CSR Secretariat, which operates and oversees sustainability management in an integrated manner under the CEO's supervision. We are also running the CSR committee made up of six subcommittees for each division. As a decision-making body which discusses and decides on issues related to CSR management planning and strategy, the committee is also conducting programs to raise awareness on CSR among internal and external stakeholders. The CSR Secretariat is in charge of establishing mid-and long-term CSR strategies, setting directions and goals for individual division, manage division performance, and respond to outside policies and regulations.

### Executives



**Ha Suk Joo** Head, Housing Division  
Head, Management Support Division

**Son Eui Sik** Head, Plant Division

**Seok Hee Cheol** Head, Architecture Division

**Im Yeong Seon** Head, Civil Engineering Division

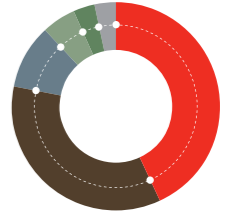
**Kim Seong Yeul** Head, Overseas Division

**Park Dae Hwan** Head, Sourcing and Procurement Division

**Han Yong Soo** Vice-Head, Architecture Division



### Composition of Shareholders (As of the end Jul. 2014, Unit: %)



Hotel Lotte	43.07
Lotte Chemical	35.21
Lotte Aluminium	9.95
Lotte Data Communication Company	5.29
Lotte Chilsung Beverage	3.29
Others	3.19

### Composition of the BOD (As of the end Jul. 2014)

Title	Name	Position
Inside Directors	Kim Chee Hyun	President & CEO
	Ha Suk Joo	Head, Housing Division Head, Management Support Division
	Son Eui Sik	Head, Plant Division
	Seok Hee Cheol	Head, Architecture Division
Non standing Directors	Shin Kyuk Ho	General Chairman of Lotte
	Shin Young Ja	Chairman of Lotte Welfare Foundation
	Shin Dong Joo	Vice-chairman of Lotte Holdings
Auditor	Park Hyeon Cheol	Auditor

INTRODUCTION ENVIRONMENTAL MANAGEMENT SAFETY MANAGEMENT TALENT MANAGEMENT ETHICAL MANAGEMENT SHARING MANAGEMENT FOR SOCIETY QUALITY VALUE MANAGEMENT WIN-WIN MANAGEMENT BUILD A GREAT FUTURE LOTTE WORLD TOWER APPENDIX



# Stakeholder Engagement and Materiality Test

## Definition of Stakeholders

LOTTE E&C defines "stakeholders" as groups giving and receiving influence from our management activities. They include the Group's affiliates with legal, financial, and management responsibilities, customers, media, labor union, NGOs, communities, competitors, environment and construction academia. Major stakeholders are divided into customers, suppliers, employees and communities considering their roles, contribution, and relationship with the company.

## Stakeholder Engagement

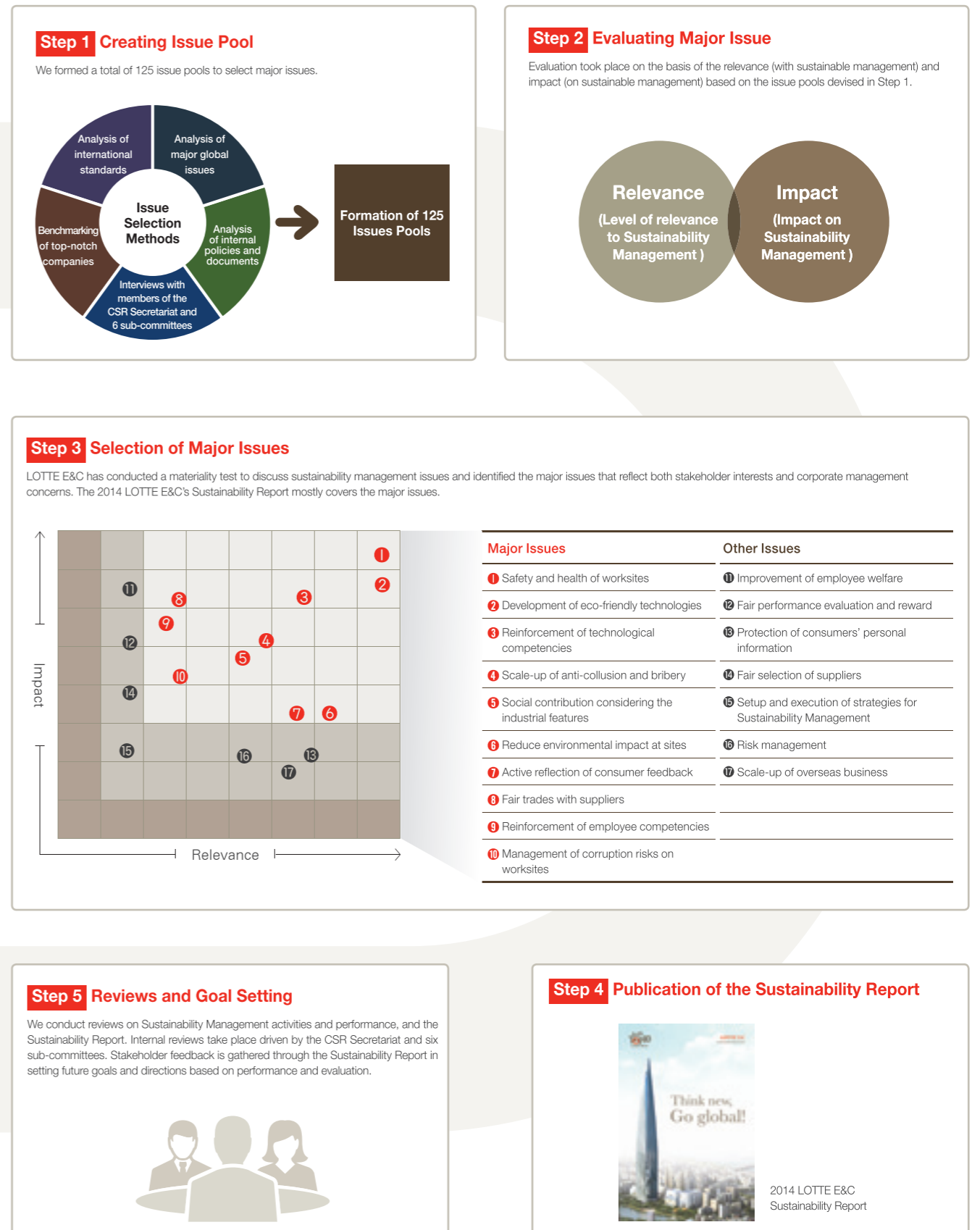
LOTTE E&C runs diverse communication channels to identify various issues and concerns of major stakeholders on our sustainability management activities. In order to respond to stakeholders demands immediately, we established stakeholder communication channels online and offline and in each department to collect their feedback and reflect them in management activities.

## Materiality Test

LOTTE E&C has conducted a materiality test to discuss sustainability management issues and identified the priorities that reflect both stakeholder interests and corporate management concerns.



## Major Stakeholders and Communication Channels





## Yeongdo Bridge

Site location | Jungang-dong Jung-gu ~ Daegyo-dong Yeongdo-gu, Busan  
Construction scale | Extension 214.8m (extension of Bascule Bridge, 31.3m),  
Width 25.3m, Two-way six lane road



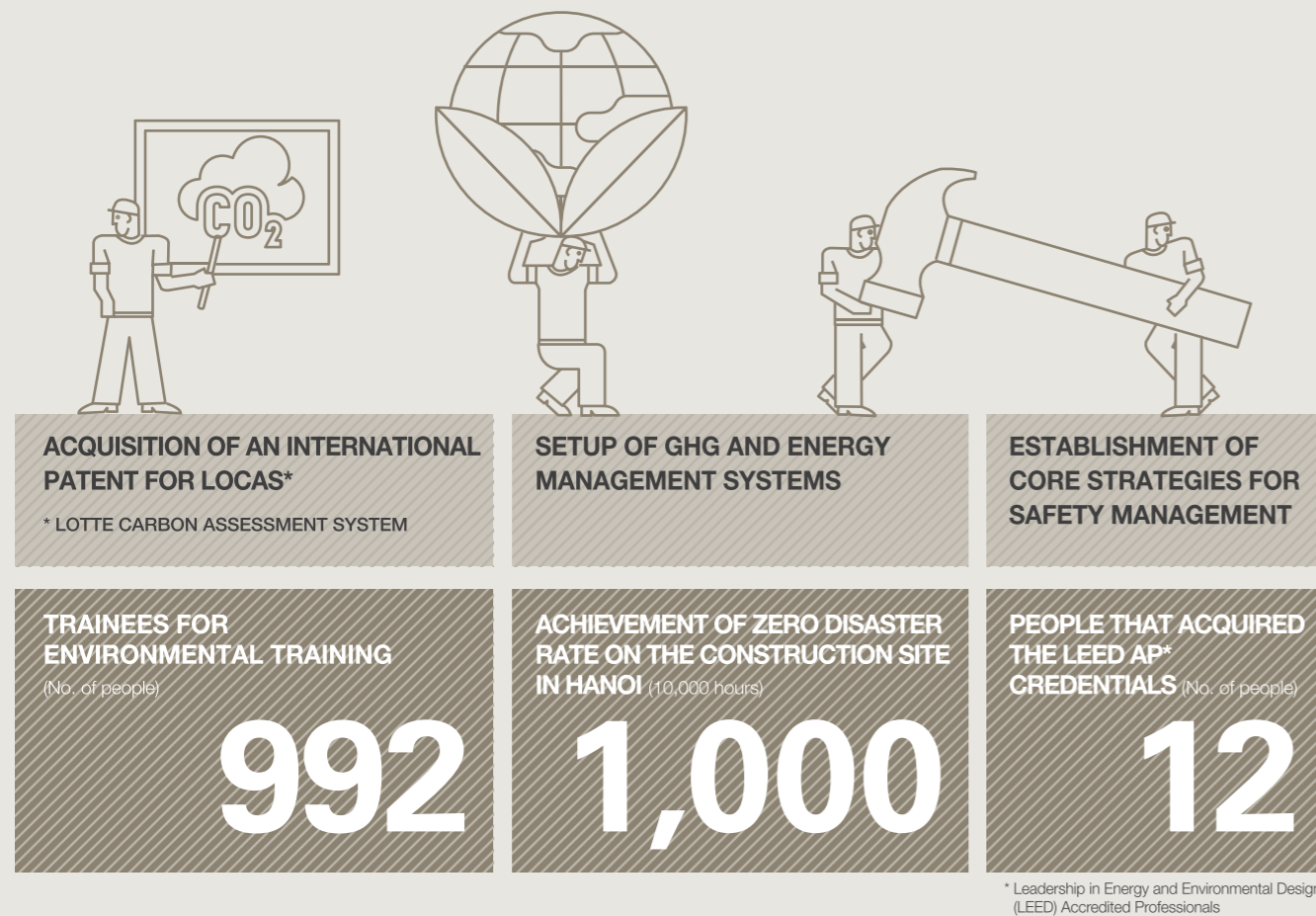
# 1 Build a Great Value

LOTTE E&C has continuously practised sustainable management based on a belief that we should enhance social responsibility and perform our role in achieving greater happiness for the future. We generate social and environmental values along with economic values in wide-ranging business fields.

Environment and Safety Management	20
Talent management	36
Ethical Management	44
Sharing Management for Society	48
Customer Value Management	52
Win-Win Management	56



# Environment and Safety Management



## RISKS AND OPPORTUNITIES

Amid a greater importance of the environment and safety, relevant regulations have been made more stringent, and stakeholder needs have expanded. Pioneering in environmental and safety management can ensure minimized possible risks and social cost and business competitiveness. However, if poorly implemented, opportunities to garner new growth engines could be missed, leading to the expulsion from fierce competition. Moreover, such negative outcome as losses from safety accidents and tarnished corporate image could be generated

## MANAGEMENT APPROACHES

Throughout all the business process ranging from technological development, design, procurement, construction, operation and demolition, our thorough management of the environment and prevention of safety accidents help us achieve new competitiveness and implement CSR.

## VISION

Environmental Management  
**Green Life 2018 in LOTTE**

Safety Management  
**1<sup>st</sup> Safety Value Creator**



# Eco-friendly Management

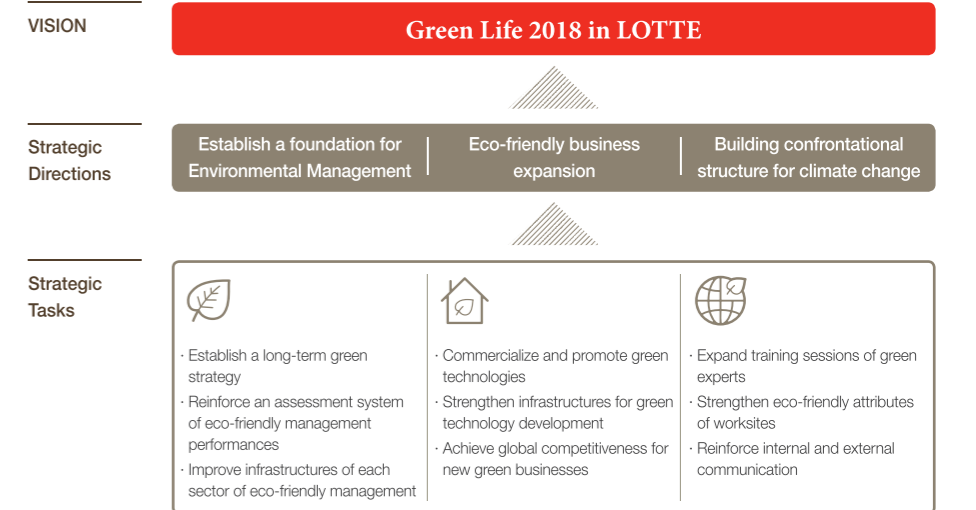
Under an initiative of eco-friendly management, our wide-ranging activities unfold: minimizing environmental pollution, making construction sites environmentally friendly and developing eco-friendly technologies. As such, we solidify our presence as an eco-friendly company.

## Directions for Environmental Management

Our environmental management is reflected in management strategies as we recognize the importance of the environment in corporate survival and growth. We set a mid-and long-term roadmap in line with our environmental vision, and comprehensively manage how LOTTE E&C impacts the environment through our environmental management system.

## Setup of Environmental Vision

Seeking for preemptive and proactive 'changes' to respond to environmental issues, we implement strategic tasks to achieve a vision of 'Green Life 2018 in LOTTE' for green management based on three strategic directions: 'establishment of the foundation for environmental management,' 'expansion of eco-friendly business,' and 'establishment of a system for climate change response.'



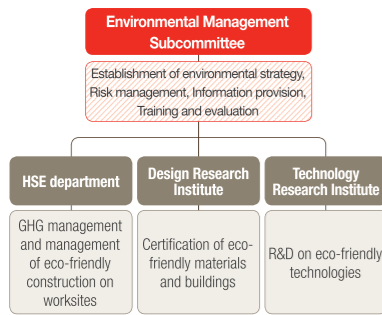
## Operation of the Roadmap for Environmental Visions

Our various activities take place based on the 'roadmap to implement environmental visions' to achieve the visions. We entered the growth stage for environmental management in 2013. We developed eco-friendly techniques and products through researches on new eco-friendly areas, responded to a cooperation system against climate change and established a system for GHG and energy management.



	2010-2012	2013-2015	2016-2018
<b>Establishment of Eco-friendly Management System</b>	<ul style="list-style-type: none"> <li>Establish company-wide long-term green strategy</li> <li>Form a program to evaluate eco-friendly management achievements</li> </ul>	<ul style="list-style-type: none"> <li>Establish a system to respond to climate change pacts</li> <li>Introduce and develop an environment performance evaluation system</li> <li>Establish and reinforce management standards for pollution causing materials</li> </ul>	<ul style="list-style-type: none"> <li>Establish a network (domestic and international) related to eco-friendly initiatives</li> </ul>
<b>Creation of Eco-friendly Business</b>	<ul style="list-style-type: none"> <li>Create a foundation for research on source technology for eco-friendly construction</li> <li>Commercialize and promote green home technology</li> <li>Conduct greenhouse gas value engineering using LCCO<sub>2</sub></li> </ul>	<ul style="list-style-type: none"> <li>Commercialize and supply green home facilities</li> <li>Expand the scope of new eco-friendly businesses</li> <li>Nuclear power, water, new and renewable energy projects, etc.</li> <li>Develop and apply eco-friendly construction techniques</li> </ul>	<ul style="list-style-type: none"> <li>Develop and commercialize the zero-carbon house</li> <li>Acquire global certifications for eco-friendly goods and services</li> <li>Achieve global competitiveness in eco-friendly projects</li> </ul>
<b>Establishment of foundation for Eco-friendly Management</b>	<ul style="list-style-type: none"> <li>Expand programs to train environmental professionals</li> <li>Improve the waste and water resource management systems</li> <li>Strengthen in-company communication and marketing for green initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Publish sustainability reports</li> <li>Strengthen environmental contribution activities(Environment Day)</li> <li>Establish a GHG inventory</li> </ul>	<ul style="list-style-type: none"> <li>Continuously publish sustainability reports</li> <li>Complement infrastructures for each sector of eco-friendly management</li> </ul>





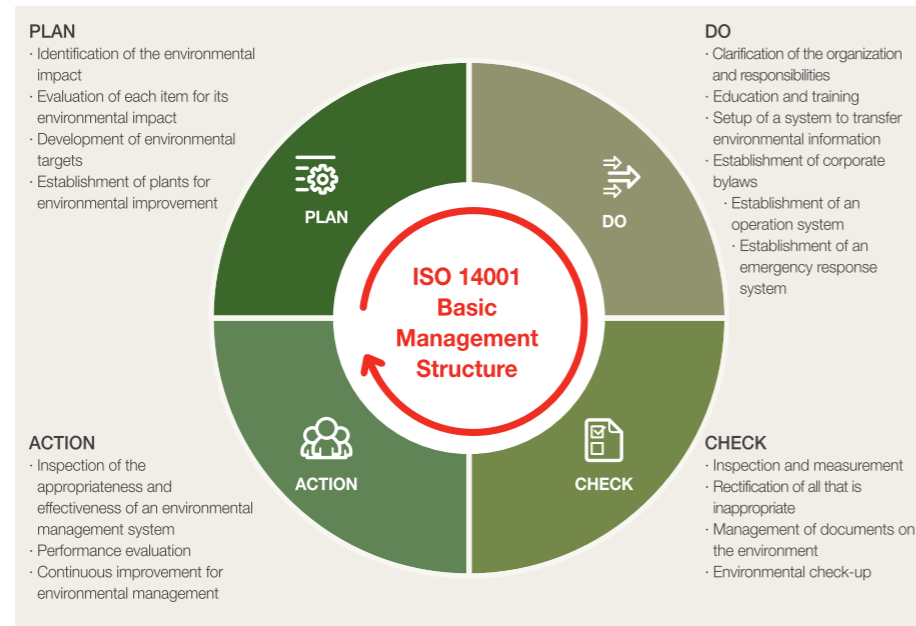
### Infrastructure for Environmental Management

#### Organization for Environmental Management

We operate the Environmental Management Subcommittee to implement strategic tasks for environmental management, and respond to environmental trends and major relevant issues. The subcommittee's activities vary: development of environmental strategies, risk management and information provision, training and evaluation. We secure expertise in environmental management through collaboration with the HSE department, Design Research Institute and Technology Research Institute.

#### Environmental Management System

We conduct systematic activities in tandem with the ISO 14001 Environmental Management Standard to minimize the impact on the environment and relevant risks, thus maintaining a dominant presence in environmental management in the construction sector. We set environmental goals and improvement plans by dividing environmental issues at home and abroad into opportunities and risks to make proactive responses to them. Moreover, our monitoring continues to minimize economic risks that might result from environmental policies and measures.

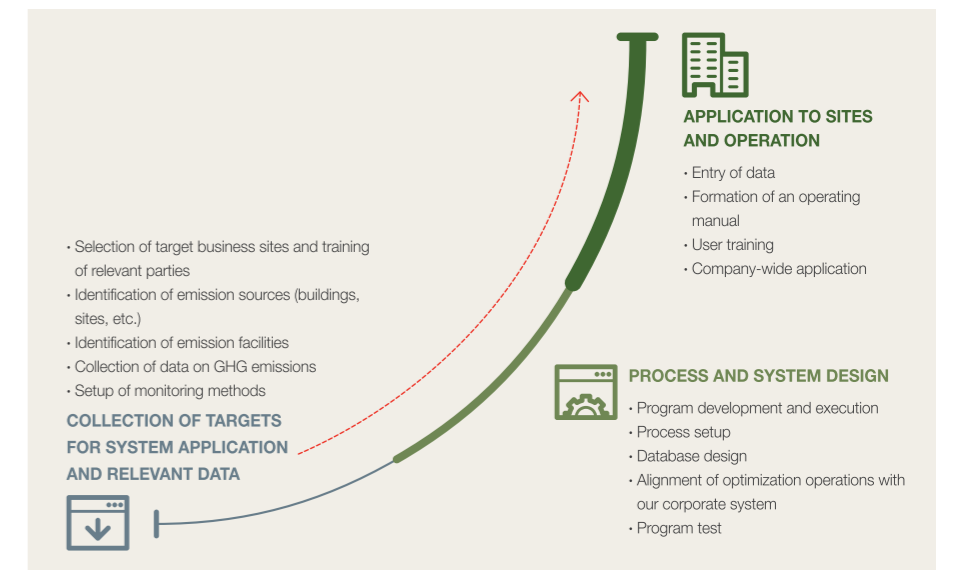


### GHG and Energy Management System

#### Establishment of the GHG and Energy Management System

According to Article 29 of the Enforcement Degree of the Framework Act on Low Carbon Green Growth, LOTTE E&C was put on the list of business entities required to meet GHG and energy standards in 2014. As such, introduction of the GHG and Energy Management System is in the pipeline to make preemptive responses to the GHG cap and trade which will take effect in 2015 along with systematic management of GHG emissions and the amount of energy usage.

Reliable data management is not achieved due to the absence of a program to calculate GHG and energy emissions. Therefore, we will establish the GHG and Energy Management System to identify GHG emission sources and facilities and forecast the BAU (Business As Usual), while collecting and managing the data on emissions. Moreover, we are to be a part of the efforts to reduce GHG and energy.



#### Timeline

In order to adopt the GHG and energy management system, we carry out activities of a diverse range: project planning, analysis and design, establishment and setup, application and stabilization. We are currently in the stage of establishment and setup.

Stages	Operations Covered	2014. 05	2014. 06	2014. 07	2014. 08	2014. 09
Project planning	Analysis of the guideline for the target management system	█				
Analysis	Compilation of a list of targets for functionalities		█			
	Development training		█			
	Setup of process modeling		█	█		
Design	Design of screen, database and architecture		█	█		
Establishment and Setup	Setup of a development environment		█			
	Customization and alignment (e.g. single sign-on)		█	█		
	Unit/Integrated test			█	█	
Application	Program installation					█
	Manual development and training					█
	Test operation					█

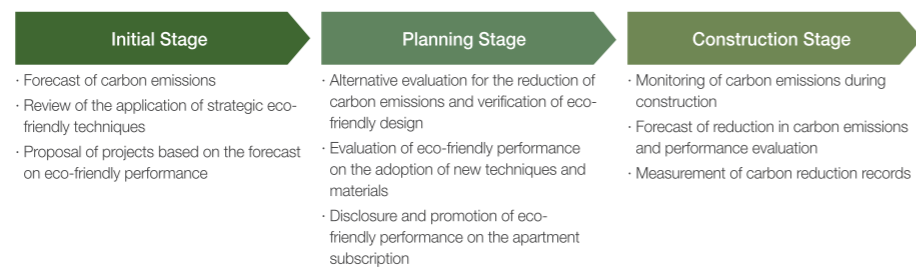
**20% ↓**  
Standard of application of carbon reduction to 'Shindongbaek Lotte Castle Eco'

▼ Certificate of International Patent for LOCAS



### LOCAS - LOTTE Carbon Assessment System

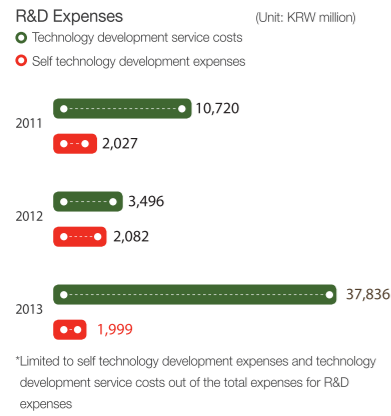
Our LOTTE Carbon Assessment System (LOCAS) for the lifecycle of buildings is up and running to quantitatively evaluate CO<sub>2</sub> generated from the lifecycle. The level of CO<sub>2</sub> emissions was lowered by 20% compared to other apartment complexes by applying the LOCAS to Shindongbaeg Lotte Castle Eco, Yongin. This can be translated as a reduction of approximately 150,000 tons of CO<sub>2</sub> during the general apartment lifecycle of 40 years, which is almost equal to the formation of a forest worth half the size of the Yeouido. The LOCAS acquired an international patent (registration number in the U.S.: US 8,645,183 B2), having its excellence recognized worldwide.





# Eco-friendly Technologies

LOTTE E&C secures new growth engines by recognizing the materiality of the environmental impact on business strategies and developing eco-friendly technologies. LOTTE E&C's technological prowess that considers the environment and people is the basis for environmental management.



## Infrastructure for Eco-friendly Technologies

Steady investment has been made for addition of research workforce and research facilities for the initiation of eco-friendly projects. We have an exclusively dedicated internal unit to reinforce the company infrastructure for eco-friendly technological development, adopt and commercialize eco-friendly technologies and explore opportunities for new growth businesses. Eco-friendly projects are implemented by such systems and solutions which maximize the energy efficiency. We also take the lead in reducing the environmental impact through eco-friendly materials and products.

## Organization in Charge

LOTTE E&C Technology Research Institute develops eco-friendly technologies for low-carbon green growth by scaling up investment in research facilities and workforce. Key new growth projects are carried out in the fields such as architecture, architectural environment, plant and civil works. The institute also initiates diverse activities for cost reduction innovation works and technology commercializations.

## Development Process

Efficiency in technological development is enhanced by establishing the process to develop eco-friendly technologies. The procedure covering the development, patent application and registration and maintenance of eco-friendly technologies has been intensified to maximize the effects of technological development. We induce the development of next-generation new growth technologies based on the collaboration of each business division, the Design Research Institute, and industry-university cooperation. Ideas and innovation cases on eco-friendly products and green home are shared among the related parties and reflected in the development stage.

## Current Status of Intellectual Property Rights

(Unit: Case)

	New technologies	Green certification	Patent	Utility models	Programs	Design	Copyright	Trademark	Total No.
2011	2	1	18	1	2	16	10	3	53
2012	1	0	12	0	0	22	2	0	37
2013	0	3	19	0	1	16	8	0	47

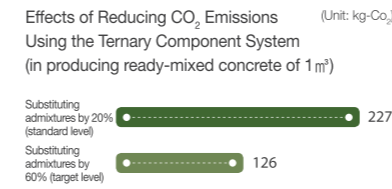
## Major Eco-friendly Technologies

### Energy-Saving Floor Heating Energy System

Seeking to enhance the floor heating system for apartments, we are initiating to improve the quality of light-weight foamed concrete and mortar for floor covering, and developing the on-site automated weighting equipment. We plan to establish a system to enhance heating efficiency for apartments, while saving energy through the latent heat mechanism. This will be applied to the construction of eco-friendly apartments and buildings.

### Carbon Emissions reduction of ready mixed concrete applied to mass concrete using three binders

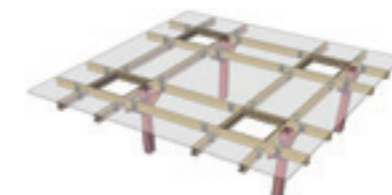
The Ternary Component System is to use fly ash and blast furnace slag besides cement as a material to combine concrete aggregates. While cement emits massive CO<sub>2</sub> of 0.74kg upon its production of 1kg, fly ash and blast furnace slag emit only 0.037kg and 0.028kg of CO<sub>2</sub> respectively. Therefore, the Ternary Component System not only reduces the CO<sub>2</sub> emission from raw materials in producing concrete but also saves resources by recycling industrial by-products. It also reduces the hydration heat and increases durability.



Green Technology Certificate for TVS

### Two-way Void Slab (TVS)

The Two-way Void Slab (TVS) is an engineering technique to reduce the self-weight of the slab-on-grade in buildings. The concrete volume is lowered by injecting void forms into the concrete slab-on-grade, reducing the CO<sub>2</sub> emissions as an eco-friendly floor structure system. Light-weight slabs enhance the durability performance, and reduces the floor height, without causing any additional construction period or cost. It can be easily applied to worksites of any scale due to its simple work process.



The Top-Down Method Using the DBS

### Top-Down Method Using the Double Beam System as Strut (DBS)

The Top-Down Method Using the Double Beam System as Strut (DBS) is a technique where temporary steel columns and temporary steel brackets are installed, and dual lattice steel beams as the main structure are laid on top of them. The cured slabs following the slab casting are to serve as a strut. It has a DBS structure with double beams in horizontal and vertical directions that pass around columns in parallel. Most of the injected materials are used for the main process, requiring no demolition and enabling the usage of small-scale equipment. Furthermore, it is an eco-friendly technique for construction where the production of fly ash is limited and noise is blocked, while CO<sub>2</sub> emissions are reduced (designated as New Construction Technology No.727 on February 28, 2014).

## CASE STUDY

### New Environmental Technologies for Sewage and Wastewater Treatment

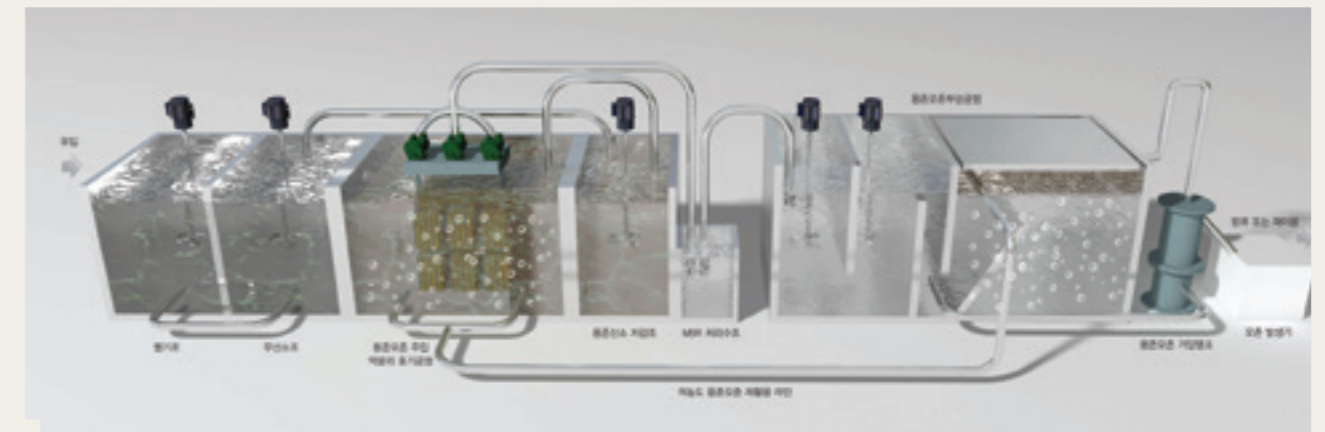
LOTTE E&C's 'LO-MBR(Lotte Membrane Bioreactor: an advanced sewage and wastewater treatment technology applying stacked UF thin film modules with multiple collecting holes, and the dissolved ozone flotation process)' has been proved to be highly efficient in removing phosphor in water. The technology not only resolves the eutrophication in rivers and lakes that repeatedly occurs every year but also reduces the cost for operation and running the required facilities.

The LO-MBR is an advanced sewage water treatment technology: thin-film flat separation membranes function as filters and are put in a biological reactor for sewage water treatment in order to separate clean water from polluted one; and the separated clear water is treated with minute ozone air bubbles to remove and sterilize the phosphorous ingredients, chroma and even hard-to-separate pollutants in water.

### Expected Results

- Extending the life span of separation membranes by easing the membrane pollution; reducing consumable chemicals and energy in sewage and wastewater treatment, ; reducing the operating cost for advanced treatment facilities.
- Enabling a biological and physicochemical treatment through the MBR and DOF water treatment process resulting in improving quality of water and countermeasures for the reinforced water quality standards
- Applying the LO-MBR technology to the existing sewage water treatment and advanced treatment facilities, serving as a stepping stone to advance into the global industrial water treatment market.

In 2014, we acquired an international patent from the Japan Patent Office (registration number: 5497962). This will enable us to secure overseas competitiveness in the water treatment facility market and gain advantages in project biddings on water treatment contracted by the governments.



LOTTE E&C's Conceptual Diagram on the LO-MBR





Early Strength-Type Shotcrete

### Development of Early Strength-Type Shotcrete

The existing shotcrete technique used as a tunnel-structure support has several setbacks: generating waste concrete during construction, raising construction cost by increasing input volume of raw materials, and generating more chemical resistant agents and waste depending on the expression rate of early strength-type concrete. As a result, we developed early strength-type cement for tunnel linings. This enables us to generate less waste in using the early strength-type shotcrete technique and securing safety upon the early strength-type expression, thus saving cost and shortening the construction period.



Pile Fillers

### Eco-friendly Pile Fillers

We achieved the development and application of eco-friendly pile fillers using industrial by-products, so that we could secure the piles' bearing and support capacity that are for pre-board piling in reinforcing soft ground. With this, we've proactively been responding to such national needs on the feasible utilization of resources as well as environmental regulations (reduction of CO<sub>2</sub> emission) on global warming.

#### Effects of Eco-friendly Pile Fillers



### Waste Drying Apparatus

We developed the 'multi-stack waste drying apparatus' and 'rotary multi-stack waste drying apparatus' to stably dry biomass and organic waste resources. The developed apparatuses are to dry biomass with a high moisture content rate containing sludge, wood and food stuffs. The 'multi-stack waste drying apparatus' is used for the sludge generated in the process of treating sewage water, and the 'rotary multi-stack waste drying apparatus' is used for general biomass, thus maximizing practicality and efficiency. These drying apparatuses are essential technologies to efficiently supply the biomass energy fuel. LOTTE E&C's technological prowess, as a result, has garnered high acclaims in the new and renewable energy sector.

## CASE STUDY

### Performance of Eco-friendly Technologies

We pave the way for sustainable growth by expanding eco-friendly projects through the proactive development of eco-friendly technologies. Moreover, we minimize the environmental impact resulting from business activities utilizing the technologies.

Title	Eco-friendliness	Developments in 2013
Concrete foundation applying the Ternary Component System	Reducing CO <sub>2</sub> emissions	On-site application (11 sites including Gwangmyeong Outlet)
Eco-friendly floor covering for parking lots	Reduction of the usage of such materials as TVOC(Total Volatile Organic Compound) and formaldehyde (HCHO)	Checking of the sample construction and construction quality
Crown Cap technique using the thick plates processed in the form of the alphabet "C"	Prevention of leakage and pollution of ground water Prevention of noise and dirt Reduction of CO <sub>2</sub> emissions	Review of the application of new technologies to sites
Technologies to apply the RC-based hybrid system to sites (a task for the Construction Technology Research Unit for High-Rise Buildings)	Reduction of the consumed concrete volume by applying high-strength concrete Reduction of concrete waste by applying the composite member of concrete consisting of high-strength steel	Review of site applicability and research on commercialization
Distributed geothermal system	Reduction of cooling and heating energies	Monitoring of cooling and heating energies on the sites and analyzing economic feasibility
Green technologies by turning waste energies into resources	Reduction of GHG emissions	Acquisition of green certification
Operation of a wastewater reuse plant	Energy reduction	Operation of test-beds
LID rainwater supply aligned with the groundwater level	Securing of water resources and recycling of ground water	Software registration
Research on measures to utilize natural energies for road facilities	Production of electricity and reduction of unnecessary electric energies	Monitoring of the outcome after site application
Prevention of Desertification Using Microbially Induced Carbonate Precipitation	Minimization of yellow sand wind	Patents in the U.S. and Mongolia registered

# Eco-friendly Construction Sites

Our construction sites have become greener as we manage the environmental impact resulting from materials, waste, air and water quality, noise and vibration. We are also checking the environmental facilities and systems to build environmentally friendly construction sites

### Major Eco-friendly Activities following Life Cycle stages

We manage environmental systems and the environmental impact to minimize the impact and carbon emissions throughout the life cycle: procurement, construction, site management and operation, and demolition.

#### Major Eco-friendly Activities

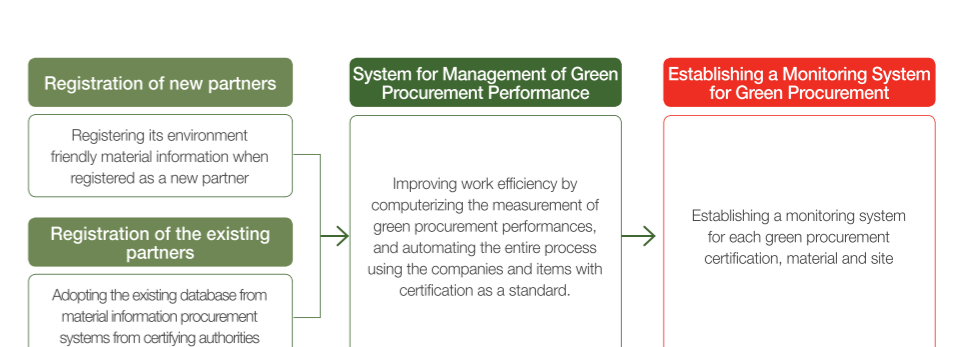
Stages	Procurement	Construction	On-site	Site operation	Demolition
Environmental Education	█	█	█	█	█
Operation of the green procurement system	█				
Environmental inspection and management		█	█	█	█
Environmental clean-up		█	█	█	█
Energy management		█	█	█	█
On-site environmental management		█	█	█	█
Certification of eco-friendly buildings and cultivation of experts				█	
Management of the Building Energy Management Systems (BEMS)				█	

### Eco-friendly Procurement

In order to use building materials used for construction efficiently and reduce the amount of their usage, we set and operate a guideline for waste recycling. Cases on the quality management and recycling of recycled aggregates are shared among sites to encourage the usage of recycled aggregates that can replace natural resources.

Specifically, we signed a voluntary pact for industry-wide "Green Purchasing", and established a guideline for the "Green Purchasing" to follow through with commitment, thus minimizing the ecological footprints in the environment. LOTTE E&C purchases materials considering their environment friendly factors throughout the entire purchasing process from design to construction and operation, fulfilling environmental friendly management visions and corporate social responsibilities. We've created a green procurement system, striving to discover and expand the suppliers and the list of eco-friendly materials for construction. We've set standards for eco-friendly purchasing metrics on all construction materials so that we can precisely measure the performance of our commitment in action under a mid-and long-term goal.

#### Operating Process for the Green Procurement System



Performance of Green Procurement (Unit: KRW million)

**6,983**  
HB Label

**4,220**  
High-efficiency energy equipment

**9,113**  
Energy efficiency rating 1 to 2

**32,604**  
Eco Label

**4,514**  
GR Label

**383**  
Energy saving



### Eco-friendly Construction

To minimize environmental pollution in areas surrounding construction sites, we are complying with environmental regulations, and conducted environmental inspection and management and environmental clean-up in full swing.



### Compliance with Environmental Regulations

LOTTE E&C complies comprehensively with environment-related regulations in order to fulfil the needs of diverse stakeholders in terms of environmental impact. Furthermore, we manage and share such data for the current states of rented buildings and environmental facilities installed to prevent environmental incidents caused by violation of environmental regulations. Thanks to the development of in-house systems for legal compliance and continued internal measures, there was no case of violation of environmental regulations with punitive fines in 2013.

### Environmental Inspection & Management

We have created our own legal guidelines, everyday-work guidelines, and environmental management workbooks related to our business. We have shared them with each crew member on the site to pin point pollution sources. We come up with measures to reduce the environmental impact. In addition, we regularly monitor the operating conditions of the equipment and facilities to reduce environmental risks. We also conduct voluntary inspections of environmental risks to enhance the ecological awareness among all staffs and establish an autonomous management system for the environment.

### Environmental Clean-up

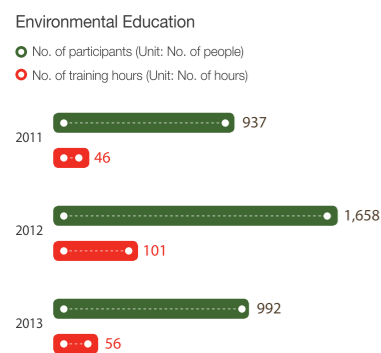
LOTTE E&C holds an event termed as 'Environment Day' once a month according to the attributes of each construction site to promote environmental consciousness among employees and management personnel. We keep local communities clean through environmental clean-ups communities around each site.

### Conservation of Bio-diversity

We aim to minimize the topographical change and vegetative damage that might occur during the construction stage. Wide-ranging activities have been underway including: developing and evaluating alternative habitats, forming vegetation and monitoring the management status quo, and generating detailed reports on the management of the species in the habitat and changes in the number of species. To protect the eco-system on the Sangju-Andong Expressway construction site, the habitat of Parnassius bremeri (Bremer), which is an endangered species designated by the Ministry of Environment, we avoided changes in routes of the expressway, and formed an alternative habitat.

### Education on the Environment

We induce on-site environmental management and conservation activities through environmental training from site supervisors and suppliers. Moreover, trainings are provided to enhance the awareness and capacities in environmental management in order to help the employees understand and engage in environmental management.



\*Participants of the environmental training include staff of LOTTE E&C and those of suppliers.



### Eco-friendly Construction Sites

#### Energy Control

We perform energy reduction activities at construction sites of each operation to reduce unnecessary energy consumption during the construction process. We also promote a company-wide green campaign for employees to take part in minimizing waste in daily life according to the principles of environmental management. The amount of energy consumed by LOTTE E&C in 2013 was 2,997TJ and we will implement energy reduction measures by setting energy consumption reduction goals and setting detailed objectives.

#### Fly Ash Management

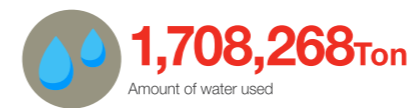
To improve the air quality around construction sites, we perform various activities such as washing the wheels of transporting vehicles, watering unpaved roads, installing covers for open-storages, installing dust-free covers for materials in yards, operating road cleaning machines and other environmental improvement activities. As such, we strive to minimize the amount of fly ash generated from construction sites.



Installing dust-free covers

Installing wheel washing facilities

Watering unpaved roads



#### Water Management

The water is supplied by water sources near our construction sites and we ensure that no severe impact on the environment is caused by the water usage. Each construction site sets and analyzes the reduction goals for water usage, explores weaknesses and devises diverse reduction activities. The total amount of water used in 2013 is 1,708,268 tons.

#### Water Pollution Management

We have installed water pollution prevention facilities such as detritus tanks, silt protectors, and temporary waterways. We prevent water pollution resulting from soil erosion and wastewater discharge with the sewage treatment technology that maximizes the advantages of the activated biological sludge method, separation membrane technology, and dissolved ozone flotation. We are capable of treating water pollutants on our own. We not only comply with legal standards through efficient treatment of water pollutants but also proactively seek to minimize water pollution.

#### Noise & Vibration Management

We have established management guidelines for controlling noise and vibration, complied with the obligation of installation of soundproof walls and tents to regularly measure and manage noise levels. Moreover, we strive to minimize noise and vibration and assure harmonious living with local communities by using low-noise equipment, operating equipment at a low speed around construction sites, and patrolling around the sites.



Water management by installing multi-stack sedimentation facilities

Noise management by installing soundproof tents





Major Projects for Certification of Green Buildings

Type	Project Title	Level	Date
Housing	A14 Block in new town of Paju Gyoha	Grade of Excellence in Preliminary Certification	Oct. 20, 2010
	Apartment in Oneui-dong, Chuncheon	Preliminary Certification Grade 4	Sep. 12, 2010
	Housing redevelopment in the redevelopment promotion area of Gireum District No.3	Grade of Excellence in Preliminary Certification	Feb. 21, 2013
	Yongin Shindongbaeg Lotte Caste Eco (Units 1 & 2)	Grade of Excellence in the Main Certification	Jul. 22, 2013
Buildings	Lotte Shopping Town at Suwon Station		Aug. 23, 2012
	Lotte Mart - Changwon Jungang Branch		Feb. 25, 2011
	KT&G Seodaemun Tower	Grade of Excellence in the Main Certification	Oct. 14, 2011
	Lotte Mall Gimpo Airport		Nov. 14, 2011
	Lotte World Mall		Jun. 13, 2014

Eco-friendly Management

Certification of Green Buildings

In order to obtain the Green Building Rating System of the Leadership in Energy & Environmental Design (LEED), a certification standard for domestic green buildings and international eco-friendly buildings, materials and other resources, design, structure and functionalities of buildings are scrutinized and reviewed from the very beginning of projects.

Fostering LEED AP

To nurture the experts in environment friendly construction certificates, LOTTE E&C supports its employees to acquire LEED AP. Five employees acquired LEED AP in 2013. We will continue to foster LEED AP experts henceforth.

Operating BEMS

LOTTE E&C is currently in the process of introducing Building Energy Management System (BEMS). BEMS is a system that supplies an optimized amount of power through analyzing and managing the current state of energy consumption. It is capable of saving energy up to 10% a year by supplying optimal electric power by managing the amount of energy use, status quo of facility operation and indoor environment and carbon emissions.

Eco-friendly Demolition

Proper Treatment of Waste

LOTTE E&C manages waste treatment performance record through an internal information system titled LENCIS to minimize and reduce waste at construction site. We created Standard Guidelines for Waste Storage and Disposal as well as standardized construction waste storage facilities to properly store and legally treat waste generated from the site. We are currently working on reduction in waste by recycling and minimizing waste generated from the site and planning to develop a system linked with the Allbaro System of the Ministry of Environment to collect data related to waste generation.

Prevention of Damage from Asbestos Dirt

We have complied with the operational standards stated in the related regulations to prevent asbestos from scattering during asbestos removal and protect local residents and construction workers' health. For the safety of on-site employees, we made it mandatory to wear a safety hat and uniforms during asbestos treatment.

CASE STUDY

Lotte World Mall Acquiring the 'Grade of Highest Excellence' for a Green Building

The Avenuel Building, Shopping Building and Entertainment Building within the complex of Lotte World Mall were designated as the Most Excellent Green Buildings (Certification No. KRI-14-189) by Korea Research Institute of Eco-Environmental Architecture. Lotte World Mall was designed under a concept of 'an eco-friendly multi-functional complex that reduces energy.' It gained high recognition in the adoption of new and renewable energy systems and cutting-edge technology application.

On the rooftop, in particular, solar and photovoltaic facilities are installed that generate the electric power using solar energy. We ensured that the chemical energy is converted directly into electric energy using the fuel cells in the underground energy center, capable of producing the electric power of 800kW.

Lotte World Mall has risen as Korea's iconic eco-friendly complex by acquiring the certification. It will serve as a world-class eco-friendly landmark, let alone being the highest building in Korea.



Front view of Lotte World Mall where diverse eco-friendly and new and renewable energy systems are applied

Site-oriented Safety Management

Under the vision of becoming one of "Asia's Top 10 Construction Value Creators," we proactively conduct safety and health activities according to the vision and principle of Safety and Health Management.

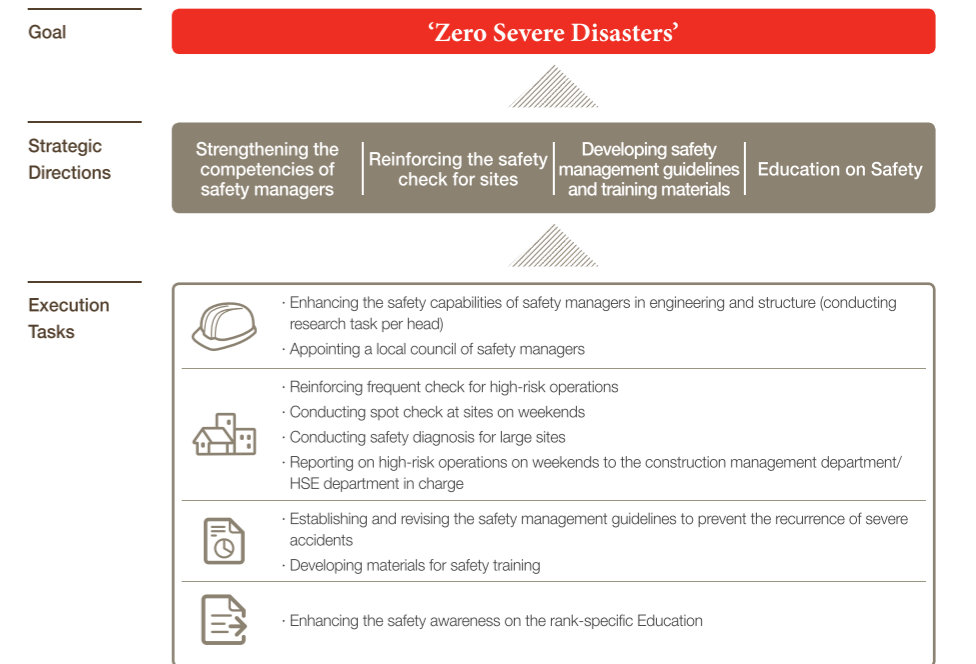
Infrastructure for Safety Management

Vision for Safety and Health Management

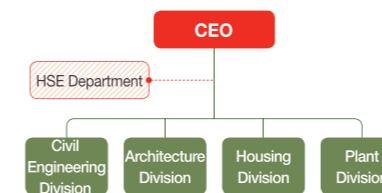
Safety is a must for a company to maintain business operations in a stable manner and gain the trust and reliability of customers. As such, we strive for the No.1 position in the industrial accident prevention rate and safety recognition ranking, and penalty zero to achieve the safety and health management vision of '1st Safety Value Creator.'

Key Strategies

Seeking to achieve 'Zero Severe Disasters', our goal for safety management, we establish and operate execution tasks for each of the four strategic directions: 'Strengthening the Competencies of Safety Managers', 'Reinforcing the Safety Check for Sites', 'Developing Safety Management Guidelines and Training Materials', and 'Conducting Safety Training.'



Organization for Safety Management



Principle on Safety and Health Management

We strive to turn our construction sites into "healthy site" and establish a culture of safety and health. Possibilities of accidents are preemptively prevented by implementing the principles of safety and health to achieve 'zero severe disasters' with full integrity. As a result, we cater to the needs of workers and stakeholders at all construction sites, and create a safe working environment based on respect for human beings.







### Safety and Health Management System

**Management of the Risk Assessment System** | We identify and remove risks through preliminary meetings on safety against risks. Moreover, any matters found to be inappropriate after inspecting sites by safety guards and managers in charge of the business area are immediately addressed through the safety management system.

Certificate of the Safety & Health Management System



**Certification for the Safety and Health Management System** | We acquired KOSHA 18001 and OHSAS 18001, the certifications for the safety and health management system to enhance the company-wide safety and health levels. We seek to establish our differentiated safety and health management system by identifying and eliminating risks related to safety and health with the participation of all employees.

**Safety cycle** | The Safety Cycle, a work standard and process to effectively manage safety and health activities, is used as a guideline for construction site workers to implement activities to prevent accidents from the beginning till the end of a project.



### Safety Management Activities

#### Reinforcement of Competencies of Safety Managers

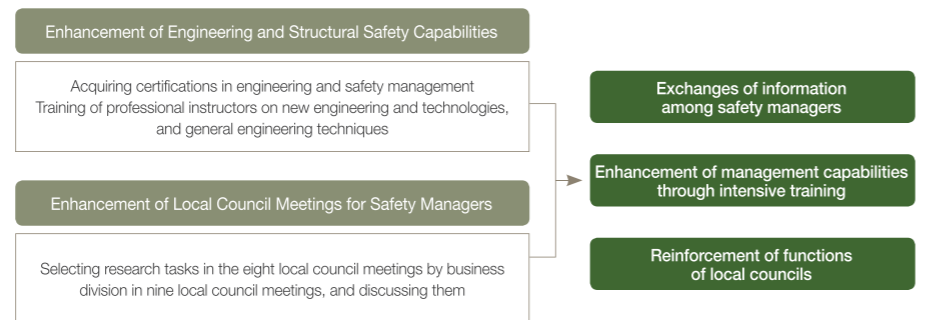
Diverse activities are underway to secure competencies of the industry's top-notch safety managers and enhance the capabilities of safety managers in engineering and structural safety. Information exchanges among the safety managers are facilitated while management capabilities are enhanced through intensive training. To this end, we extend support for employees to acquire certificates on engineering and safety management, and conduct a research task per individual, while realigning the original nine local councils of safety managers by region into the new eight local councils per business division.

#### Reinforcement of Safety Managers' Competencies

**16cases**  
NO. of research tasks selected as Excellent Case per safety manager



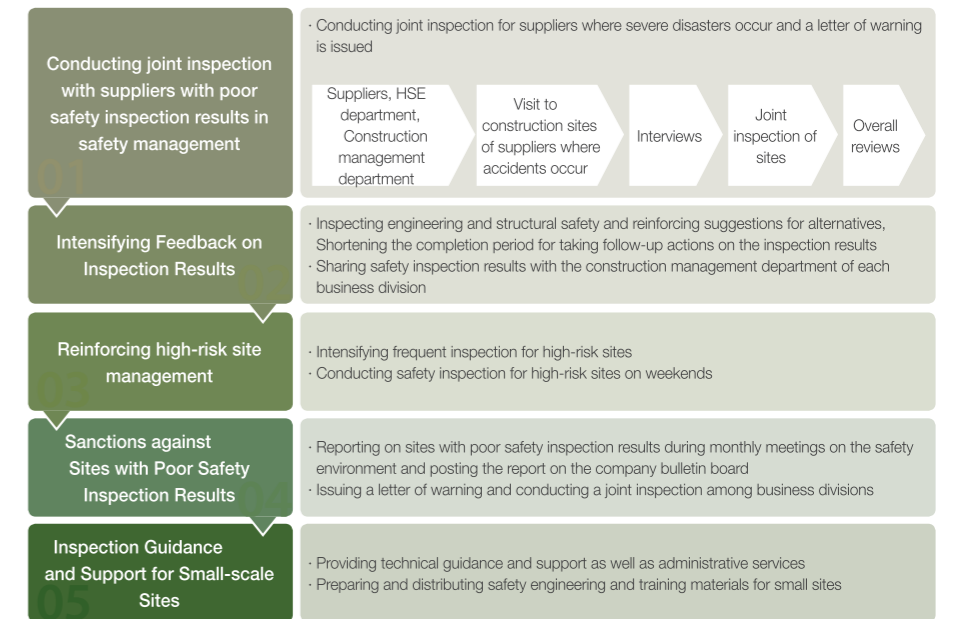
Safety Meeting



### Reinforcement of On-site Safety Inspection

We put in utmost efforts to prevent severe disasters and accidents on holidays by intensifying frequent inspection of high-risk worksites and conducting spot inspection of high-risk sites on weekends. Moreover, joint inspection is taken place for suppliers where severe disasters occur and a letter of warning is issued. For sites with poor safety inspection results, the matter is reported to the CEO during a monthly meeting on the safety environment and is posted on our bulletin board. For large sites, inspection is on the level of safety diagnosis, identifying the operating adequacy of the safety and health system and conducting interviews with management supervisors and heads of suppliers' sites in order to facilitate disaster prevention.

#### Operations for On-site Safety Inspection



### Education on Safety

We reinforce employees' competencies and awareness on safety management by operating differentiated training curriculum for trainees. Case-based training with practicality is provided to reinforce the safety first mindset. The goals are to improve the safety awareness and safety first management mindset for the site managers, to enhance the safety awareness and job capabilities per business area for the supervisors, and to facilitate the understanding of the safety and health management system and work capabilities for the safety managers.

#### Establishing a safety training system for each group of trainees







Announcing the Statement of Commitment for Safety

### Development of Safety Management Guidelines and Training Materials

We establish and revise safety management guidelines to prevent the recurrence of severe disasters and safety accidents. Newly added items include the guidelines on pre-inspection prior to the import of tower cranes, the guideline on high-risk work management on holidays, and the guideline on safety management for defect maintenance. The standard for fire safety has been intensified to prevent the same disaster from occurring, through proper management and supervision. Moreover, materials for training on safety are developed and distributed to facilitate on-site training.

### Prevention of Safety Accidents

Our safety level has been revised upward as a result of conducting safety inspection 242 times to identify the status quo of on-site safety management and prevent disasters. The head office and sites seek optimized management solutions through prior verification of the plan for managing the safety environment within three months from the completion of new sites.



Displaying posters to prevent future accidents

<p><b>Periodical Site-specific Inspection for Preemptive Removal of Risks</b></p>	<ul style="list-style-type: none"> <li>Conducting safety management through site-specific preemptive inspection of seasonal and periodic inspections (seasons of thawing, hot summer, monsoon, winter, severe cold and intensive fire management)</li> </ul>
<p><b>Prevention of Disasters by Implementing Special Safety Measures</b></p>	<ul style="list-style-type: none"> <li>Declaring the 'implementation of 'special safety measures'' to prevent disasters that occur during a period where disasters occur one after another and conducting company-wide safety management</li> </ul>
<p><b>Mileage Points for the Absence of Disasters and Personal Rewards</b></p>	<ul style="list-style-type: none"> <li>Offering cash rewards to individuals and sites no disaster on sites by conducting the mileage points system for individual and per site, and thus motivating safety management among the employees</li> </ul>
<p><b>Status Quo Management of Accidents</b></p>	<ul style="list-style-type: none"> <li>Managing the status of the occurrence of accidents through prevention of these at sites, and minimizing the occurrence of accidents through continued safety training and activities</li> </ul>



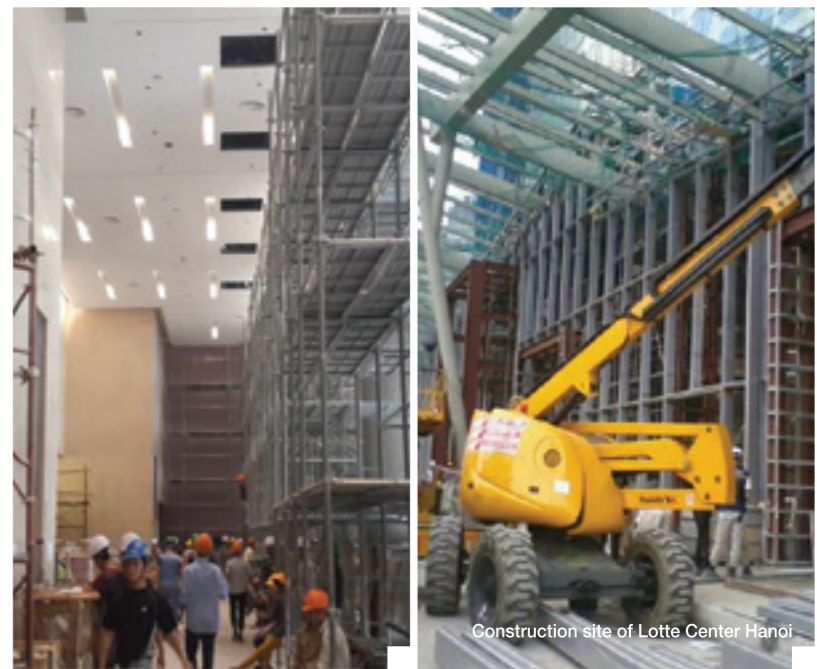
**Lotte Center Hanoi**  
Construction location: Dao Tan Street in Hanoi, Vietnam  
Construction scale: Site area 14,094㎡, Total floor area 252,503㎡, B5F~65F



**SPECIAL ISSUE**

## SAFETY MANAGEMENT FOR OVERSEAS SITES

Diverse safety management activities are in place beyond Korea for disaster-free completion as well as safety management of local workers abroad as our business scale has expanded. We seek safety at sites through multiple endeavors: in-house safety training, fire prevention training and fire control drills on consignment to fire stations, and regular safety training provided by the Ministry of Labor.



Construction site of Lotte Center Hanoi

## CASE STUDY

### 'Double Deck Elevators' Convertible into Rescue Elevators in case of Emergency

The double deck elevators installed in Lotte World Tower have recently acquired the certification for completing the testing at Korea Elevator Safety Institute, which is a first-of-its-kind in Korea. The elevators operate by vertically connecting two elevators in one elevator shaft so that the two elevators could move together at the same time.

Since the two decks can be operated at the same time, on-board and waiting time for passengers can be reduced. They are also efficient due to the transport capacity that is twice as much as the single deck's. The operating status of the other elevator inside each elevator can be checked. Only when the doors of the two elevators are closed can the double deck elevators operate with safety. Among 17 double deck elevators, nine are converted into the rescue elevators that can safely operate during a fire or an emergency so that they could load people for rescue promptly just like life boats.



The first operational double deck elevator installed in Korea ▲

### Winning the Award for Excellent Site Safety

The construction site of 'Lotte Center Hanoi' received Safety Construction Award from the Ministry of Labour, Invalids and Social Affairs for outstanding achievements in the area of protecting national security. The event was held at the launch ceremony of the 16th National Week on Labor Safety and Hygiene – Fire and Explosion Prevention. LOTTE E&C received the labor ministerial award for the first time as a foreign company for its excellent construction site. The Hanoi site is a large scale construction site with 4,300 workers on a daily basis. For safe on-site management, we conduct diverse activities such as worker management, expansion of the welfare system for workers, establishment of training infrastructure, workers training and infrastructure management.

As a result of our efforts, the site had zero accident casualties in its ten million hours of construction since it won the Safety Construction Award from Hanoi City People's Committee. No casualties have occurred for forty-two months since the groundbreaking ceremony in October 2010. Given the poor construction environment in Vietnam, achieving zero accident casualties for 10,000 hours of construction is an unprecedented record. Our initiative for seamless safety management will continue for accident-free completion of construction.



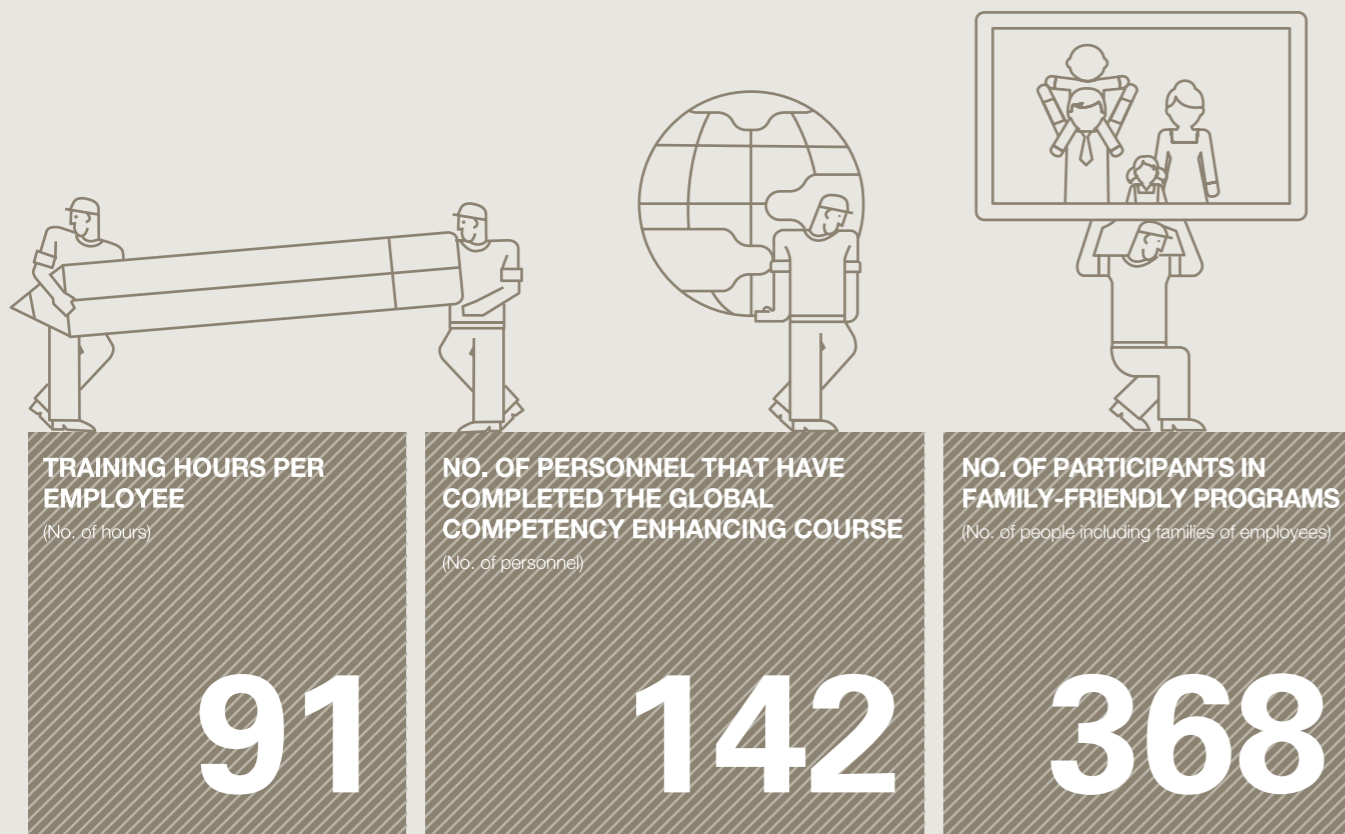
A prize of commendation from the Minister of Labour, Vietnam (Mar. 2014)



A prize of commendation from Hanoi City People's Committee (Feb. 2013)



# Talent management



## RISKS AND OPPORTUNITIES

Amid the aggravating management environment at home and abroad including the recent global economic downturn, sustainable talent development and a creative corporate culture have become prerequisites for Sustainability Management. A lack of support for competency development and a rigid corporate culture may increase diverse risks including the leakage of top talent and core technologies. However, proactive competency development and a people-oriented corporate culture can not only contribute to higher competency and value of individual employees but also drive sustainable corporate growth.



## MANAGEMENT APPROACHES

LOTTE E&C's employee management principle is to respect the creativity and autonomy of its employees, which serves as an indicator for operating employee and organization managements. Fair rewards are offered according to their performance.



## VISION

**A global company which shares and dreams about hope**



Think new, Go global!

# Talent-oriented Corporate Culture

We are recruiting excellent employees on the basis of fair employment based on the principle of recruitment without discrimination. Diverse training programs are offered to discover and foster next-generation leaders.

## Strategies for Talent Management

Pursuing our goal of being 'a global company which shares and dreams about hope', we are involved in such activities as establishing a culture respecting diversity, seeking for a work-life balance and fulfilling CSR as a global player.

### VISION

**'A global company which shares and dreams about hope'**

### Strategic Directions

- A culture which respects diversity
- Harmony and balance between work and life
- Social responsibilities as a global company

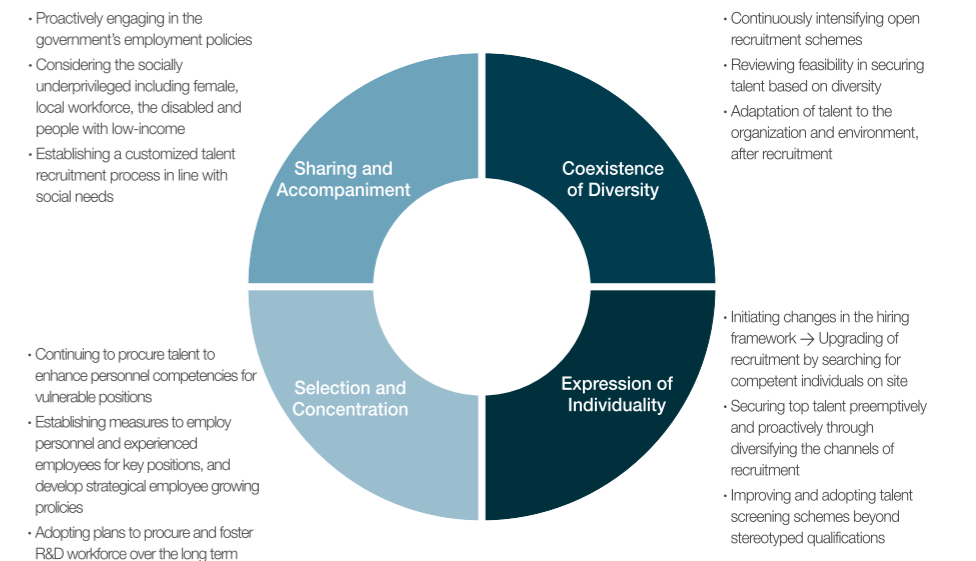
### Execution Tasks

- Establishing policy governance for recruiting talent (female, talents that contribute to the national development, the disabled, etc.)
- Reinforcing family-friendly management
- Conducting maternity protection activities
- Boosting educational donation projects (educational donation programs with on-site experience)

## Fair Employment of Talent

LOTTE E&C recruits employees based on fairness, diversity, rationality, and suitability. In 2013, we established 'policy governance for recruiting talents' that take diversity and individuality into account, and comply with the governance with the best efforts.

### Keywords on Hiring



## Securing Competent Talent

We leverage diverse schemes to procure talent with expertise and global mindset, and explore recruitment channels to select optimized talent for specific positions. While recruiting local personnel abroad through search for overseas local talent, we enhance expertise by enhancing the recruitment of professionals in law, finance, etc. We also recruit winners of Lotte Idea Contest to procure creative personnel.



Training Results



Development of Creative Talent

We enhance competencies of employees by focusing on people as the basis for creating future corporate values. Diverse training programs are underway to foster talent that is creative and globally competitive.

Training of New Employees

LOTTE E&C is operating a mentoring system for new employees to strengthen their understanding of the company and promote fellowship between the employees. We set Wednesday of the fourth week of every month as a mentoring day and provide activity funds to stimulate the program. We are also operating task process training, in which a mentor and a new employee have one-to-one meetings, and position training by division to encourage employees to adapt to the work environment quickly. We are also running take-off education to improve employees' professional mindset, adventurous approach, and confidence.

New Employment Development Programs



Leader Capability Training

LOTTE E&C has operated the S-Grade Promotion Qualification Course since 2013 for to-be-leaders candidates in business units including team directors and site managers in order to enhance the awareness of their roles and develop their competencies. Courses on recognizing and intensifying roles are offered through the eight-week online and offline courses, and the candidates have to take two tests during the course.

Training on Job Capability

LOTTE E&C is operating training courses in work areas such as personnel, finance, marketing, and strategy, to strengthen job capabilities. We are also managing capability enhancement training at each level to strengthen capabilities required for each level of employees following promotion. Furthermore, we are establishing an instructor-based task training by encouraging task specialists in each work area to become internal instructors. LOTTE E&C operates training courses for site managers and engineering certificates for technical professionals. Forty employees acquired engineering certificates (certified technicians, PMP and LEED AP).

CASE STUDY

Operation of the Talent Development Roadmap

We operate diverse programs based on the talent development roadmap to foster innovative leaders that can take the lead in changes and innovation. We cater to the changing needs in the environment and training through the roadmap, and share common values as construction professionals of LOTTE.

Type	Leader Capability Training			Work Capability Training			Self-Development Training	Company-wide Training
	Group	LOTTE E&C	Professional Course	Techniques	Sales Management			
Executives	New Executive Course, S-EMBA	Top-Level Course for AMP						
Level S (Senior Manager)	Team Manager Qualification Scheme, EMBA in the Construction Sector	Executive Capability Upgrade Course	In-house Instructor Development Course, Intensive Global Course	Site Manager Capability Upgrading Course, Site Manager Development Course	Work-Specific Capability Upgrading Course	E-Learning Course, Outside Training Course, In-house Language Course	Safety Management Course, Creative Management Course, Ethical Management Course	
Level M (Manager)	Mandatory Training for Grades, Work School, Outside MBA Programs	Introduction Training for Seasoned Employees						
Level SA (Senior Assistant)	Preparatory Course for Promotion Qualification Test	Preparatory Course for Promotion Qualification Test, SA Promotion Course						
Level A (Assistant)	Take-off Training for New Employees, Introduction Training for New Employees	Introduction Training for New Employees						

Fair Performance Evaluation & Reward

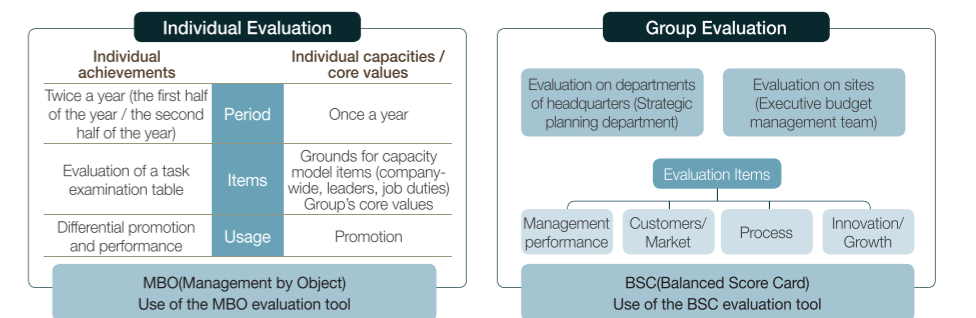
Reasonable rewards are presented to employees based on fair performance evaluation. Unfair discrimination based on gender, academic background or religion is prohibited, and fair standards are applied in line with capabilities and qualifications.

Performance Evaluation & Reward

LOTTE E&C's performance evaluation is held twice per year. Evaluation results are reflected in movement, deployment, promotion, reward, training, etc. We are using various evaluation methods, such as performance evaluation, capacity evaluation, and core value evaluation, for fair performance evaluation. We made an evaluation interview compulsory for employees before and after the annual evaluation. We are also operating regular education for evaluators and conducting evaluation reviews.

LOTTE E&C motivates employees by providing them with rational rewards based on fair performance evaluation. The amount of payment for new employees is as high as 308% of the legal minimum wage. There is no gender discrimination for payment.

Evaluation System



Welfare Benefits

LOTTE E&C improves employees' satisfaction by managing welfare benefits, which creates a Win-Win relationship between the company and its employees. Welfare benefits consist of four compulsory insurances: national pension, health insurance, unemployment insurance, and industrial accident compensation insurance; and selective and basic benefits. New welfare benefits in 2013 include offering of gifts for Chuseok holiday (Korean Thanksgiving Day) and a family tour package for families of overseas employees, and a personal pension subsidy program to encourage regular employees on long-term service and guarantee their comfortable post-retirement life.

**Retirement Preparation Program** | We operate programs to financially support employees not only during their work period but also in the post-retirement period. We are also supporting retired employees by running an online website and office to boost their loyalty to the company and strengthen the network by treating them respectfully instead of parting from the company after their retirement.

**Extension of Retirement Age & Wage Peak System** | According to the revision of the Labor Act and our corporate rules, we plan to extend the retirement age from 55 to 60 starting from 2016. We have also adopted the wage peak system in accordance with the Employee Retirement Benefit Security Act. A work extension system has been adopted for the welfare benefits of workforce that is ineligible for welfare incentives as the laws of 2014 and 2015 are applied.

Welfare Benefits

- Support for leisure activities**
  - Refresh leave
  - Operation of the Day of Family Love/Clubs' Day
  - Offering of gifts for birthday and wedding anniversary, etc.
- Maternal and Maternity Protection**
  - Maternity leave post childbirth
  - Cash extension post childbirth
- Stable Housing and Livelihood**
  - Housing loan
  - Tuition subsidies
  - Cash gifts for congratulations and condolences
- Medical Fees and Health Checkup**
  - Payment of employees' medical checkup fees and medical fees and insurance premiums
- Training**
  - IT courses
  - Cyber courses
  - Language courses
- Statutory Welfare Benefits**
  - Subscription insurances (four compulsory insurances)
- Selective Welfare Benefits**
  - Offering of individual welfare benefits using a welfare card
- Others (Type)**
  - Financial support for the employer's liability insurance
  - Family insurance for employees in overseas branches
  - Support for club activities
  - Accreditation and reward for employees' long-term service
  - Financial support for house moving expenses, etc.



**160 participants**  
No. of participants in 'Cooking Lesson with Children' (employees and their family)

### Work-Life Balance

We create a decent environment where all the employees can work with joy in a family atmosphere for a corporate culture and based on open management activities.

#### Family-Friendly Management

**Morale-Boosting Programst** | We operate diverse welfare programs to boost the morale of our employees: family-friendly programs, birthday and wedding anniversary events, financial support for club activities and cooking classes for employees and their children. Moreover, every Wednesday of the first and second (or fifth) week of each month is designated as the 'Day of Family Love.' On the Day of Family Love, employees are free from having to work at night, or to eat out together for information corporate gatherings and spend time with their family. This enhances their loyalty and morale to a great extent.

**Female-Friendly Work Environment** | We have conducted diverse maternity protection programs in tandem with the government's policy on the low birth rate and a need to enhance the work environment for female employees. We made the use of maternity leave for a year mandatory followed by a period of leave before and during childbirth. We also conducted activities for maternity protection, such as online education, which covered information for reinstatement and an offer for congratulatory gifts for childbirth. Furthermore, we facilitated a mandatory family-care leave system and a request to reduce working hours during childcare instead of maternity leave.

**Support for Overseas Employees and their Families** | We enhance employees' sense of belonging as families of LOTTE employees, by offering gifts to family members of employees working abroad separated from their family. These include gifts for traditional holidays such as fruit baskets or Korean traditional cookie sets with a message from the CEO. We also extend financial support for a family tour package for overseas employees and their family in order to rejuvenate the employees and form a family-friendly working atmosphere.

**Status of maternity and child-care leave\*** (Unit: No. of personnel, %)

Type		2011	2012	2013
Return rate after maternity and child-care leave	Male employees	0	0	3(100)
	Female employees	9(75)	6(100)	4(80)
Rate of employees who have been working over twelve months after returning to work (retention rate)	Male employees	0	0	2(100)
	Female employees	6(50)	5(83.3)	4(80)

\* The calculation of data has been changed from the basis on the starting date to the closing date.

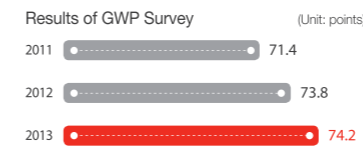
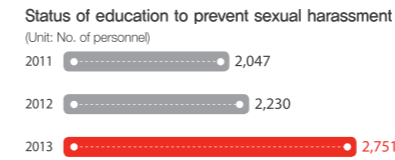
**Family-Friendly Programs** | We operate family-friendly programs to enhance the self-esteem of families of LOTTE employees and practice family-friendly management. Family members participating in the programs experienced the history of LOTTE for two days and one night, and went to a water park and a cultural heritage site. It was a memorable experience for all the participants – employees working abroad separated from their family and their family members, and those that lacked in opportunities for a family tour due to weekend work.

#### Participant Reviews

"We were one a two-day-and-one-night family trip in LOTTE E&C's family-friendly program. Thanks to the program, we could learn about what he was doing at the company as a husband and Dad. It was even more meaningful to learn about the corporate history and dreams he had in the company."



"The trip was a great opportunity for us to know better about other employees in other departments or sites. We shared our heart-to-heart stories and precious memories. The opportunity would be a bridge of communication between sites and the head office, which would lay the foundation for further growth of LOTTE E&C."



### Establishing an Open Corporate Culture

**Operation of the Joint Labor-Management Committee** | LOTTE E&C pursues a horizontal labor-management relationship in which employees and executives respect each other equally based on participation and cooperation. To achieve this, we are running a joint labor management committee which includes five executive representatives and five employee representatives. We discuss various agenda including employees' welfare, wage, safety, health of employees and their family and other legitimate demands. In 2013, the committee meetings were held five times. Major agenda included improvement of the operation of holidays on sites, adoption of the financial support for personal pension schemes, selection of products and companies for personal pension, and expansion of the Day of Family Love.

#### Achievements of Operating the Joint Labor-Management Committee

- Introducing the financial support scheme for personal pension and selecting a relevant company
- Improving the operation of holidays on sites (five holidays per month → four days per month)
- Extending the retirement age (55 → 60) and introducing the wage peak system
- Introducing the annual leave plan and a system to donate one's annual leave in 2014
- Introducing wage increase, operating the Sports Day, and maintaining thirteen companies for health check-up, etc.

**Management of the Grievance Settlement System** | LOTTE E&C always pays attention to employees' problems and complaints in order to increase their level of involvement in their job and organizational involvement. We are operating online and offline grievance settlement channels which ensure anonymity with absolute security. Once a counseling request is submitted via email, we take action within ten days of the submission date covering the immediate identification of and countermeasures for the status quo, and notification of the result.

**Joint Labor-Management Cooperation Program** | LOTTE E&C held the 'One Spirit Sports Day' contest to motivate employees to strive for successful achievement of management goals, and establish a corporate culture of challenge and passion. We held diverse activities, such as special lectures by famous speakers and the CEO, a place for harmony, and a climbing contest for goal attainment to exchange corporate and headquarters management strategies on the theme of "One Direction, One Mind, and One Step." We also held the 'One Spirit' tournament track meet, which consisted of a tug of war, group jump rope, and relay cooperation game, to build labor-management trust and boost a sense of unity.

**Operation of the Day of Recognition and Praise** | We strive to stay away from a rigid corporate culture by sharing information on the corporate, team (site) and individual performance and offering rewards to competent employees. Moreover, gatherings are held in restaurants and pubs by team and site in order to facilitate seamless communication and boost morale to achieve a goal.

**GWP Survey** | We enhance employee satisfaction through the annual GWP (Great Work Place) survey. Items included are 'organizational effectiveness', 'vision/strategy', 'leadership', 'corporate culture', 'personnel system.' In 2013, the score stood at 74.2 points out of 100.

### CASE STUDY

#### Establishing an Open and Innovative Corporate Culture

To institute the title of a team director for employees qualified through testing after building up competencies to be a team director for eligible candidates, instead of the seniority-based appointment of team directors

**Operation of the System to Quality Team Director Candidates**

**Changes in the Title of Ranks (introduction of grade system)**

To establish the rank-oriented culture and stay away from the seniority-based corporate culture by changing the titles from 'section chief-deputy general manager-general manager' into 'manager-senior manager'

To designate and operate the monthly Day of Creative Management to create a ground of communication among employees, while sharing cases of innovation

**Operation of the Day of Creative Management**

**Conducting a Dress Code of Business Casual**

To generate a creative atmosphere by conducting a dress code of business casual (without a tie)



SPECIAL ISSUE

**DIVERSIFICATION OF RECRUITMENT TO SECURE GROWTH ENGINES OF THE FUTURE AND REINFORCEMENT OF GLOBAL CAPACITIES**

Seeking to respond to the future market changes in a proactive and creative manner, we have been engaged in various programs. Capacity buildup programs are up and running to foster global talent while removing discrimination based on gender, academic background and disabilities, thus reducing the recruitment barriers.



\* The Slogan "Jeongjeong Dangdang (Fairness in Recruitment)" is Lotte Group's slogan to recruit talent of passion and competency regardless of gender, academic background, region or disability.

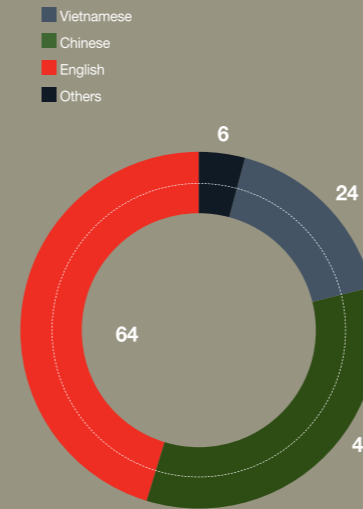


A scene from the 2014 New Comers Day



A scene from the 2014 New Comers Day

No. of Trainees for Global Course  
(Unit: No. of personnel)



**Open Minded Recruitment Based on Diversity**

We diversify recruitment channels to create high-quality jobs and procure proactive and creative talent to achieve our vision of being 'ASIA's TOP 10 Construction Value Creator.'

**Easing of Academic Limits** | Suitable talents are procured through our new recruitment channel for high school graduates in order to resolve such societal issues as academic inflation and youth unemployment. Moreover, talents are selected mainly based on the diversity in their career background including relevant certificates, prizes won and records of language proficiency, and capabilities of executing actual tasks, instead of academic background.

**Expansion of Recruitment of Female Talent** | We have expanded the ratio of female talent to cater to social needs for the recruitment of female talent and also to enhance the Group's corporate image. In 2013, we newly

\*New Comers Day: Lotte Group's welcoming party for new employees

opened a special recruitment channel for female military officers discharged from service and paid particular attention to attain female talent from the science and engineering field. The goal was to procure talent with soft yet strong female leadership suitable for the construction sector.

**Recruitment of Talent Capable of Contributing to the Nation** | A special opening is available for talent capable of contributing to the nation including military officers discharged from service. We also plan to give incentives including the exemption of document screening for talent of excellence in alignment with the Ministry of Patriots and Veterans Affairs

**Recruitment of the Disabled** | We fulfill our CSR by providing additional job openings for the socially underprivileged. Special positioning is available and increasing for the disabled under the leadership of the Group is in line with the Group's measure to continuously expand the positions for them. In 2013, we recruited 11 people with disabilities on construction sites.

**Global Capacity Training**

There has been a higher need for global talent to strategically tap into overseas market amid the saturation of the domestic construction market and prolonged downturn. As such, we operate diverse global capacity training programs to foster talent equipped with skills and capacities of comparative advantages anywhere in the world.

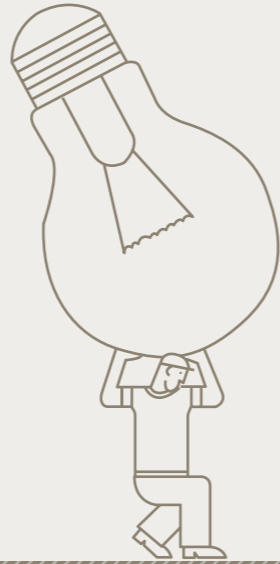
**Language Proficiency Training** | A prerequisite for global talent is seamless communication skill. Thus, we run the Global School programs and language courses for learning foreign languages such as English, Chinese and Vietnamese. Courses on presentation and negotiating skills have been added along with a course on meetings with buyers. With all, we ensure that more efficient communication can be achieved in actual meetings.

**Alignment with Strategies for Overseas Projects** | We offer the Intensive Course for employees to be dispatched abroad so that they can enhance their local language skills once an order on an overseas site is confirmed. A manual on local areas is also distributed for them to adapt to their new work environment fast.

**Work Capability Enhancement Program** | We train on various expressions that can be used for official documents and emails by operating the Business Writing Course. Regarding actual job duties, we have also added Federation Internationale Des Ingenieurs-Conseils (FIDIC) Course and Local Expert Course so that employees could gain knowledge before advancing to a target country, and adapt to a new overseas environment fast.



# Ethical Management



## RISKS AND OPPORTUNITIES

Ethical management is not an option but a must for a company to do business in today's world. Proactive ethical management will lead to the internal control that transcends compliance of laws and institutions and end up as a solid corporate culture, which enhances corporate value and minimizes ethical risks that might occur in the future. By contrast, poor ethical management would result in corporate damage as it might cause irregularities and accidents, and even threaten overall corporate management.

## MANAGEMENT APPROACHES

Lotte E&C's motto for ethical management is "management that reflects LOTTE E&C's very characteristics and makes every stakeholder love our company." Under this motto, we conduct ethical management activities with transparency and integrity.

## VISION

**Creation of an ethical company based on principle and trust**

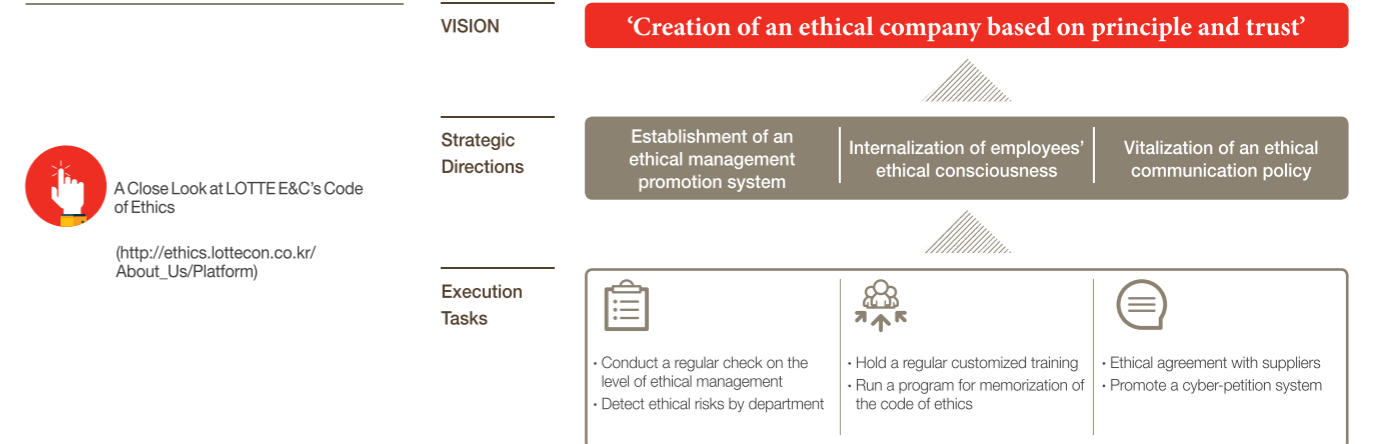


# Ethical Management Buildup

In order to make every stakeholder love our company, we conduct transparent and rational ethical management activities driven by the fundamentals and principles.

## Infrastructure of Ethical Management

**Strategies for Ethical Management** | We devised major trends and issues on ethical management and set strategic directions through internal and external analyses to achieve 'creation of an ethical company based on principle and trust.' The strategies consist of establishment of an ethical management promotion system, internalization of employees' ethical consciousness, and promotion of an ethical communication policy. Action plans are set and promoted for each strategic direction.

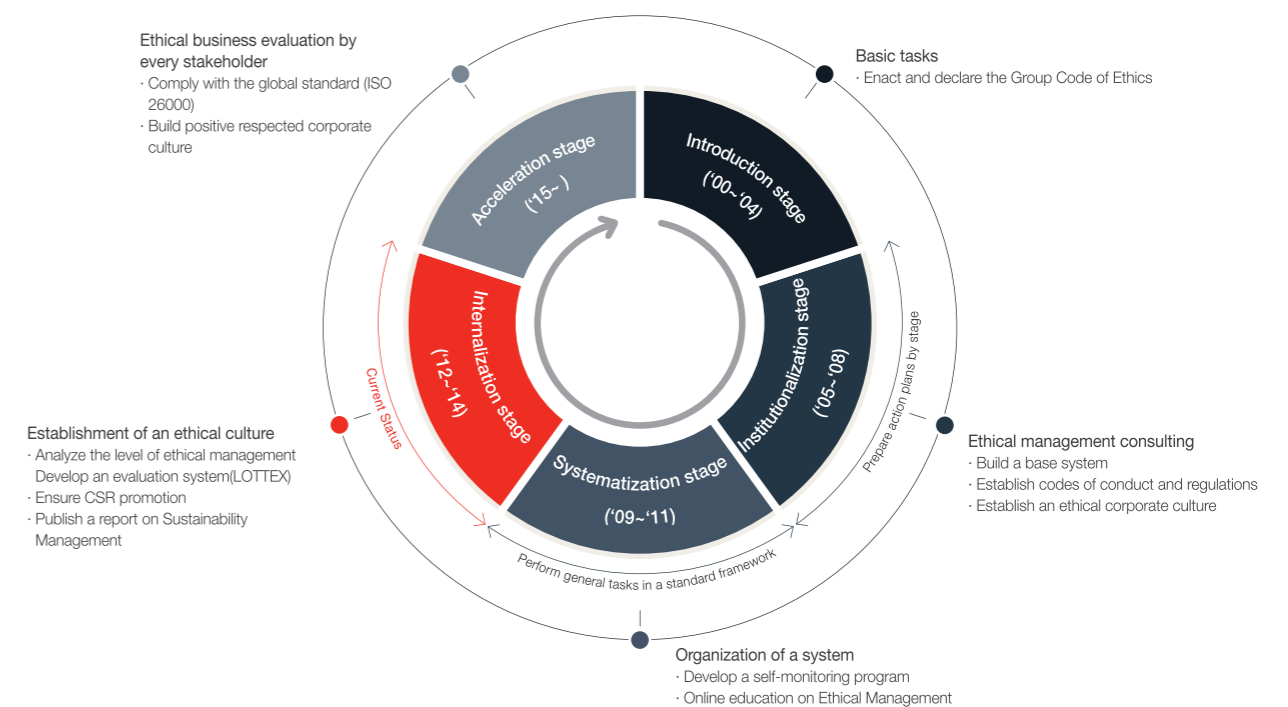


A Close Look at LOTTE E&C's Code of Ethics  
[http://ethics.lottecon.co.kr/About\\_Us/Platform](http://ethics.lottecon.co.kr/About_Us/Platform)

**Organization of Ethical Management** | As LOTTE E&C regards ethical management as a core factor for sustainable management, we operate the Ethics Secretariat and the Inspection Team that are in charge of ethical training and status quo inspections. The Ethics Secretariat conducts training on ethical management and operations to spread ethical awareness as well as to internalize ethical management. The Inspection Team, meanwhile, performs inspections on sites and departments at the headquarter, reviewing the allocation of business expenses, management status, etc.

**Ethical Management Roadmap** | LOTTE E&C's current ethical management is at the stage of internalization: we are establishing an ethical culture through CSR promotion, ethical management level analysis, etc. We will strive to step into the stage of acceleration, in which stakeholders evaluate ethical companies through vigorous ethical management activities.

## Ethical Management Roadmap







Cyber Ombudsman



PARTICIPATING IN LOTTE E&C'S CYBER OMBUDSMAN  
(http://ethics.lotte.co.kr/Cyber\_Appeal/Receipt)

Registration and handling of incidents reported to the Cyber Ombudsman (Unit: No. of Cases)

2011 373

2012 334

2013 350

100%

Status quo for handling incidents reported to the Cyber Ombudsman

### Ethical Management Activities

#### Company-wide Ethical Risk Management

As the code of ethics has gained a greater importance on the global stage, we analyze ethical risks per department and site in order to prevent risks related to corporate ethics and resolve relevant issues that caused by it. In 2013, we discovered 94 risks in five areas through ethical risk researches & interviews and stakeholder surveys. The exposed risks will be reflected in not only the diagnosis of the level of ethical management and training but also the setup of self-diagnosis systems for ethical management for each department and development of ethical KPIs.

#### Ethical Agreement of Suppliers

LOTTE E&C operates an ethical agreement program, which aims at suppliers, to share the ethical awareness as the scope of practicing ethical management expands to major corporate stakeholders. The suppliers reaffirm their commitment for practicing ethical management by signing on the ethical agreement, proving their willingness to strive for the establishment of an ethical corporate culture, and pledge to proactively engage in ethical management. Moreover, we have a policy to cancel the registration of suppliers and prohibit their entry into new biddings upon the detection of unethical acts in order to eradicate such acts involving the suppliers alone or both suppliers and our employees.

#### Channel of Reports for Ethical Management

LOTTE E&C receives cases of ethical management violations through a variety of on and offline report channels. We are uploading notifications on results in timely manner. Online channels include the Cyber Ombudsman & Customer Centers, and e-mail. For the cases that cannot be reported online, we also operate offline channels e.g., phone calls, fax, mail and visits to the Ethics Secretariat. Particularly, we run the Cyber Ombudsman so that we can respond to the needs for the operation of communication channels and feedback, and to attend to complaints raised by internal and external stakeholders. We maintain a lead time of less than 10 days on average. In order to intensify the feedback for the results of resolved cases, we conduct a special inspection, if necessary, after doing internal analysis on the reported cases of unethical behavior or similar activities. The Ethics Secretariat conducts verification after reply on the results obtained, and tracks and manages the reports and complaints to prevent the repeating problems in the future.

#### Gift Return Center

LOTTE E&C runs a gift return center under the Ethics Secretariat, seeking to establish a transparent corporate culture and reinforce ethical management. Through the gift return center, task-related gifts can be returned to their senders and when the return is not possible, we donate the gifts to the communities in need of help via 'Love Auctions.'

### CASE STUDY

#### Activities to advance ethical management

##### Conducting the diagnosis for the level of ethical management

LOTTE E&C diagnoses the level of ethical management using the Lotte Ethics Index (LOTTEX) to analyze the level of gathered stakeholders' feedback and their ethical management systems, and employees' awareness and compliance on ethical management. Our score on the ethical management analysis through the system in 2013 was 80.8. The score on basic ethics<sup>1)</sup> was 81.6 while that of social ethics<sup>2)</sup> was 79.1. A survey is regularly conducted in coordination with our ethical management website.

1) Basic ethics: Compliance with the legal system and ethical responsibilities through appropriate and transparent corporate management  
2) Social ethics: Promotion of management in which companies, stakeholders, and future generations can achieve growth together, based on economic, environmental, and social responsibilities

##### Ethical Regulation Awareness Program

We developed the Ethical Regulation Awareness Program to prevent employees' unethical and inappropriate acts whose effectiveness has been enhanced in conjunction with the MOIN (Groupware system) program. Employees are asked for an electronic signature after reading through the regulations as we aim to enhance the participation rate in the program. Rewards are also offered to those that submit a well-written review on the program.



80.8 points

Results of the diagnosis of ethical management level



A scene from the Ethical Leaders Training

### SPECIAL ISSUE

## INTERNALIZATION OF EMPLOYEES' ETHICAL CONSCIOUSNESS

Highlighting transparency as an essential condition for corporate survival, we conduct training sessions for employees to practice ethical management: Circuit Training on Ethics, Ethical Leaders Training and Customized Ethics Management Training

#### Survey results after conducting the Circuit education on Ethics (Unit: %)

##### Composition and operation of education



##### Competency in lecture delivery



##### Relevance of Training to work



2,900 people

No. of ethical management education

#### Circuit Education on Ethics

The Circuit Training on Ethics was held to help employees understand basic concepts of ethics and improve awareness of ethical management. We fully utilized internal instructors for the training. Areas vulnerable to unethical acts were discovered, and the relevant causes were identified, on which ideas and opinions were requested for and communicated among the employees. In 2013, as many as 1,488 personnel or 99.7% of 1,493 targeted on-site trainees took part in the training. Their feedback from the survey will also be implemented for future training sessions.

#### Ethical Leaders Education

We conducted training on 'ethical management leadership in a respected company' for team directors and leaders of the senior level and above, seeking to shed new light on the importance of ethical management - a prerequisite of corporate management in the future. The training consisted of several topics: ethical decision-making and roles of ethical leaders, ways to facilitate ethical action programs; and elimination of abnormal practices on sites and other areas.

#### Customized Ethics Management Training

As the importance given to employees' stronger ethical awareness and internalization of ethics within themselves is realized, training takes place by producing materials for targeted trainees. We take full advantage of online and offline training sessions, while enhancing the convenience for employees and the efficiency of the training at the same time. In particular, we are trying to maximize the effects of such training programs by designing customized training programs according to audience, including sites, headquarters, site managers, site management team leaders, site construction team leaders, and new employees. Moreover, the training on ethical management is a mandatory for the new employees on the job-training, site managers and team directors, etc.



# Sharing Management for Society

Think new, Go global!



## RISKS AND OPPORTUNITIES

Recent social contribution activities have evolved into activities of CSV (Creating Shared Value) that generate corporate revenues and shared values for the social environment, while resolving social issues beyond simple donations. Companies can establish a positive corporate image and gain a competitive edge through passionate social contribution. Employee engagement can also boost their corporate loyalty. However, one-time or window-dressing events on social contribution might tarnish the corporate image and be harshly criticized by the public.

## MANAGEMENT APPROACHES

Lotte E&C has put forth efforts to make our society warmer and richer through a variety of social contribution activities and sharing management. We will continue to fulfill social responsibilities through faithful social contribution activities to satisfy our management philosophy.

## VISION

**A love-sharing company achieving growth with local communities**



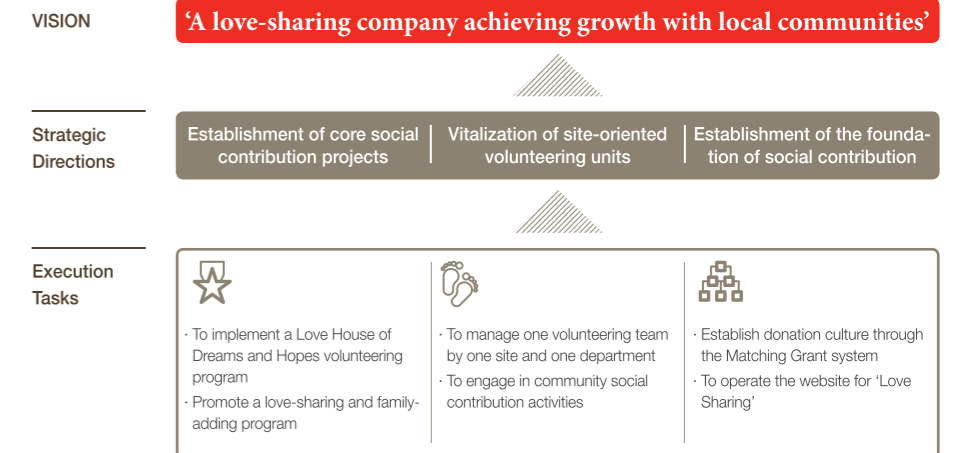
# Strategic Social Contribution

We initiate strategic social contribution reflecting our personnel capabilities and features of the construction industry. In particular, proactive activities have unfolded centering on construction sites and nearby local communities.

## Infrastructure for Social Contribution

### Strategies for Social Contribution

Aiming to achieve the vision of being 'a love-sharing company growing together with local communities', we set strategic directions, which are establishing iconic social contribution projects and facilitating site-oriented volunteering units, and we also implement relevant tasks accordingly under these directions.

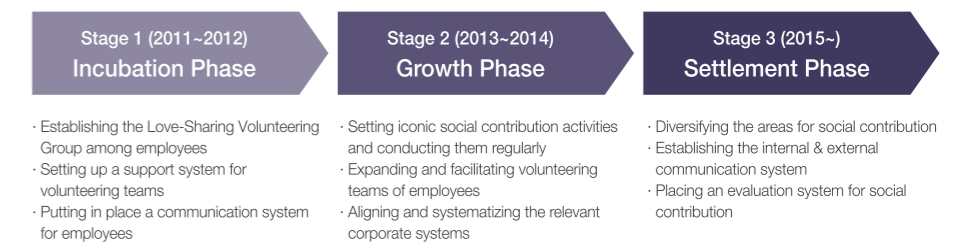


## Principle of Social Contribution

LOTTE E&C's principles for social contribution include social restoration of a part of profits through the completion of corporate social responsibilities; voluntary participation, which boosts pride for social contribution activities based on Lotte Group's management philosophy. We are holding social contribution activities based on these principles.

## Roadmap for Social Contribution

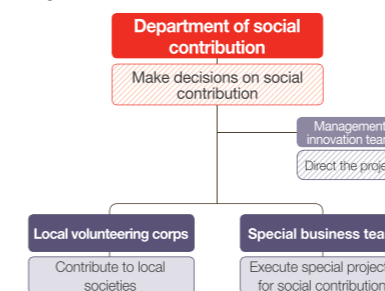
We practice major action plans according to the roadmap to conduct long-term systematic activities. Systems for efficient social contribution are established, while diverse and distinctive programs aligned with projects are developed, and iconic social contribution projects are explored.



## Organization for Acting Social Contribution

LOTTE E&C manages a social contribution subcommittee under the CSR committee, which executes and manages CSR internally. The Social Contribution Subcommittee has held different activities, including strategy establishment for social contribution activities, operation management of the Love-Sharing Volunteering Group, a corporate volunteering team, establishment and implementation of plans on special projects for social contribution, fund-raising, and management for social contribution. In order to encourage employees to engage in social contribution, we operate the company-wide Love-Sharing Volunteering Group. The volunteering group operated in the form of a club carries out recipient-oriented volunteering considering local conditions, which strengthens ties with communities.

### Organization of Social Contribution Activities



### Operating the website for Love Sharing



Forging consensus on social contribution among employees and playing the intermediary roles for communication



### Major Social Contribution Projects

#### Love House of Dreams and Hopes Volunteering Program

Strategic volunteering is in place reflecting features of the construction industry based on commitment to fulfill corporate social roles & responsibilities. In 2013, the Love House of Dreams and Hopes volunteering program was carried out for low-income families in Seoul and Busan. We improved their living environment by replacing floor coverings and wallpapers, and repairing & doing maintenance for old bathrooms, kitchens and utility facilities, and donated daily necessities including rice, noodles and tissues.

#### Volunteering of Employees and Their Family

Going beyond employees' volunteering, we operate the 'Love Sharing with Family' program engaging their family in volunteering activities. This helps to form a family-friendly environment and further build up their character for the children of employees.

#### Matching Grant

The Matching Grant is up and running at LOTTE E&C to establish a culture of sharing within the company. It allows the company to extend donations in proportion to the funds raised voluntarily by the employees. The funds collected by each and every individual and the company in unity are used as the 'Fund for Love Sharing' for diverse social charity programs.

### Performance of Social Contribution

We strive to return the interest and love we have gained from the public to as many stakeholders as possible through social contribution programs. The amount spent for social contribution amounted to KRW 796 million in 2013, and 77 volunteering teams took part. We will share values with communities and fulfill CSR through steady engagement in social contribution.

#### Performance of Iconic Volunteering Activities

Type	Love House of Dreams and Hopes volunteering program	Promotion of a love-sharing and family-adding program	Briquette of Love-Sharing activity
Period	6 times a year	May, September	November
Region	Seoul and Busan	National Memorial Board and Olympic Park	Seoul and Busan
Major Activities	<ul style="list-style-type: none"> <li>Improving housing facilities for marginalized low-income households</li> <li>Implementing projects aligned with Seodaemun District Office of Seoul and Donggu District Office of Busan</li> <li>Extending a donation of maximum KRW 3 million to a household</li> <li>Doing maintenance for floor coverings, wallpapers and a kitchen</li> </ul>	<ul style="list-style-type: none"> <li>Memorial Day and Armed Forces Day</li> <li>Volunteering in the training aspect                             <ul style="list-style-type: none"> <li>Paying homage to the war dead and going on a field trip to museums</li> <li>Laying wreaths, cleaning tombs, and placing the national flag of Korea</li> </ul> </li> <li>Experiencing traditional cultures and environmental clean-up, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Volunteering in delivering briquettes to marginalized low-income households</li> <li>Conducting projects linked to the briquette bank of Seoul and Busan                             <ul style="list-style-type: none"> <li>Seoul: 104 Village in Junggye-dong, Nowon-gu</li> <li>Mechukji Village, Dong-gu</li> </ul> </li> <li>Sponsoring 40,000 pieces of briquettes a year</li> </ul>
Results	No. of People	126	101
	Amount	KRW 59 million	KRW 34 million

### CASE STUDY

#### Educational Donation Program

As a part of the trend to closely align social contribution activities with core competencies of a company and its business models, we are actively engaged in the 'Educational Donation Program' conducted in the Group-level. Leveraging our training infrastructure including our facilities, knowledge and expertise, we offer opportunities for students to explore their career paths and enhance their job capabilities. This generates social values through the cultivation of future talents. In 2013, we conducted a program of 'educational donation through site experiences during summer holidays.' Participating students had hands-on experiences on our sites as we introduced jobs in the construction sector, which could guide them through their future career search and how to prepare to work in the field, along with a field trip.

#### Educational Donation Program for 2013: Site Experience during Summer Holidays

- ▶ Date: 13:00 ~ 18:00 on August 16 (Tue), 2013
- ▶ Venue: Site of Lotte World Tower
- ▶ No. of Participants: 17 high school students
- ▶ Activities
  - Introduction of LOTTE E&C and Lotte World Tower
  - Introduction of major jobs in the construction sector
  - Preparation for execution of construction-related jobs (selection of a college major)
  - Field trip, etc.

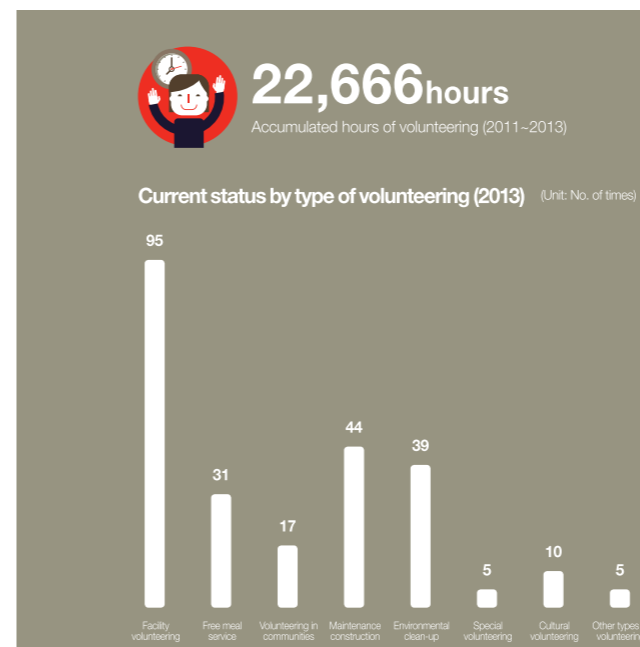


Briquette of Love-Sharing activity

#### SPECIAL ISSUE

## SITE-ORIENTED SOCIAL CONTRIBUTION

We are engaged in a diverse range of ongoing sharing management projects to return a certain portion of corporate profits to the society. Values of sharing are generated, and a culture of sharing is spread through the campaign of 'managing one volunteering team by one site and one department' and global social contribution activities.



Love House of Dreams and Hopes (Busan)



Shenyang's Love Sharing Volunteering Group presenting goods



Employees and the family volunteering on the Memorial Day

#### Social Contribution in Korea

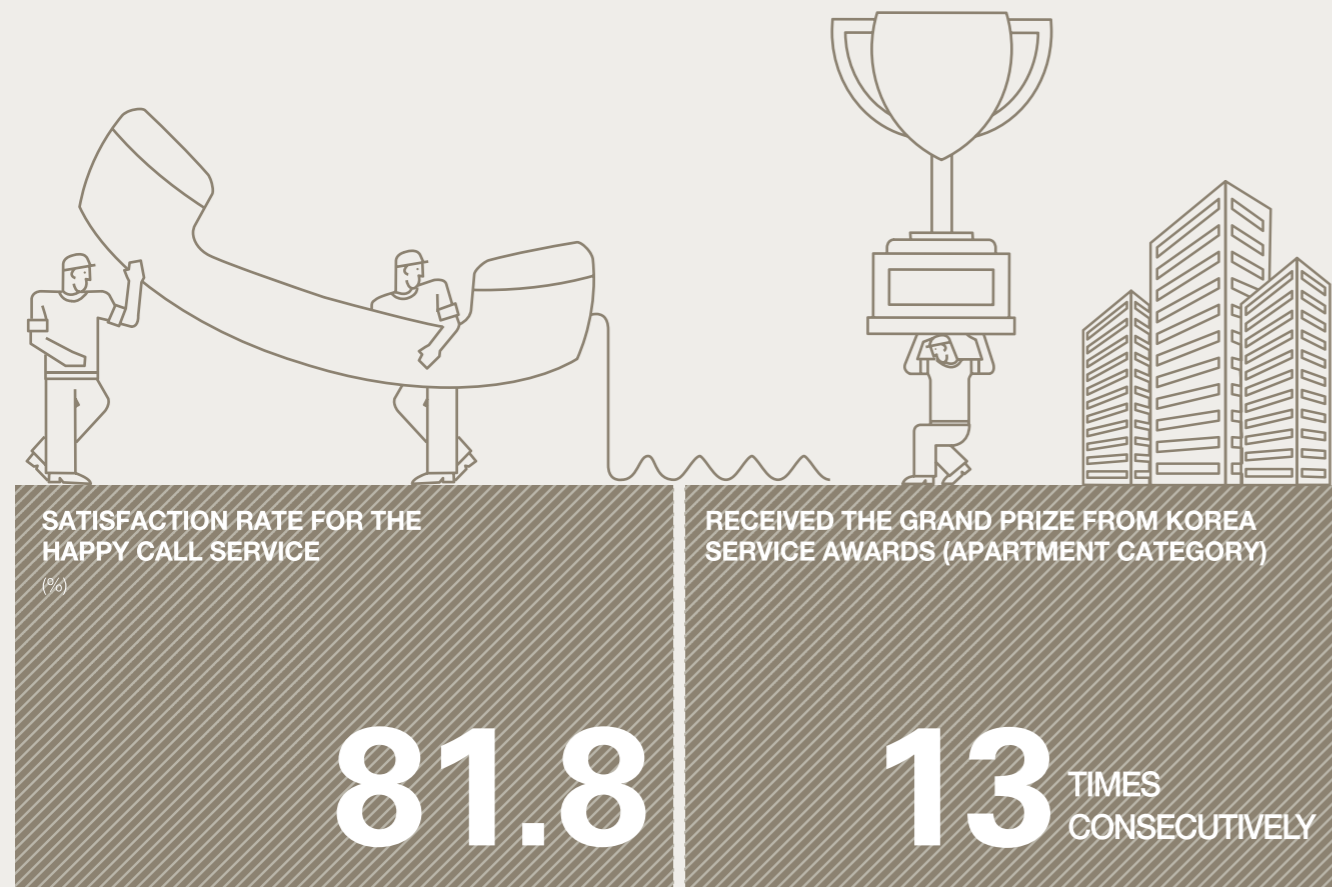
We seek for mutual growth of sites and communities by initiating the campaign of 'managing one volunteering team by one site and one department.' In Korea, 77 teams from our sites and head office nationwide are engaged in social contribution activities in a bottom-up approach. Their activities vary: housing maintenance & repair, cultural volunteering and donation of skills for the underprivileged. We plan to set and run evaluation indicators to form a corporate culture that encourages social contribution activities and operate in-house volunteering groups more systematically.

#### Social Contribution Abroad

Our social contribution has stretched out to the world in localized formats for each country amid our overseas project expansion. Refurbishment of the housing environment and construction of educational institutions are some of the examples in such key strategic markets as China, Vietnam and Mongolia by fully reflecting local needs. Shenyang's Love Sharing Volunteering Group of China, in particular, takes the lead in sharing and spreading the culture of sharing and mutual growth with its communities by assisting those who are socially vulnerable and cleaning up the environment.



# Customer Value Management



## RISKS AND OPPORTUNITIES

Many companies have recently set their management goal to satisfy customers by going beyond a short-term goal of cost reduction and expansion of order acquisitions and sales. Against this backdrop of satisfying the customers, putting aside customer satisfaction would tarnish the corporate image and weaken market competitiveness. However, upon devising a system for prompt responses for customer satisfaction and implementing steadfast activities, we can seek for continued growth based on customer loyalty.

## MANAGEMENT APPROACHES

Serving customers as the first priority, we are at the forefront of communicating with them at customer contact points to boost their satisfaction, while continuously engaging in activities for customer satisfaction and quality management.

## VISION

**To enhance customer satisfaction based on inspection and customer management prior to construction**



# Creation of Customer Values

We reflect the voice of our customers in our management activities, and accordingly, conduct such activities as customer communication channels and quality management.

## Vision for Customer Value Management

In order to achieve the vision of customer satisfying management, that is, to enhance customer satisfaction based on inspection and customer management prior to construction, we execute action plans based on three strategy directions.

### VISION

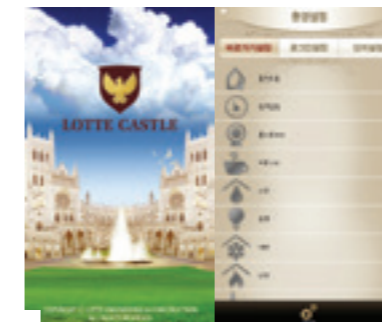
**'To enhance customer satisfaction based on inspection and customer management prior to construction'**

### Strategic Directions

- Improve the quality of construction through pre-management
- Build a protection system for customer information
- Strengthen customer relationship management

### Execution Tasks

- Improve the quality of construction through reinforcement of B/S inspection prior to construction
  - Conducting courses through the Quality Innovation Academy
  - Training on the spread of relevant cases
- Establishing a process for the in/outflow of customer information and strengthening the protection of customer information
  - Managing the customer information of outsourced companies
- Conducting CS training for employees on customer contact points
  - Conducting the Customer Satisfaction Survey
  - Facilitating the mobile customer satisfaction system



A mobile application 'Castle Manager'

## Activities for Customer Satisfaction

### Thorough Prior & Post Management

Our thorough prior inspection and post management enable continued customer satisfaction services. Prior to the move-in of residents, the Happy Call service is offered for consulting on housing subscription and a customer satisfaction survey is conducted. After the move-in, transitions spaces are checked out in consideration of the move-in period, and also the Homecoming Day is held. Moreover, we also provide the 'emergency rescue service' to promptly handle immediate defects.

### Mobile Customer Satisfaction System

We operate a mobile customer satisfaction system, specialized services of Lotte E&C, to provide the services ranging from viewing of the list of registered on-site A/S requests to the specific search of on-site A/S requests. The 'Castle Manager,' an online smartphone application is operated to enable the adjustment of internal lights & temperature, blocking of external gas valves, remote inspection of the utilities usage rates, identifying visitors upon absence, and closed-circuit TV screens for inside-complex playgrounds.

### CS Education

We conduct the service mindset training for the employees to enhance their capabilities for customer response. In 2013, service coaching courses were opened by inviting external specialists as lecturers where all employees involved in CS took part in. Moreover, we offer trainings to our partner companies to be prepared of changing customer attributes and quality services to put ourselves in our customers' shoes.

## Customers Communication Channels

- Blog Operation**  
Operating a site-specific blog to efficiently provide information on housing subscription
- Publishing 'In CASTLE,' our corporate magazine** to deliver updates on LOTTE E&C and housing interior design

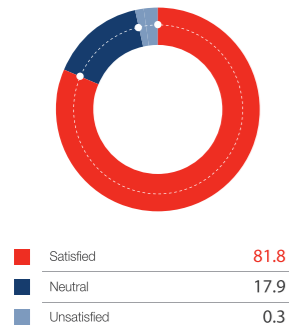
## Scale-up of Customer Communication

### Communication Channels

Our expansion of online and mobile services enables better customer accessibility. Scale-up of customer events and communication channels also help create an environment where more customers can enjoy the services and benefits we offer. In order to give diverse information on Lotte Castle to the increasing number of smartphone users, we plan to set up a website in a mobile version, and increase the accessibility to our website for the disabled with limited access to information.



Level of Satisfaction on Happy Call (Unit: %)



### Happy Call Service

We gather data on customers' satisfaction with the after-sales service and customer complaints through the Happy Call Service, and utilize them as feedback information for improving customer satisfaction. For every case of after-sales services registered and handled, the service is applied to enhance customers' satisfaction. Besides the survey on satisfaction over the handling of after-sales service, wide-ranging customer consultations take place on housing subscriptions, payment and application for the registration of any failures. The relevant service records are databased lest the same inconveniences recur.

### Activities for Quality Management

#### Integrated System for Risk Management

We run the integrated system for risk management to immediately respond to risks such as fire, flood and facility failures, and offer continued after-sale customer services. The system enables real-time inspections via Internet, e-mail, SMS and voice announcing system.

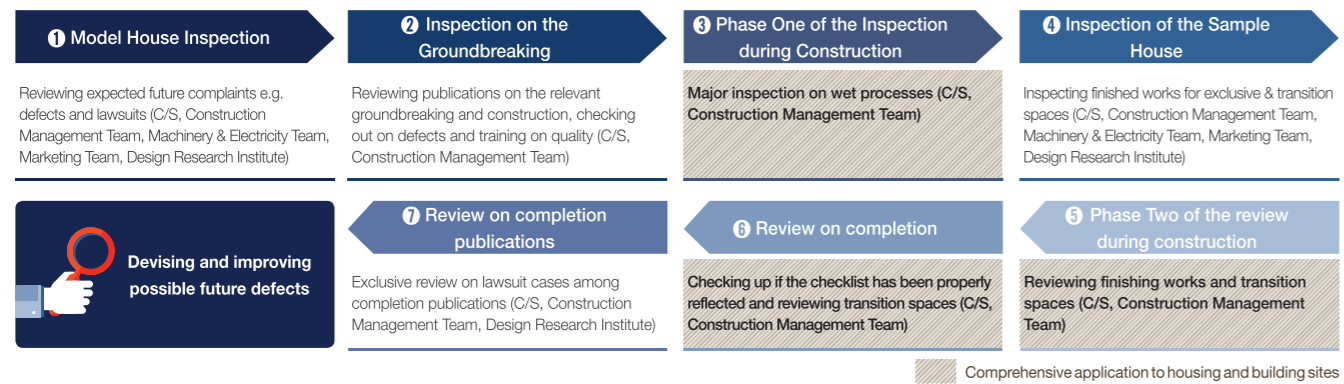
#### Education on Quality

Regular training is underway on construction and quality for on-site employees in order to minimize defects and enhance quality. Customer satisfaction is maximized through specialized trainings including intensive trainings on the management of key business areas, success and failure cases and rank-specific trainings. Other training sessions include cases on major defects and service mindset.

#### Activities for Quality Inspection

We prevent the occurrence of customer complaints through quality inspection activities. Each site has a seven-step quality inspection procedure for B/S inspection.

### Quality Inspection Process



### CASE STUDY

#### Securing Customer Safety

As a greater weight is being placed on the importance of safety across the society, customer safety has become our top priority. Children's spaces are designed to have no closed spaces or sharp outlines. The children's spaces are aligned to nearby recreational facilities to allow their caretakers to monitor children naturally, thus securing even indirect safety. Recently, we have been developing bus stops within an apartment complex so that children can board and get off shuttle buses to after-school centers safely.

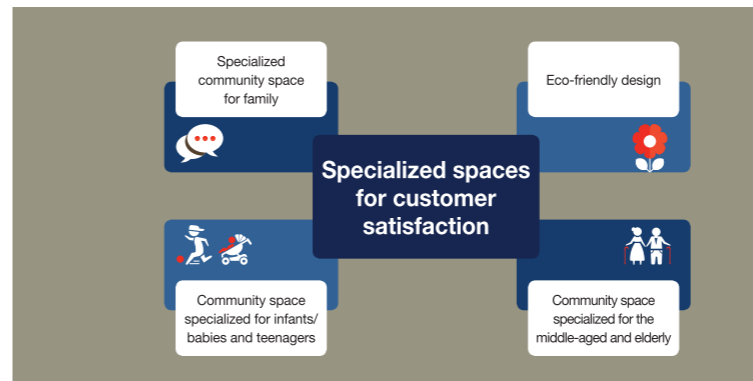


A bus stop within a complex of Lotte Castle ▶



## SPECIAL ISSUE SPECIALIZED SPACES BASED ON CUSTOMER NEEDS

These days, community spaces where customers can spend their leisure time as well as their indoor residential space have become a yardstick to determine their satisfaction level on overall housing. As such, we operate wide-ranging community spaces reflecting customer needs.



#### Community Space for Family

A guest house is available in a community center for relatives to stay over during traditional holidays. It has been positioned as a highly satisfying community facility for residents and guests alike at low price. Moreover, Sajik Lotte Castle the Classic will have the Family Zone to offer space for leisure sports and a resting space in the form of a lounge bar where all family members can enjoy.

#### Eco-friendly Design

Amid greater customer needs for a space of harmony with Nature resulting from the eco-friendly culture for well-being, we offer eco-friendly designs for customer convenience and satisfaction. In particular, we plan to install rooftop structures where a protrusive balcony and PV modules are applied to Geumcheon Lotte Castle Gold Park Apartment, seeking to cater to customer needs.

#### Community Space for Infants/Babies and Teenagers

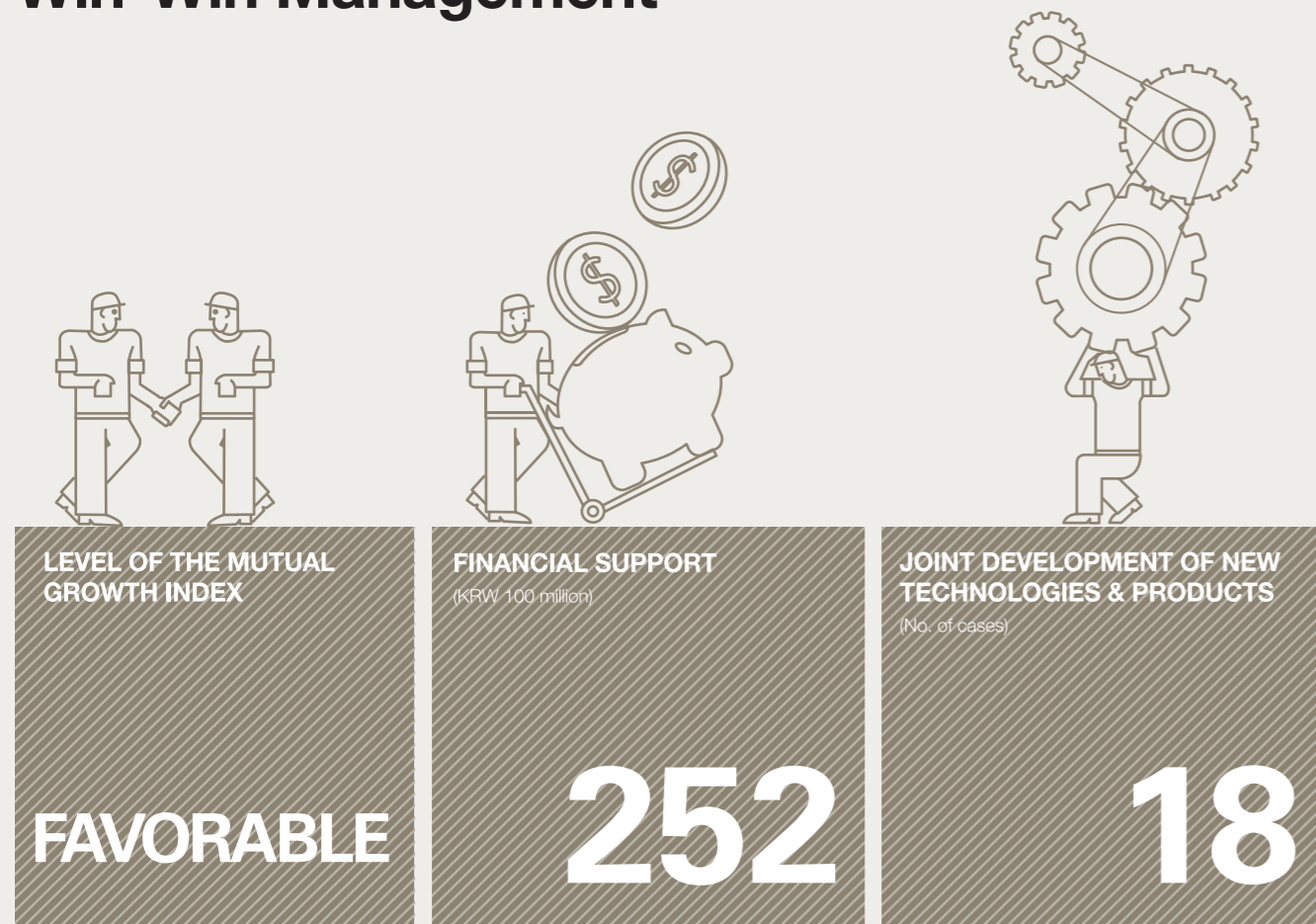
Not just a library and a reading room but also a group study room and a room to read aloud/narrate fairy tales are offered to encourage creativity activities for children of residents. The Castle Mom & Kids Café, a multi-space for children's indoor composite playground and parents' resting place, is specialized for infants/babies and children. It consists of 'Kids Café' equipped with an indoor playground, a party room and a fairy tale reading room, and 'Moms' Café' where networking and small courses on child-raising can be offered.

#### Community Space for the Middle-aged and Elderly

Along with a fitness center and an indoor golf club, the Silver Club is up and running for the residents to enjoy networking, interactions and hobbies through cooking in a main kitchen and a side kitchen.



# Win-Win Management



## RISKS AND OPPORTUNITIES

As the corporate eco-system transforms and economic bi-polarization intensifies, discussions on a sustainable economic system have flourished. Companies taking the lead in initiating mutual growth can scale up their image and avert diverse risks related with suppliers. Yet, once they fail to do so, an enormous amount of loss might be resulted from the damage to the corporate image and limitations in construction bid entries.

## MANAGEMENT APPROACHES

In the construction industry, construction companies heavily rely on their suppliers. Thus, upgrading our suppliers' competitiveness will lead to our sustainable growth. With this goal in mind to achieve a fair society in unity through win-win development, we initiate activities for mutual growth: 'strengthening the self-reliance of suppliers' and 'embodying the fundamentals for mutual growth.'

## VISION

**To be a leading company for mutual growth based on fair trade and interaction**



# Initiation of Mutual growth

We designated suppliers, employees and the government & institutions as our three major partners, and generate values for mutual growth based on the partnership of growing together.

## Infrastructure for Mutual growth

### Strategies for Mutual growth

We share the importance of mutual growth among employees and create a culture of growing together with suppliers in order to become the best company for mutual growth in 2015.

#### VISION

**'To be a leading company for mutual growth based on fair trade and interaction'**

#### Strategic Directions

Establish a fair trade system | Strengthen a support system for suppliers | Spread culture of growing together

#### Execution Tasks

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>Follow Agreement on Fair Trade and Implementation of Four Guidelines</li> </ul> | <ul style="list-style-type: none"> <li>Improve payment methods and dates</li> <li>Reinforce financial support for suppliers</li> <li>Reinforce technical development support for suppliers</li> <li>Reinforce education support for suppliers</li> </ul> | <ul style="list-style-type: none"> <li>Promote a national and international network system</li> </ul> |
|--|--|---|

## Roadmap for Mutual Growth

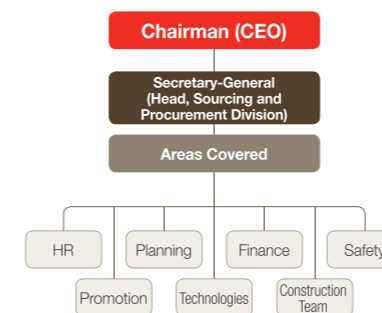
Seeking a continuum of mutual growth, we set a mid-term vision and goals, and implemented key operations phase by phase. In 2013, a corporate culture was put in place with the goal of establishing a system for mutual growth and facilitating investment for it, while wide-ranging activities took place to create the infrastructure for the management system.



## Organization for Mutual Growth

We run the Mutual Growth Promotion Secretariat so that we could devise systematic directions for mutual growth in tandem with such policies of large enterprises and SMEs. The secretariat, under the leadership of the CEO as its chair, initiates five tasks: financial support, training support, technical support, expansion of exchanges and establishment of a fair culture. We maintain a single unit of the Procurement Planning Team as a professional department responsible for mutual growth for training and support for suppliers.

Secretariat for Mutual Growth



## Information Notification System on Consignment

Aiming to provide information on consignment to suppliers prior to the signing of consignment agreements with ample amount of time beforehand, we share such information on new construction sites, amount of sub-contracting fees, construction period and site location via our supplier portal (<http://partner.lottenc.com>).





Poster for the Mutual Growth Campaign

Proposal of Suppliers, an online communication channel



Suppliers of LOTTE E&C can propose ideas & feedback on diverse issues, and ideas on improvement measures and expected results on current systems and operations via the supplier portal.

(<http://winwin.lottecon.co.kr/Proposal/CooperationPurpose>)

## Spread of the culture of mutual growth

### Establishment of a Fair Culture

LOTTE E&C has implemented four guidelines for the establishment of fair subcontract transaction orders between large and small companies to establish fair and horizontal partnership with suppliers. We are also putting forth efforts to wage a campaign on mutual growth to spread the culture of mutual growth and enhance the awareness on it.

### Autonomous Monitoring

Autonomous monitoring is in operation on the compliance on subcontracting laws and status quo on practicing mutual growth. Upon evaluating executives in charge of procurement, records on mutual growth are also evaluated, thus establishing an internal evaluation system to maintain partnerships with suppliers. We continue to monitor such matters as changes on systems for bidding and contracts and violations for legal compliance.

### Training on Subcontracting Laws

A fair culture is established and subcontracting disputes are minimized through training on subcontracting laws for employees. LOTTE E&C holds training programs on internal subcontracting laws for all employees by inviting subcontracting specialists, including the FTC. Moreover, we make an effort to establish a fair subcontracting culture through an onsite lecture circuit by external subcontracting specialists. We plan to spread the awareness on mutual growth by installing relevant banners and placards on mutual growth on sites along with online courses on subcontracting laws for all employees.

### Regular Meetings on Mutual Growth

Regular meetings are held attended by representatives of major units including HR, finance, safety and planning, and construction team directors in each business division so that the status quo can be checked on mutual growth and diverse supporting measures could be devised. The meetings serve as grounds for sharing ideas, complaints, proposals & suggestions for improvement on sites, and the results are reflected in programs and policies for mutual growth.

### Winning the Top Prize at the Korea Mutual Growth Conference 2013

Innovation of a single company cannot result in a successful evolution for survival amid the rapidly changing environment for markets and technologies. We generate values to be shared with suppliers by extending support for their self-reliance and establishing a culture for mutual growth. In 2013, LOTTE E&C was selected as an excellent company in the construction category of Korea Mutual Growth Conference 2013 due to our passionate programs for mutual growth.



Training on subcontracting laws



Winning the top prize at Korea Mutual Growth Conference 2013

Criteria for supplier evaluation



## Partnership with Suppliers

### Selection of Suppliers

We have implemented and complied with the guidelines for selection and management of suppliers to build reliability from the selection stage of suppliers. Screening criteria are disclosed on our website and the supplier portal to bring in transparency and fairness in their selection. The procedure on the guidelines is followed for cancellation of registration based on the supplier evaluation. The guidelines are the norm also for the procedure of selecting based on the open selection for new suppliers and handling complaint applications and conducting re-evaluation.

**Fair Bidding Management System** | We set up the 'Fair Bidding Management System' to impose fair trading opportunities to suppliers. It is a monitoring system to identify the status quo on the bidding entry of suppliers by business area. The data are reflected in selecting final bidders. For consultations on the bidding, the number of participations in the biddings for the previous and current years is to be indicated to provide fair opportunities for all suppliers.

### Supplier Evaluation

LOTTE E&C supports suppliers to maintain excellent quality and improve competitiveness through regular and daily evaluations. Regular evaluation is conducted by the relevant site and the head office once a year in January, while daily evaluation takes place every month in case problems occur. Incentives for competent suppliers include the expansion of contracting opportunities, exemption & reduction of the performance bond policy, and reward and financial support, thus maintaining a trust-based partnership.

### Management of Supplier Risks

Amidst a recent increase in the number of construction orders, inter-company cartels, changes in financially weak companies, which are caused by suppliers, we strive to manage risks beforehand. Our corresponding risk management activities are: strengthening the management of contractual policies, monitoring the portion of trading with failing construction companies, and monitoring credit ratings via credit rating agencies.

## CASE STUDY

### Supplier CSR Sharing Program



As a need to spread CSR escalates, LOTTE E&C supports suppliers' CSR activities. In 2013, we conducted a program to inspect safety and environment of competent suppliers, e.g. safety patrol on sites and sharing of know-how on the safety environment among suppliers.



The head of the Housing Division at LOTTE E&C reviewed the preliminary planning on sites and checked on improvement measures with executives of major suppliers. We plan to induce suppliers' voluntary sustainable management activities by sharing volunteering programs with suppliers and setting strategies for corporate promotion and engagement in volunteering.

Conducting safety control



SPECIAL ISSUE

# REINFORCING THE SELF-RELIANCE OF SUPPLIERS

Wide-ranging activities unfold to reinforce the self-reliance of suppliers for sustainable growth with suppliers.

## Financial Support

We support suppliers to secure funds with ease and achieve stable growth.

**Financial Support Programs** | Seeking to support suppliers to obtain financial soundness and stable growth, we offer diverse types of financial support: direct, mixed, indirect and special ones. For the direct support, we extended loans with no interest amounting to KRW 5 billion to 14 suppliers. For the mixed support, we deposited KRW 20 billion along with the Industrial Bank of Korea (IBK) extending the same amount for the Mutual Growth Fund of LOTTE E&C, totaling KRW 40 billion. For the indirect support, we operate a network loan in proportion to the delivery performance in partnership with IBK starting from 2012. The special support includes the extension of KRW 2 billion to the Corporate Partnership Foundation under the agreement of Industrial Innovation Movement 3.0, totaling KRW 25.2 billion.

**Improvement in Conditions of Subcontract Payment** | Lotte E&C receives payments in 100% cash from suppliers. We are also raising the ratio of cash payments continuously, and we support suppliers' smooth financial flow by ensuring payment within 10 days.

**Drastic Adjustment of the Delivery Unit Cost** | We adjust the delivery unit cost by establishing a favorable adjustment standard for suppliers. Once suppliers voluntarily request for changes in the way raw materials are procured, and when price fluctuations occur for raw materials, the price is adjusted accordingly.

Direct support	Mixed support	Indirect support	Special Support
<b>Win-Win fund</b> · Interest-free loan support for short-term management funds · Urgent fund support for suppliers	<b>Mutual growth fund</b> · Arrange funds by depositing them in Industrial Bank of Korea (IBK), loan support with a decrease of interest rate by 2-3%	<b>Network loan</b> · Loan support based on delivery performance in partnership with IBK	<b>Extension to Corporate Partnership Foundation</b> · Signing the agreement of Industrial Innovation Movement 3.0



## Expansion of Exchanges

We run various communication channels and carry on related activities to share the culture of mutual growth and expand exchanges with suppliers.

**CEO Meetings** | CEO meetings are held where the CEO of LOTTE E&C visits suppliers' head office and plants to listen to their issues and complaints. In 2013, the meetings were held three times to seek ways for mutual development and solidify commitment for mutual growth.

**Hanmaeum Mountain Climbing Event** | We hold the Hanmaeum Mountain Climbing event joined by the CEO and employees along with suppliers for heart-to-heart communication and networking with each other. For this year's event, we had a great time to get to know one another better in an informal setting.



LOTTE E&C's Best Partners Conference



Hanmaeum Mountain Climbing Event



## Training & Competency Buildup

We extend continuous training and reinforce our competency and that of suppliers by reinforcing integrated competitiveness with suppliers.

**Supplier Training** | We fully utilize the Lotte Mutual Growth Academy, an educational & training institution for suppliers. CEOs of suppliers were invited four times in 2013 for seminars on the management/economic outlook and leadership. We also conducted a competency buildup training camp for intermediate-level managers to enhance their job skills. Moreover, about 400 online courses are opened on construction practices, languages and self-development for employees of suppliers.

**Management Consulting** | We held consultations on corporate management and labor management with thirteen companies to enhance the productivity of suppliers. Advisory consultation was offered to improve management weaknesses of five suppliers by engaging in the Management Doctor program organized by the Large and Small Business Cooperation Center of the Federation of Korean Industries.

**Support for Higher Sales of Suppliers** | We participate in overseas fairs and conduct joint brand marketing activities to support suppliers' growth as global players and exploration of overseas channels. In 2013, we sponsored diverse fees for suppliers participating in the Philippine World Building and Construction Exposition (WORLDBEX), including fees for participation, booth, equipment, interpretation and airfare. Moreover, we operate 'LOTTE E&C PARTNERS', a joint pavilion for joint brand marketing utilizing the brand image of LOTTE E&C, paving the way for suppliers' overseas advancement.



Extending support to participate in the 2013 Philippine World Building & Construction Exposition

## Technological Support

Lotte E&C offers joint development of construction technology, patent application assistance for suppliers, etc. to ensure their business stability and provide them with long-term growth engines.

**Development of Joint Technologies & Research** | Our passionate support is extended to technological development for suppliers to gain core mid-to long-term competitiveness. For instance, during the contract period in 2013, we supported the development of eighteen cases of new technologies and products on construction: two cases on new joint technologies, and sixteen cases on the registration of design patents. A total of KRW 186,045,000 was extended to eight joint R&D ventures during the period in 2013.

**Performance Sharing System** | We propose new directions for mutual growth by introducing the first performance sharing system in the construction sector, and paying the rewards for performance sharing in cash to suppliers. In 2013, we signed an agreement.



Joint technological development with suppliers





**Gangdong Lotte Castle First**  
Location | Amsa-dong Gangdong-gu, Seoul  
Construction scale | 40 buildings, 3,226 households

# 2 Build a Great Future

Diverse activities are underway to generate sustainable values throughout the society and environment beyond economic values, which are then shared with stakeholders.

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# Generation and Distribution of Economic Performance

We ensure business competitiveness by continuously expanding the order volume and reducing cost, and pave the way for sustainable growth by sharing generated revenues with stakeholders

## Generation of Economic Performance

### Status of Revenues

Our gross profit on sales dropped despite the increases in revenues as the cost rate went up. The net loss occurred as the year-on-year expenditures rose since some expenses were already reflected.

(Unit: KRW million)

Type	2011	2012	2013
Sales	3,795,483	3,872,573	4,306,336
Gross profit	348,801	404,131	385,708
Operating income	120,842	178,847	50,083
Earnings before tax	38,026	24,157	(281,603)
Net income(loss)	27,798	15,285	(164,379)

### Financial Status

Financing was channeled through corporate bonds and long-term loans. Given the rapidly changing financial market, and economic conditions at home and abroad, funds are securely managed through investment in financial instruments that are stable and easy for cash-in. We plan to manage our shareholders' equity more efficiently by reinforcing the economic analysis on capital expenditures as well as systematic and objective budget allocation.

(Unit: KRW million)

Type	2011	2012	2013
Total assets	5,754,148	5,303,415	5,626,929
Total liabilities	3,445,029	2,982,763	3,509,496
Total shareholders' equity	2,309,119	2,320,652	2,117,433

### Status of Construction Orders

The record for construction orders dropped 10.2% compared to the previous year. This was attributable to the drop in orders for outsourcing development contracts amid the downturn in the domestic housing market along with the reduction in overseas orders. In 2014, we will expand new orders by leveraging the existing hubs of Jordan, China and Indonesia, and strengthen our self-reliance by scaling up the portion of outsourcing contracts in Korea.

(Unit: KRW million)

Type	2011	2012	2013
Amount of new orders	4,966,100	5,472,000	4,913,900
Domestic orders	4,205,800	4,774,100	4,621,700
Overseas orders	760,300	697,900	292,200

\* The financial statement was written according to the Korean International Financial Reporting Standards (K-IFRS), and for data with the closing in 2013, the non-consolidated financial statement was used.

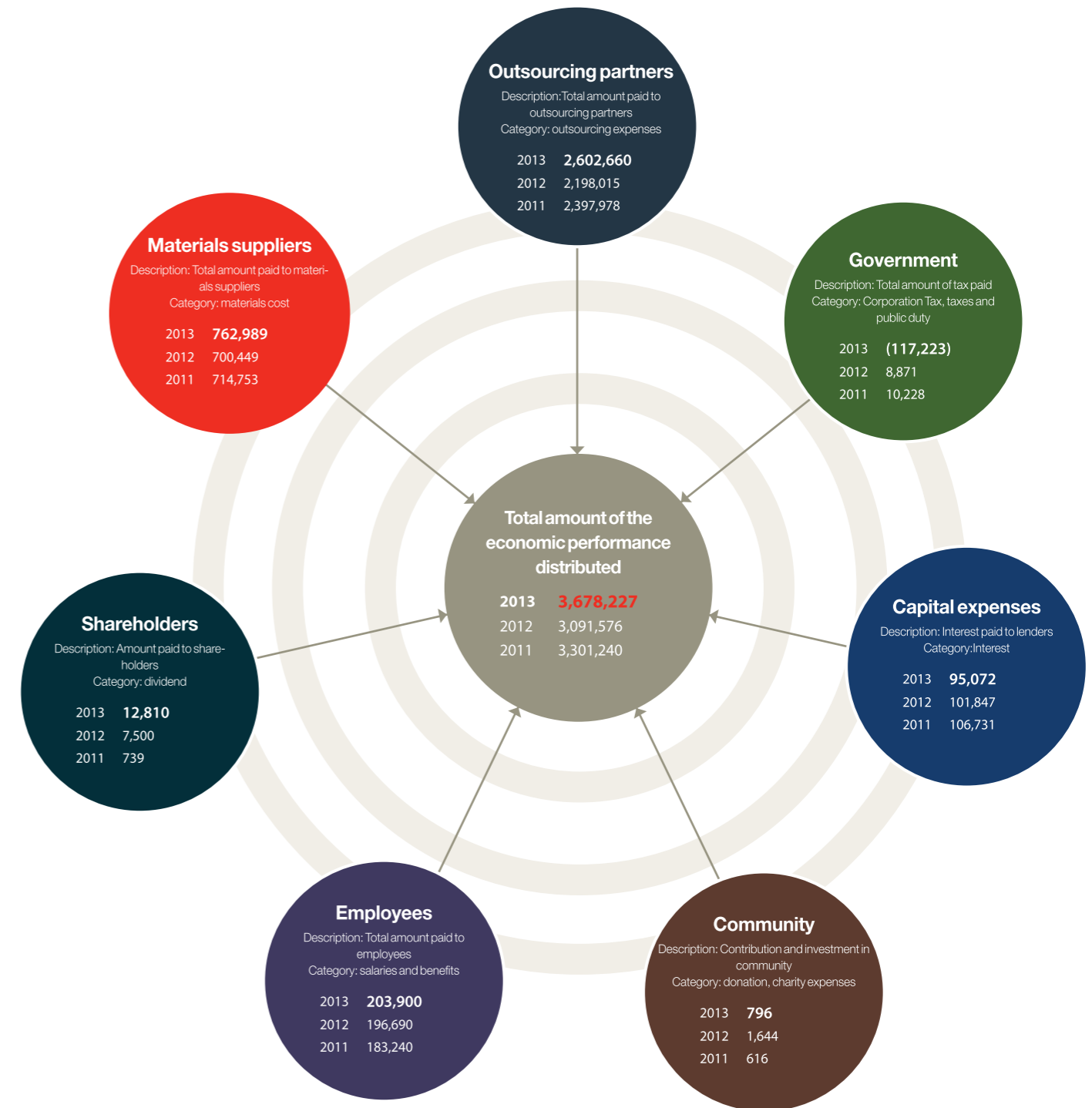
### Giving Back to the Community

We exert direct and indirect influence on balanced growth in the community. Specifically, we facilitate the local economic development by encouraging the local participation in construction and expanded engagement of local subcontractors. Moreover, we gain orders for social infrastructure construction abroad to seek for economic growth there.

## Distribution of Economic Performance

We act out mutual growth with diverse stakeholders by distributing the economic value generated through business activities to shareholders, investors, employees, government, suppliers and community.

(Unit: KRW million)





# Strengthening Technological Competencies

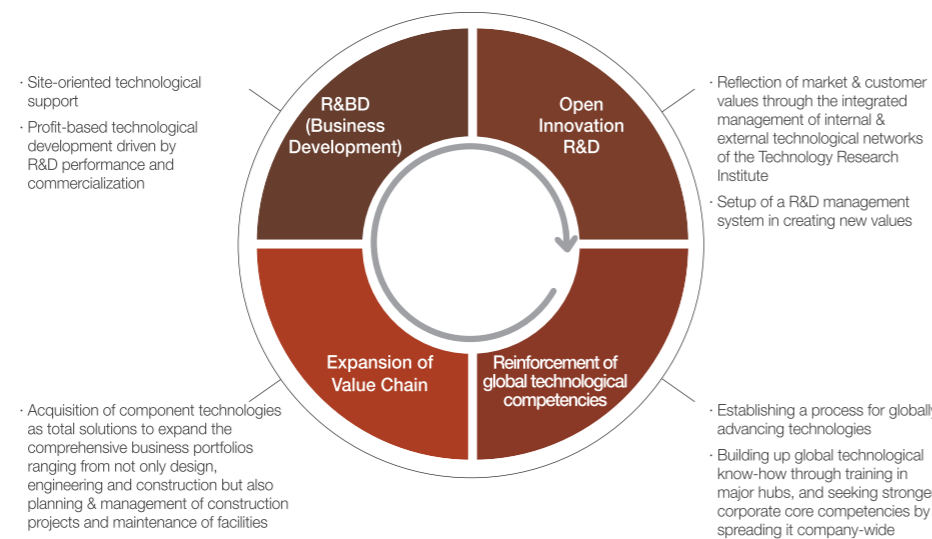
We generate new values based on technologies. Along with exclusive researches in the Technology Research Institute, joint researches with the academia and related industries are conducted. Our technological competencies are scaled up in cooperation with suppliers

## Vision & Mission of the Technology Research Institute

The Technology Research Institute intensifies core technological competencies to achieve our vision of becoming 'ASIA's TOP 10 Construction Value Creator.' Research activities have flourished in diverse fields, e.g. technology & research, knowledge management and value engineering (VE). Productivity and technological prowess are upgraded through on-site technological support and research services. We will secure a competitive edge in the global construction market through differentiated technological development and continued investment.



\*Technological R&D expenses include exclusive technological development fees, service fees for technological development and primary material fees.



## Securing Advanced Technologies

We secure new growth engines, while satisfying customers by developing and acquiring advanced technologies. Component technologies are acquired based on technological constructability accumulated for long, while creative technologies are developed to improve on-site constructability and productivity. Moreover, we are to provide optimal total solutions for comprehensive business fields ranging from construction to facility maintenance. To this end, we have smart pile engineering, Top-Down Method Using the Double Beam System as Strut(DBS) mixed cement method, development of small-scale distributed geothermal system and research on ways to utilize natural energies for road facilities. We also do the utmost for diverse technological development for higher safety and investment efficiency: high-rise buildings, the next-generation key project in construction, long-span cable bridges, high-depth and large-section tunnels, MBR-based advanced treatment of sewage, and production and generation of new & renewable fuels. Over and above the economic performance through the acquisition of leading technologies, we generate social value in the environment and safety aspects for stakeholders.

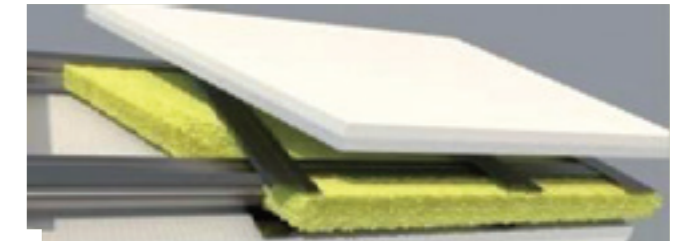
## Major Technological Performance

### 1 | Smart Pile



We achieved joint R&D for 'smart piles' to overcome the end-bearing capacity of the existing bored piles, and bring up the scaffolding of bored piles. The smart pile method is an engineering method to dramatically enhance the end-bearing capacity of bored piles by increasing driveability through PHC piles and steel pipes attached to the end-bearing.

### 2 | Dry Wall System with Highly Efficient Sound Insulation



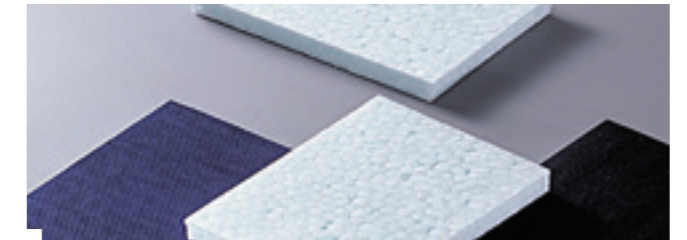
The dry wall system with highly efficient sound insulation was developed as a partition wall system for offices, hotels and apartments. The engineering method boosts a stronger sound insulation function compared to the existing wall structure, while reducing construction cost and shortening the construction period. The performance of the partition wall system compared to the ordinary one is superior by 5-10 dB, while the construction cost is lower than that of the existing wall system by 2-5%.

### 3 | Precast Concrete (PC) Method Using Non Prestressed Strands

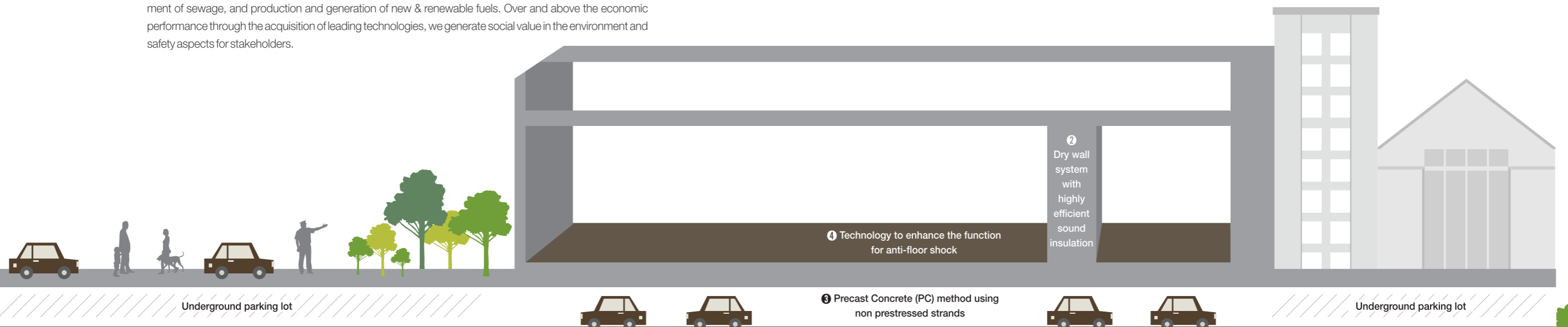


An engineering method based on the non prestressed strands using PC methods is to simply assemble on sites the structural members manufactured in plants. It significantly reduces or eliminates the installation & demolition of re-bar installment and forms and curing of concrete. It can effectively reduce the storey height by lowering the height of beams as the integrity of junctions is secured.

### 4 | Technology to Enhance the Function for Anti-Floor Impact Sound



Since May 2014, the housing performance rating system and the standard for recognizing and managing the anti-floor impact sound functions have been mandatorily applied for apartments with over 1,000 households. They are to indicate the grade for housing performance for the floor impact sound. We plan to develop an optimal structure to block the floor impact sound to cater to legal and social demands





# Preemptive Risk Management

We manage risks throughout corporate management so that responses can be prompt in the rapidly changing management environment and during abrupt crises, and soundness of projects can be ensured.

## Risk Management System and Performance

Systematic risk management takes place through the Risk Management Committee and investment inquiry for prompt responsiveness to changes in the management environment and business soundness. The Risk Management Committee holds quarterly meetings presided over by the CEO. In order to make intuitive decision-making possible on risks, we adopted the 'street light system' [red (failed), yellow (achieved the goal), and green (overly achieved)]. We also induce the department in-charge to devise improvements to be made by developing organized systems and discovering setbacks, and check out whether risks are tracked, managed and addressed. Risks on the agenda are used as data to predict management decisions down the road.

For project risk management, risks are reviewed through organic collaboration among specialists in such diverse fields as marketing, cost estimation, design and construction through the investment inquiry prior to the engagement in a project. The After Instant Analysis (AIA) is in place even post project, reducing project failures and systematically managing possible risks.

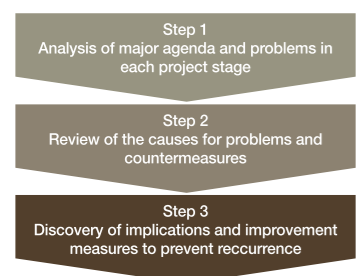
## Risk Management Activities

We collect and analyze internal and external information including major construction indicators such as the amount permitted and ordered amid the increasing uncertainties in the construction market. We establish a prompt information sharing system by computing major management indicators, and come up with countermeasures in cooperation with the department in-charge based on the information acquired. In 2013, we focused on analyzing the status of LOTTE E&C and the soundness of business structure by identifying competitors' engagement in new projects at home and abroad and analyzing the sales structure.

### Organization of Risk Management



### Procedure for AIA analysis for finished projects



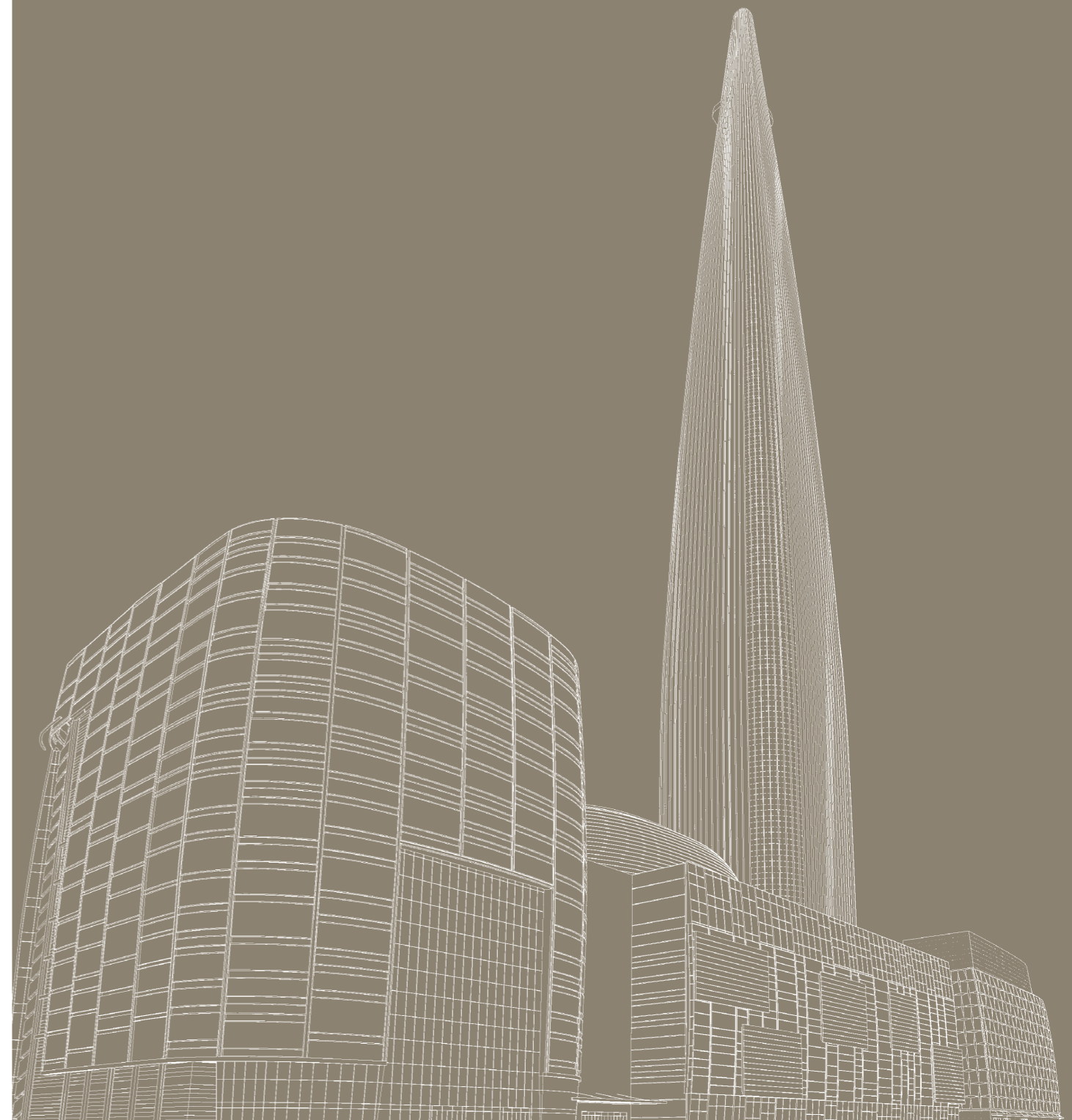
- Economic & market trends
- Risk management
- Competitor trends

**Internal & External Environmental Analysis** | We collect and analyze internal and external information including major construction indicators such as the amount permitted and ordered amid the increasing uncertainties in the construction market. We establish a prompt information sharing system by computing major management indicators, and come up with countermeasures in cooperation with the department in charge based on the information acquired. In 2013, we focused on analyzing the status of LOTTE E&C and the soundness of business structure by identifying competitors' engagement in new projects at home and abroad and analyzing the sales structure.



- Order performance management
- Basic management information
- Cash flow
- Facilitating non-floating assets
- Cost reduction

**Securing Financial Soundness** | Aiming to enhance cash flow along with risk management for basic management information such as orders and sales, we streamline financial statements and improve liquidity by forecasting regular surpluses. In 2013, particularly, analyses on past data such as sales and borrowings and also on current trends took place. These are used as data to forecast management activities and also as references for decision-making by top management.



# 3 LOTTE WORLD TOWER



## Sustainability Efforts and Performance Applied to Lotte World Tower and Lotte World Mall

The Lotte World Tower and Lotte World Mall where all our competencies are clustered are to serve as Korea's landmarks. Eco-friendly and high-rise building technologies were applied for their design, while safety was ingrained as the top priority throughout the whole process of construction.

### Inducement effects for investment, production, tourism and employment



**7,000,000,000,000 (₩)**

Investment of app. KRW 3.5 trillion, Production inducement effects of KRW 7 trillion



**4,000,000 (No. of people)**

Construction workforce of 4 million during the construction period, Generating 20,000 full-time workers/employees



**1,500,000 (No. of people)**

1.5 million overseas tourists a year (2.5 million including those for Lotte World)  
Tourism revenues of KRW 300 billion a year





# ECO-FRIENDLY LOTTE WORLD TOWER AND LOTTE WORLD MALL

We are in the middle of constructing Lotte World Tower and Lotte World Mall as cutting-edge composite spaces in a new concept, being ready to serve as global landmarks beyond Korea. Befitting their prestige as Korea's landmarks, they are in the form of 'an eco-friendly green composite complex' to represent Korea.

## Initiation to Acquire Certifications for Eco-friendly Buildings at Home and Abroad

Lotte World Mall was finally recognized as the green building of top excellence on June 13, 2014 through the main certification procedure of Korea Research Institute of Eco-Environmental Architecture. Lotte World Mall was designed in a concept of 'an eco-friendly multi-functional complex that reduces energy.' It gained high grades in the adoption of new & renewable energy systems and cutting-edge technological application.

A green space was also formed dotted with diverse trees and plants, and covered with grasses within the Eco Park on the upper part of the underground road of Jamsil-gil and on the World Park within the complex. A sufficient green axis is available that connects from the Seokchon Lake. We plan to acquire the Gold Grade in the Leadership Environmental Energy Design (LEED)\*, a worldwide eco-friendly building certification standard.

\* LEED : A program to certify sustainable buildings developed by the USGBC (U.S. Green Building Council (USGBC) in 1998 that quantifies buildings' eco-friendliness & energy efficiency

## High-rise Buildings Adopting the Clean Development Mechanism (CDM) for the First Time in the World

We plan to adopt new & renewable energy technologies including solar, wind, PV and geothermal energies by voluntarily taking part in energy & GHG reduction policy initiatives, and utilizing new & renewable energies (including the energy not utilized) by 14.53% of the total energy used. Of particular importance is the fact that we adopted the Clean Development Mechanism (CDM) required by the UNFCCC and the Kyoto Protocol, and acquired the government approval.

Our usage of PV and wind energies has been registered at the UNFCCC on December 30, 2013, while that of solar and geothermal ones are to be registered as of August 2014. Once our CDM project is registered after the review of UN CDM Executive Board, we are to secure the CERs of app. 18,353 tons for the next decade, which is almost equivalent to planting 2.04 million pine trees (as for 10-year-old pine trees, to be more precise).

\*CDM(Clean Development Mechanism) : A system adopted to ease the cost burden required to achieve reduction goals for advanced countries that are mandated to reduce GHG emissions according to the UNFCCC and the Kyoto Protocol



# CREATION OF ENVIRONMENTAL VALUES BY ADOPTING NEW & RENEWABLE ENERGIES

## Geothermal Energy

Korea's largest geothermal system to be installed inside a building will be installed in the form of a heat exchanger 150~200m under the ground. It is to generate the energy of 115.69TJ a year and used for cooling and heating of buildings.



Cooling and heating system used geothermal energy

## Solar Energy

Solar energy will be converted into heat to be used to supply hot water in buildings. Solar modules are installed on the rooftop of 300m<sup>2</sup> of the Avenue Building, maximizing efficiency in absorbing and storing solar energy.



Solar Energy system

## PV System

The canopies of Lotte World Tower and PV facilities installed on the rooftop of Lotte World Mall are to generate electric power of 3,142Mwh a year and reduce CO<sub>2</sub> emissions of 222 tons.



PV system

## Wind Energy

We plan to install vertical-axis wind generators in Lotte World Tower where the height of 555m is to be leveraged for wind power generation using the wind velocity of 5.1 m/s. Advantages of PV and wind energy are to be combined in different parts of the complex, enabling the installation of hybrid street lights that emit light through self-power generation

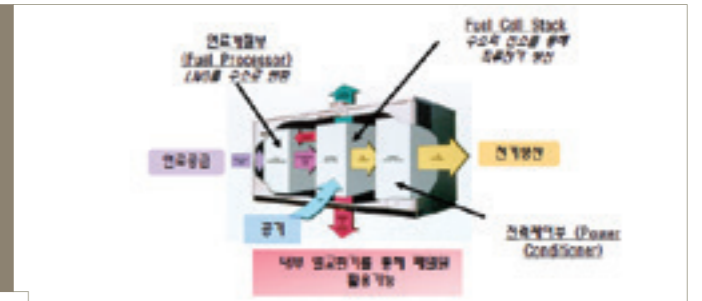


Vertical-axis wind generators

Hybrid street lights

## Fuel Cells

Fuel cells in the underground energy center can convert the chemical energies of hydrogen and oxygen that comprise natural gas into electric energy, thus producing electric power of 800kW.



Fuel Cells



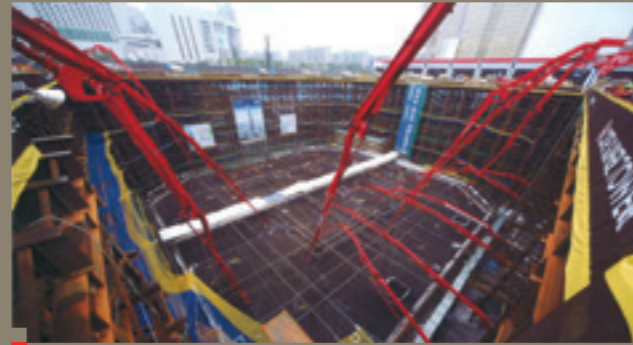
# CORE TECHNOLOGIES FOR HIGH-RISE BUILDINGS

## Mixing of Ultra-Low Heat Concrete & MAT Pumping Method

Ultra-low heat concrete was used which generates little hydration heat so that the large MAT foundation can be pumped at once for 32 straight hours. We developed and applied concrete mixing based on prior heat analysis and mock-up test so that the maximum temperature in the central area does not exceed 60 degrees Celsius.



A front side of pumping the MAT foundation



Pumping the MAT foundation

## Concrete Pumping Technology for High-Rise Buildings \*

In order to construct a high-rise building according to the set protocol, a technology to directly pump concrete up to 520m is required. Since high-strength concrete is difficult to be pumped, a mixing technology to soften the concrete paste as well as the high-pressure concrete pumping equipment are required. Constant quality control takes place through monitoring.



C.P.B.(Concrete Placing Boom)



High-Pressure Pump

\* Pumping method: A method to pull up the softly mixed high-strength concrete to a high-pressure pump so that it can be pumped to a form

## Lifting Optimization Technology

Tower cranes and construction lifts (hoists) are allocated and operated to enable efficient delivery, considering the maximum weight of materials and the location of yards.



Tower cranes



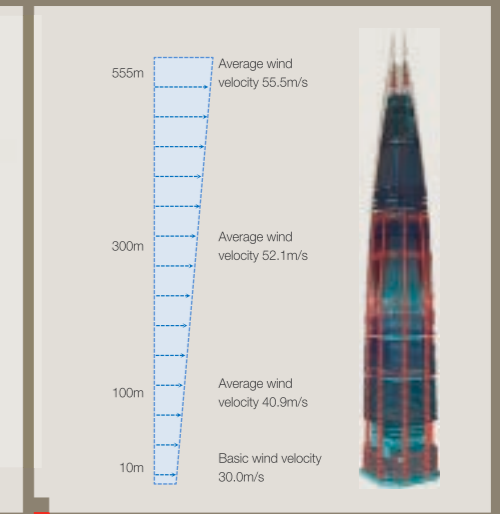
Construction lifts (Hoists)

## High-Precision Surveying and Verticality Control Technology

For a high-rise building, even an error of one degree from the surface would lead to a height difference of 8.72m for 500m height, thus requiring the high-precision surveying technology with no margin error. In order to maintain the errorless verticality control, satellite surveying receivers are installed on the highest floor along with the reference station built on the ground. As such, surveying data is received from over four satellites to rectify errors through the Global Navigation Satellite System (GNSS).

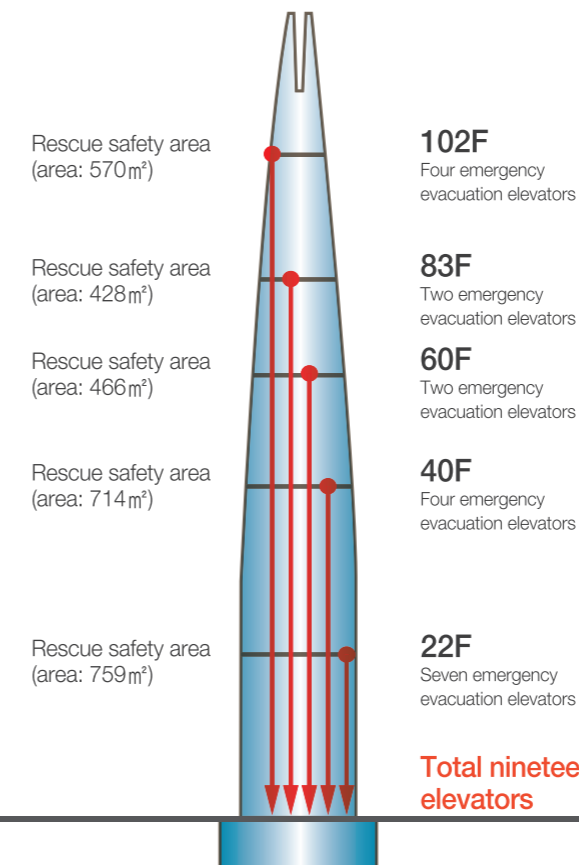


Satellite surveying system



Basic wind velocity & average wind velocity

# CUTTING-EDGE FIRE SAFETY DESIGN



Rescue safety areas and emergency evacuation elevators

### Installation of Rescue Safety Areas

We plan to install five safety areas for rescue during a disaster on every 20 to 30 floors, and 'life boats,' namely, emergency evacuation elevators.

\* Having emergency evacuation elevators consisting of 10 single-decks and 9 double-decks

### Operation of the Fire Safety Center

We plan to operate two fire safety centers in Lotte World Tower and Lotte World Mall, securing safety in all system operations including fire safety and security, and installing thermal imaging monitoring facilities along with fire detectors in major inspection areas. This will enable us to detect and respond to fire at an early stage.

### Development of a Manual on Disaster Response

We developed a manual on responses and actions against such disaster emergencies as earthquake, fire and terrorism, striving to minimize the casualties.



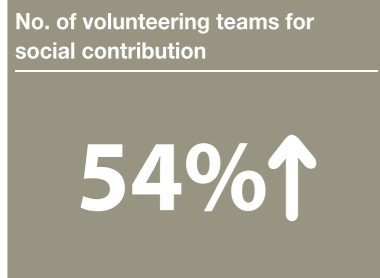
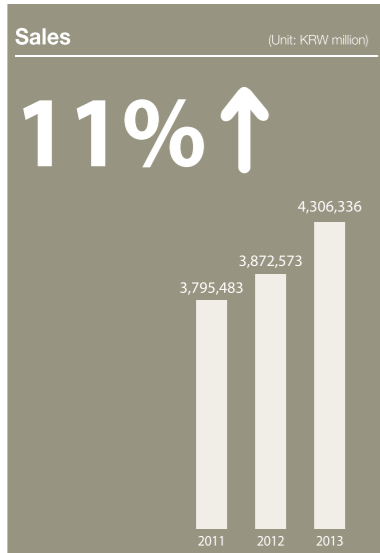


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# Highlights of Sustainability Performance



## Economic Performance

We enhanced our competitiveness for the future by striving to enhance cost competitiveness and securing technologies for high-rise buildings and eco-friendliness. As a result of endless management innovation in the scale-up of management fundamentals, business process, growth strategies and business structure, we achieved revenues of KRW 4.3 trillion in 2013.

(Unit: KRW million)

Type	2011	2012	2013
Sales	3,795,483	3,872,573	4,306,336
Gross profit	348,801	404,131	385,708
Operating income	120,842	178,847	50,083
Earnings before tax	38,026	24,156	(281,603)
Net income	27,798	15,285	(164,379)
Total assets	5,754,148	5,303,415	5,626,929
Orders Total	4,966,100	5,472,000	4,913,900
- Domestic orders	4,205,800	4,774,100	4,621,700
- Overseas orders	760,300	697,900	292,200
Economic performance distributed	3,301,240	3,091,576	3,678,227

## Social Performance

Economic values are shared with such stakeholders as employees, customers, suppliers and communities through business activities. We make proactive responses to stakeholders' demands and major issues of relevance to grow along with them, while fulfilling our CSR.

Type	Category	Unit	2011	2012	2013
Current Status of Employees	Total number of employees <sup>1)</sup>	people	2,944	2,950	2,900
	Rate of regular employees <sup>2)</sup>	%	70.8	73.3	73
	Rate of contract-based employees	%	29.2	26.7	27
	Number of male employees	people	2,804	2,803	2,768
	Number of female employees	people	140	147	132
Female Leadership	Female employee ratio	%	4.8	5	4.6
	Female executive <sup>3)</sup> ratio	%	0.3	0.4	0.6
Current Status of the Disabled	Total number of the disabled employed	people	30	34	36
Employment Status	No. of turnovers <sup>4)</sup>	people	178	129	118
	No. of local recruits	people	128	118	159
	No. of local talents recruited for early openings	people	33	42	17
Status for maternity & childcare leave	Work return rate after maternity & childcare leave	male %	-	-	100
		female %	75	100	80
	Rate of working for over 12 months after return from leave	male %	-	-	100
		female %	50	83.3	80
Talent Development <sup>5)</sup>	Total number of trainees	people	2,944	2,950	2,900
	Total training expenses	KRW million	3,706	4,321	3,324
	Training hours per individual	hour	79	86	91
Status of ethical management	Number of employees participated in ethical management training People <sup>6)</sup>	people	2,934	2,860	2,900
	Number of violations of ethical practice <sup>7)</sup>	case	14	9	15
Status of Social Contribution Activities	Expenses for social contribution	KRW million	615.7	1,644	796.2
	No. of employees participating in volunteering	people	860	1,903	1,897
	No. of volunteering teams for social contribution	Number	17	50	77

1) Total number of employees and contract-based employees (excluding those dispatched and subcontracted)  
 2) Total number including executives and those under an open-ended contract  
 3) Ratio of female managers ('Level M' and above) to total employees. The calculation standard changed, so the 2012 data was replaced by these data / The ratio of total employees  
 4) Calculated based on regular employees  
 5) Calculated based on regular employees  
 6) The calculation standard for trainees for ethical management changed, so the data of 2011 and 2012 were replaced by these data.  
 7) Due to the calculation errors, the 2012 data was replaced by these data

## Environmental Performance

We initiate strategic environmental management and safety & health management based on the awareness of the importance of the environment and safety. The amount used for materials, waste, energy and water is managed to minimize the environmental impact resulting from business activities. Our sites are made safer through intensified on-site safety activities.

\* Scope of data collection: 221 sites in 2011, 235 sites in 2012 and 197 sites & 3 buildings in 2013 (head office, Saerom Building, Yonhyo Building)

Type	Category	Unit	2011	2012	2013
Material consumption	Ready-mix concrete	m <sup>3</sup>	1,985,530	2,011,156	2,650,201
	Cement	Ton	92,500	118,275	442,475
	Aggregate	m <sup>3</sup>	256,339	171,735	243,055
	Asphalt concrete	Ton	302,235	268,509	358,635
	Sand	m <sup>3</sup>	94,091	152,164	101,942
	Rebar	Ton	184,811	220,978	222,115
	Plaster board	board	1,961,220	844,092	712,527
Recycled aggregate consumption	m <sup>3</sup>	15,031	7,052	17,117	
Waste generation	Waste concrete	Ton	266,587	179,523	230,712
	Waste asphalt concrete	Ton	53,420	37,003	32,522
	Wood wastes	Ton	6,054	4,768	6,765
	Waste synthetic resins	Ton	3,717	6,417	7,133
	Waste soil and stones	Ton	104,946	7,444	65,518
	Construction sludge	Ton	1,210	389	1,276
	Roof tile wastes	Ton		372	
	Tile/ceramic wastes	Ton		15	
	Waste bricks	Ton	0	364	0
	Waste blocks	Ton		601	
	Textile wastes	Ton	30	233	24
Waste boards	Ton	592	717	1,860	
Waste glass	Ton	0	0	0	
Mixed construction waste	Ton	130,948	69,683	89,852	
Energy Consumption	Total	TJ	1,325	1,333	2,997
	Steam	TJ			1,991
	Electricity	TJ	1,276	1,260	779
	Others <sup>1)</sup>	TJ	50	73	227
GHG emissions	Total	tCO <sub>2</sub> e	64,128	64,495	51,597
	Scope 1(direct emissions)	tCO <sub>2</sub> e	3,009	4,140	13,756
	Scope 2(indirect emissions)	tCO <sub>2</sub> e	61,119	60,355	37,841
Water consumption	Water and sewage consumption	Ton	631,534	1,011,816	1,374,452
	Underground water consumption	Ton	95,709	147,125	333,816
Accident rate	Industrial accident rate	%	0.22	0.11	0.17

1) Others : LNG,LPG, Gasoline, Diesel, Kerosene



# Third-Party Assurance Report

## Introduction

DNV GL Business Assurance Korea Ltd. (hereinafter "DNV GL") is commissioned to carry out the assurance engagement of the 2014 Sustainability Report (hereinafter "the Report") of LOTTE Engineering & Construction Co.,Ltd. (hereinafter "LOTTE E&C"). This engagement focused on the information provided in the Report and the underlying management and reporting processes. LOTTE E&C is responsible for the collection, analysis, aggregation and presentation of all information within the Report. DNV GL's responsibility in performing the work follows terms of reference and scope of work agreed. The assurance engagement is based on the assumption that the data and information provided to us is complete, sufficient and authentic. LOTTE E&C's stakeholders are the intended recipients of the assurance statement.

## Scope of Assurance

This Assurance Engagement covered data and information presented only in the report. The scope of DNV GL's Assurance Engagement includes the review and assessment of followings:

- Evaluation of the reporting principles for defining the sustainability report content and the quality in the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines G3.1
- Evaluation of adherence to the principles on the collection, evaluation, and dissemination of information in DNV GL's Verification Protocol for Sustainability Reporting (Verisustain™ v4.1), with the moderate level of assurance
- Review GRI application Level applied to the report

## Limitation

The engagement excluded the sustainability management, performance and reporting practices of LOTTE E&C's suppliers, contractors and any third-parties mentioned in the Report. DNV GL did not interview external stakeholders as part of this Assurance Engagement. Any financial information from LOTTE E&C's annual report and company reporting on operations in 2013-2014 or other sources are not included in the scope of the Assurance. Economic performances based on the financial data were cross-checked with internal documents and the audited financial statements. The aggregation and calculation process for building economic performances is reviewed and tested by the verification team. The baseline data for Environmental and Social performance are not verified, while the aggregated data are used for the verification. DNV GL expressly disclaims any liability or coresponsibility for any decision a person or an entity may make based on this Assurance Statement.

## Verification Methodology

The Assurance Engagement was planned and carried out in accordance with the DNV GL Verification Protocol for Sustainability Reporting (VeriSustain™ V.4.1). As part of the verification, we 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. In accordance with the Protocol, the Report was evaluated with regard to the following criteria: DNV GL has examined and reviewed documents, data and other information made available by LOTTE E&C. We performed sample-based audits of;

- The process for determining the materiality of the contents to be included in the Report.
- The process for generating, gathering and managing the quantitative and qualitative data in the Report.
- The accuracy of data
- Visit to LOTTE E&C's Head office in Korea

## Conclusion

In DNV GL's opinion, and based on the scope of this Assurance Engagement, the Report provides a reliable and fair representation of LOTTE E&C's sustainability strategy, policy, practices and performance in 2013. The GRI application Level is "A+". Further opinions with GRI G3.1 principles for defining report content are made below;

### Inclusivity

LOTTE E&C has engaged with a wide range of stakeholders. Internal and external stakeholders were identified. LOTTE E&C derived expectations and interests of stakeholders from a survey and a research. Issues were drawn

and prioritized through a materiality aspect assessment. Main issues were clearly represented in the report. In our

view, the level at which the Report adheres to the principle of Inclusivity is 'Good'.

### Materiality

LOTTE E&C has formed a sustainability issue pool by analysing international sustainability standards, media news, issues addressed by industry peer group and internal documents. The issue pool is the basis of screening relevant issues. LOTTE E&C has mapped out the significance and influence of issues and prioritized sustainability issues that are most material. The output of the process clearly brings out material issues. In our view, the level at which the Report adheres to the principle of Materiality is 'Good'.

### Responsiveness:

Stakeholders' views, interests and expectations are considered in the preparation of the Report and in the formulation of sustainability management strategy. LOTTE E&C has stated CSR strategy and sustainability governance in the Report. The material issues are provided in the report, which improves the responsiveness. In our view, the level at which the Report adheres to the principle of Responsiveness is 'Good'.

### Completeness:

LOTTE E&C attempted to apply GRI index for reporting to covering performance of all areas. The report includes performance of issues through the material aspect assessment. In our view, the level at which the Report adheres to the principle of Completeness is 'Good'.

## Opportunities for Improvement

The following is an excerpt from the observations and opportunities reported to LOTTE E&C's management. However, these do not affect our conclusions on the Report and are provided to encourage continual improvement.

- Enhancing the engagement with stakeholders to identify their expectations and interests over LOTTE E&C
- Establishing a process to improve the quality of data and information which are integrated into the Report

## Statement of Competence and Independence

DNV GL is a leading provider of sustainability services, including the verification of sustainability reports. Our environmental and social assurance specialists operate in over 100 countries. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV GL maintains complete impartiality toward stakeholders interviewed during the verification process.



August 2014  
Seoul, Republic of Korea

**In-Kyoon Ahn**  
Country Manager



# GRI Index

● Fully reported ○ Partially reported ○ Not reported N/A Not applicable

## Common Indicators

Number	Description	Page	Coverage	Remarks
<b>Strategy and Analysis</b>				
1.1	CEO's Message	6, 7	●	
1.2	Opportunities and Challenges	4-7	●	
<b>Organizational Profile</b>				
2.1	Name of the organization	8, 9	●	
2.2	Primary brands and products	10-14	●	
2.3	Operational structure	8-14	●	
2.4	Location of organization's headquarters	8	●	
2.5	Names of countries with major operations	8	●	
2.6	Nature of ownership and legal form	15	●	
2.7	Markets served	8	●	
2.8	Scale of the reporting organization	64, 78	●	
2.9	Significant changes during the reporting period regarding size, structure, or ownership	8, 9, 15, 64	●	
2.10	Awards received	86	●	
<b>Organizational Profile</b>				
3.1	Reporting period	About This Report	●	
3.2	Date of most recent previous report	About This Report	●	
3.3	Reporting cycle	About This Report	●	
3.4	Contact point for questions regarding the report or its contents	About This Report	●	
<b>Report profile</b>				
3.5	Process for defining report content	2, 3	●	
3.6	Boundary of the report	About This Report	●	
3.7	State any specific limitations on the scope or boundary of the report	About This Report	●	
3.8	Basis for reporting on entities that can significantly affect comparability from period and/or between organizations	-	●	Additionally written in the text
3.9	Date measurement techniques and the bases of calculations	-	●	Additionally written in the text
3.10	Explanation of the effect of any re-statement of information provided in earlier reports	-	●	Additionally written in the text
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report	About This Report	●	
<b>GRI Content Index</b>				
3.12	GRI Content Index	82-85	●	
<b>Assurance</b>				
3.13	Policy and current practice with regard to seeking external assurance for the report	80, 81	●	
<b>Governance</b>				
4.1	Governance structure of the organization	15	●	
4.2	Indicate whether the Chair of the highest governance body is also an executive officer	15	●	
4.3	The number and gender of members of the highest governance body	15	●	
4.4	Mechanism for shareholders and employees to provide recommendations or direction to the highest governance body	15	●	
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives	15	●	
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided	15	●	
4.7	Process for determining the composition, qualifications, and expertise of the members of the highest governance body	15	●	
4.8	Statements of mission or values, codes of conduct, and principles	2	●	
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance	15	●	
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental and social performance	15	●	
<b>Commitments to external initiatives</b>				
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	68	●	
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	82-85	●	
4.13	Memberships in associations and/or national/international advocacy organizations	86	●	
<b>Stakeholder engagement</b>				
4.14	List of stakeholder groups engaged by the organization	16, 17	●	
4.15	Basis for identification and selection of stakeholders with whom to engage	16, 17	●	
4.16	Approaches to stakeholder engagement	16, 17	●	
4.17	Key topics and concerns that have been raised through stakeholder engagement and how the organization has responded to those key topics and concerns	16, 17	●	

## Economic Indicators

Number	Description	Page	Coverage	Remarks
<b>Economic</b>				
EC1	Direct economic value generated and distributed	64, 65	●	
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	20-23	●	
EC3	Coverage of the organization's defined benefit plan obligations	39	●	
EC4	Significant financial assistance received from government	-	N/A	
<b>Market presence</b>				
EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation	39	●	
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation	59	○	
EC7	Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation	78	●	Local people hired : 159
<b>Indirect economic impacts</b>				
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit (including type of provision)	48-51, 56-61	●	
EC9	Understanding and describing significant indirect economic impacts (including the extent of impacts)	64, 65	●	

## Environmental Indicators

● Fully reported ○ Partially reported ○ Not reported N/A Not applicable

Number	Description	Page	Coverage	Remarks
<b>Materials</b>				
EN1	Materials used by weight or volume	79	●	Material consumption
EN2	Percentage of materials used that are recycled input materials	79	●	Recycled aggregate consumption
<b>Energy</b>				
EN3	Direct energy consumption by primary energy source	79	●	
EN4	Indirect energy consumption by primary energy source	79	●	
EN5	Energy saved due to conservation and efficiency improvements	22	●	
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	26, 30	●	Operation of green buildings
EN7	Initiatives to reduce indirect energy consumption and reductions achieved	-	○	
<b>Water</b>				
EN8	Total water withdrawal by source	79	●	
EN9	Water sources significantly affected by withdrawal of water	-	●	No water sources are significantly affected
EN10	Percentage and total volume of water recycled and reused	-	●	No amount used
<b>Biodiversity</b>				
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	28, 29	●	All the sites of Lotte E&C
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	28	●	
EN13	Habitats protected or restored	28	●	
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity	28, 29	●	Installation of facilities to prevent water pollution, e.g. grit chambers, membrane structures for prevention of filth, and diversion waterways
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	28	●	
<b>Emissions, effluents, and waste</b>				
EN16	Total direct and indirect greenhouse gas emissions by weight	79	●	
EN17	Other relevant indirect greenhouse gas emissions by weight	-	●	Not managed separately
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved	22, 25, 30	●	Eco-friendly construction materials and buildings
EN19	Emissions of ozone-depleting substances by weight	-	N/A	
EN20	NO <sub>x</sub> , SO <sub>x</sub> , and other significant air emissions by type and weight	29	●	Scattering dust control
EN21	Total water discharge by quality and destination	29	○	
EN22	Total weight of waste by type and disposal method	79	●	
EN23	Total number and volume of significant spills	-	●	No spills occurred
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	-	●	No hazardous waste was shipped internationally
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	29	●	
<b>Products and services</b>				
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	26, 30	●	Usage of eco-friendly construction materials and operation of green buildings
EN27	Percentage of products sold and their packaging materials that are reclaimed	-	N/A	
<b>Compliance</b>				
EN28	Monetary value of significant fines and total number of nonmonetary sanctions for noncompliance with environmental laws and regulations	-	●	No fines or sanctions were imposed
<b>Transportation</b>				
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	-	●	No critical impact on the environment
<b>Overall</b>				
EN30	Total environmental protection expenditures and investments	24	●	Technological development expenses

## Labor Indicators

Number	Description	Page	Coverage	Remarks
<b>Employment</b>				
LA1	Total workforce by employment type, employment contract, and region, broken down by gender	78	●	
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region	78	●	
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	39	●	Management of welfare benefit schemes
<b>Labormanagement relations</b>				
LA4	Percentage of employees covered by collective bargaining agreements	41	●	Holding labor-management councils
LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements	-	●	Immediately notifying employees when operational changes occur
<b>Occupational health and safety</b>				
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees	41	●	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region	33	●	
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases	32-34	●	
LA9	Health and safety topics covered in formal agreements with trade unions	41	●	



● Fully reported ○ Partially reported ○ Not reported N/A Not applicable

Number	Description	Page	Coverage	Remarks
<b>Training and education</b>				
LA10	Average hours of training per year per employee by gender, and by employee category	78	●	
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	39, 39, 43	●	
LA12	Percentage of employees receiving regular performance and career development reviews, by gender	-	●	96.9%
<b>Diversity and equal opportunity</b>				
LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	15, 78	●	
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	-	●	No gender discrimination in salary structures
LA15	Return to work and retention rates after parental leave by gender	78	●	

**Social Indicators**


Number	Description	Page	Coverage	Remarks
<b>Local community</b>				
SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	29, 68	●	Environmental check-up and risk management
<b>Corruption</b>				
SO2	Percentage and total number of business units analyzed for risks related to corruption	46	●	Management and discovery of company-wide ethical risks
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures	47, 78	●	
SO4	Actions taken in response to incidents of corruption	-	●	15 employees (disciplinary actions, e.g. wage reduction and reprimand)
<b>Public policy</b>				
SO5	Public policy positions and participation in public policy development and lobbying	26	●	Performed national projects with the government
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	-	N/A	
<b>Anti-competitive behavior</b>				
SO7	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes	-	●	No violations during the reporting period
<b>Compliance</b>				
SO8	Monetary value of significant fines and total number of nonmonetary sanctions for noncompliance with laws and regulations	-	●	No violations during the reporting period
SO9	Environmental friendly construction management and activities	27-30	●	
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities	27-30	●	

**Human Rights Indicators**


Number	Description	Page	Coverage	Remarks
<b>Investment and procurement practices</b>				
HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening	-	N/A	No significant investment agreements have undergone human rights screening but articles related to human rights will be included in agreements in near future
HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken	46	●	
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	41	●	Training to prevent sexual harassment
<b>Nondiscrimination</b>				
HR4	Total number of incidents of discrimination and corrective actions taken	-	●	No incidents of discrimination occurred
<b>Freedom of association and collective bargaining</b>				
HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights	41	●	Holding labor-management councils and operating various communication channels
<b>Child labor</b>				
HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	-	●	Compliance with the Labor Standards Act
<b>Forced and compulsory labor</b>				
HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of all forms of forced or compulsory labor	-	●	Compliance with the Labor Standards Act
<b>Security practices</b>				
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations	-	●	Compliance with the Labor Standards Act
<b>Indigenous rights</b>				
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken	-	●	No violations occurred
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments	46	●	
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance	46	●	

● Fully reported ○ Partially reported ○ Not reported N/A Not applicable

**Product Responsibility**

Number	Description	Page	Coverage	Remarks
<b>Customer health and safety</b>				
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	28, 29	●	Environmental impact reduction activities in the whole process of the operation
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes	-	●	No violation occurred
<b>Product and service labeling</b>				
PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements	-	●	No violation occurred
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	-	●	No violation occurred
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	53, 54	●	Level of satisfaction on happy call
<b>Marketing communications</b>				
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship		●	<a href="http://ethics.lottecon.co.kr/">http://ethics.lottecon.co.kr/</a> Refer to the website of LOTTE E&C
PR7	Total number of incidents of noncompliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes	-	●	No violation occurred
<b>Customer privacy</b>				
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	-	●	No complaints received
<b>Compliance</b>				
PR9	Monetary value of significant fines for noncompliance with laws and regulations concerning the provision and use of products and Compliance services	-	●	No violation occurred

**Additional indicators in the construction industry**

Number	Description	Page	Coverage	Remarks
<b>Customers health and stability</b>				
CRE1	Building energy intensity	85	○	10968.9(As for the head office, amount of energy used a year / personnel [Kwh / No. of people])
CRE2	Water use intensity in buildings	85	○	
CRE3	Greenhouse gas emissions intensity from buildings	85	○	2.15As for the head office, amount of total GHG emission / personnel [(CO <sub>2</sub> -e / No. of people)]
CRE4	Greenhouse gas emissions intensity from new construction and redevelopment activity	85	○	7.48(As for the domestic, (CO <sub>2</sub> -e / KFW million )
CRE5	Land and other assets remediated and in need of remediation for the existing or intended land use according to applicable legal designations	85	●	No plan to restore the land pursuant to laws
CRE6	Percentage of the organization operation in verified compliance with an internationally recognized health and safety management system		●	<a href="http://www.lottecon.co.kr/sustainability/safetys">http://www.lottecon.co.kr/sustainability/safetys</a> Refer to the website of LOTTE E&C
CRE7	Number of persons voluntarily and involuntarily displaced and/or resettled by development, broken down by project	-	N/A	
CRE8	Type and number of sustainability certification, rating and labeling schemes for new construction, management, occupation and redevelopment	30	●	Records of certifications for green buildings



# Associations and Memberships / Awards

## Associations and Memberships

Association		
Construction Guarantee Cooperative	Korea Facility Management Association	Korea Housing Association
Construction Vision 21	Korea Federation of Construction Contractors	Korean Geotechnical Society
Korea Research Council for Construction Industry	Korea Institute of Construction Technology	Korea Underground Space Association
Construction Industry Accident Manager Association	Construction and Economy Research Institute of Korea	Korean Society of Soil and Groundwater Environment
Construction Safety Manager Committee	The Korea Construction New-Technology Association	Korea Railway Construction Engineering Association
International Society for Rock Mechanics (ISRM)	Korea Construction Consultant Association	The Korea Railway Association
International Tunneling Association (ITA)	Construction Quality Management and Research of Korea	The Korea Railway Association Subcommittee (International Cooperation)
Cooperation of military supply	The Korea Institute of Building Construction	Korea Concrete Institute
Construction Association of Korea	Korea Economic Research Institute	Korean Tunneling and Underground Space Association
Architectural Institute of Korea	Korean National Committee on Irrigation and Drainage	The Wind Engineering Institute of Korea
Society of Air-Conditioning and Refrigerating Engineers of Korea	Korea Construction Engineers Association	Korea Society of Coastal and Ocean Engineers
The Korean Institute of Electrical Engineers	The Korean Society of Agricultural Engineers	International Contractors Association of Korea
The Korean Arbitrators Association	Korea Management Association	The Federation of Korean Industries
Korean Society of Civil Engineers	Korea Industrial Technology Association	Northeast Asia Infrastructure Association
Maeil Business Newspaper S.E.L. Club	Korean Association of Air Conditioning Refrigerating and Sanitary Engineers	Building SMART Korea
Saemaeul Seocho-gu Committee	Korea Fire Safety Association	Korea Construction Cultural Institute
Korea Chamber of Commerce & Industry	Korea Software Industry Association	Korea National Committee on Large Dams
Seocho Business Forum	Korea New Transit Association	Korea Road & Transportation Association
The Korean Society for Noise and Vibration Engineering	Korea Engineering & Consulting Association	Korea Incineration Technology Association
Korea Infrastructure Safety Inspection Association	Korea Electrical Contractors Association	Korean-Russian Far East Association
Electric Contractor's Financial Cooperative	Korea Railway Electrical Technology Association	American Concrete Institute (ACI)
Information & Communication Financial Cooperative	Computational Structural Engineering Institute of Korea	IBS KOREA
Korea-Mongolia Cooperation Association	Korea Information Communication Contractors Association	21st Century CEO Club
The Construction Management Association of Korea	Korean Institute of Illuminating and Electrical Installation Engineers	

## Awards

Date	Award	Organization
Jan. 25	Prize of Excellence at the 1 <sup>st</sup> Busan Beautiful Landscape Award	Busan Metropolitan City
Feb. 20	Commendation at the 2012 National Week on Labor Safety and Hygiene – Fire and Explosion Prevention	Hanoi, Vietnam
Jun. 28	Commendation on establishing mutual growth and a fair order for subcontracting transactions	Fair Trade Commission
Jul. 10	Received Grand prize from Korea Service Awards (Apartment category)	Korean Standards Association(KSA)
Jul. 18	Commendation on the Successful Reconstruction from the Korean Embassy to Japan	Ministry of Foreign Affairs
Jul. 19	Commendation as an excellent construction company by Daejeon Metropolitan Government	Daejeon Metropolitan Government
Oct. 10	Prize of Highest Excellence at the Good Design (GD) Award 2013	Public Procurement Service
Oct. 23	Grand Prize in the Sustainability Report category of the Global Standard Management Award	Korea Management Association

## Contact

Business Innovation Team, Strategic Planning Department

LOTTE ENGINEERING & CONSTRUCTION  
29, Jamwonro 14-gil, Seocho-gu, Seoul

Homepage | <http://www.lottecon.co.kr/eng>

E-mail | [gbnam@lottenc.com](mailto:gbnam@lottenc.com)

Phone | 02-3480-9114

Production | Lucre Inc. Tel: 02-542-6725  
[www.lucrebeyond.com](http://www.lucrebeyond.com)





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**LOTTE E&C**

29, Jamwonro 14-gil, Seocho-gu, Seoul  
Tel 02-3480-9114