

2018-2019
LG CNS SUSTAINABILITY REPORT

DIGITAL INNOVATION ENABLER

DIGITAL INNOVATION ENABLER

About This Report

Sharing our sustainability management strategy and initiatives along with the outcomes in respective areas.

Based on materiality assessment, we focused on information that we considered important to our stakeholders and the result of the assessment was reviewed by relevant teams and executive management for approval.

This report illustrates the innovative platform services that we deliver under our vision of 'Digital Innovation Enabler' to help our customers improve their business competitiveness, serve as an agent of change, and embrace the upcoming future. We strive to strike the right balance among economic, social, and environmental values and advance sustainability management across the board.

Guidelines

This report was prepared in accordance with the GRI Standards (and UN SDGs) as well as K-IFRS (Korean International Financial Reporting Standards) for our financial performance.

Scope and Boundaries

This report highlights our commitment to economic, social and environmental sustainability and the progress we made in our domestic business sites.

Reporting Period

This report covers data from Fiscal Year 2017 (January 1 – December 31, 2018) and includes important business activities in the first half of 2019. It also contains our quantitative performance for the past three years for a transition analysis of its year-on-year changes.

Assurance

This report underwent a self-declaration process and is not assured by a third party. Third-party assurance will be obtained for independent external verification in the future.

Contact Information

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2018-2019 LG CNS Sustainability Report

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CEO Message

" Our exceptional information technology will assist our customers in improving their competitive edge, and this, in return, will contribute to our growth at LG CNS."



Dear Stakeholders,

Allow me to start by extending my heartfelt gratitude for your continued support.

As we embrace the 4th Industrial Revolution, we at LG CNS strive to successfully rise to the challenge while capitalizing on opportunities to build a sustainable business. In publishing the 3rd Sustainability Report, our goal is to share our past achievements and future plans.

In today's business landscape, a company's competitive edge for survival lies on the ability to be agile and super-connected. Across all industries, the demand is ever growing for innovation enabled by new information technology. Notably, the shift to the cloud environment has accelerated the transformation of the nature of enterprise systems into a more service-based one, and their data load is increasing exponentially. In order to take advantage over such shifting business trends and capitalize on the opportunity to grow momentum, we at LG CNS are on a relentless journey to pursue innovation across our entire business model.

First and foremost, we have built our business execution system around our technological capabilities that form the very fundamentals of our corporate identity. In doing so, we paved the way for every LG CNS employee to benefit from proper employment conditions in accordance with their own level of technological expertise.

Additionally, allowing our customers to decide on the scale of the undertaking projects on the basis of the value and innovation

delivered by our services continues to be an advantage for our employees. This year, we hope that this new business execution system will take our technological competency a notch higher and accelerate our growth in conjunction with our customers.

Furthermore, we have introduced the 'Public Cloud First' policy to respond to the changing business environment. By creating an open ecosystem, we become the first to embrace the best possible technologies, solutions, and services available in the market while laying the foundation to seek mutual growth with our business partners. We will strive to create a virtuous cycle within this ecosystem: our exceptional information technology will assist our customers in improving their competitive edge, and consequently, will contribute to our growth at LG CNS.

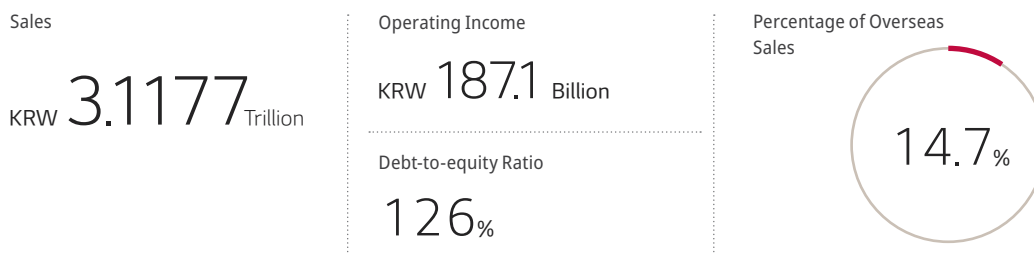
Last but not least, we will strictly abide by our Jeong-Do Management principles and faithfully fulfill our social responsibility as corporate citizens. We will continue to identify a range of social contribution programs that leverage our IT capabilities as the inherent characteristics of our business, and widely share our set of values that highlight the importance of environmental protection. In this manner, we will become a company trusted by all members of our society. We look forward to your continued interest and encouragement for LG CNS.

Thank you.

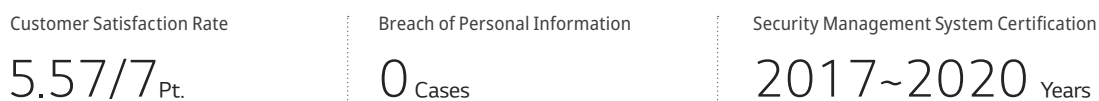
June 2019 Young-Shub Kim CEO, LG CNS

2018 CSR Key Figures

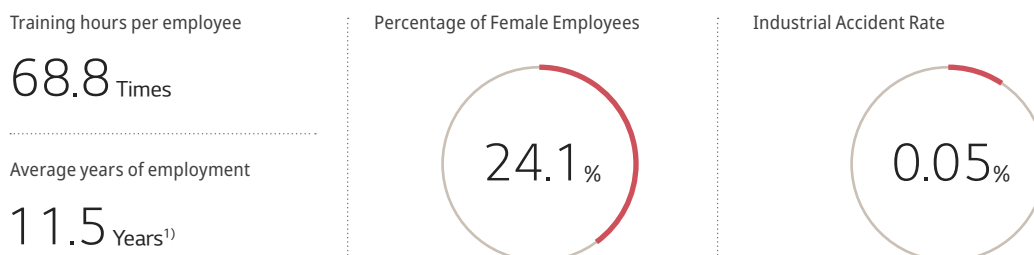
Economy



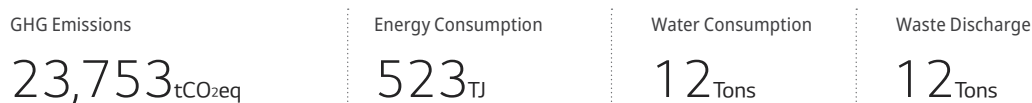
Customer



Employee



Environment



Community



* The economic data is presented based on our consolidated financial statements (excluding total dividends paid out to shareholders), while the customer, employee, environment and local community data is expressed based on separate standards formulated by LG CNS.

* The environmental data is only applicable to the Sangam IT Center (pursuant to the "Environmental Information Disclosure Policy" from the Enforcement Decree for the Support for Environmental Technology and Environmental Industry Act).

1) Local standards; 2) As of June 2019

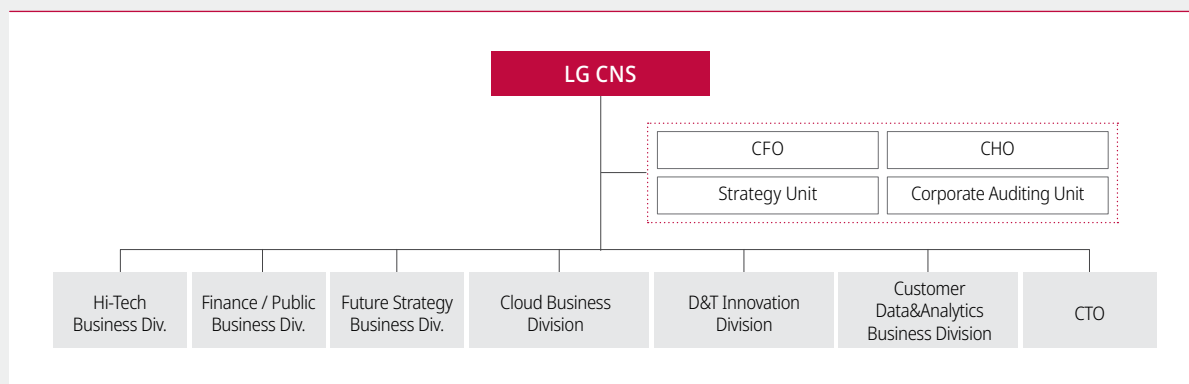
Overview

Company Overview

Since our foundation in Seoul in 1987, we have expanded our global presence in China, Europe, America and India. More than 6,000 employees are committed to leading innovation for our clients' business based on unparalleled expertise in the IT industry.

Company Name	LG CNS
Address	LG Sciencepark E13, 71, Magokjungang 8-ro, Gangseo-gu, Seoul
Date of Establishment	Jan. 1987
CEO	Young Shub Kim
Number of Employees	6,063 employees (as of 2018, including Korea & overseas)
Business Areas	Consulting, System Integration, Outsourcing, ERP/BI, IT Infra Solution, IT Convergence

Organization Chart



Domestic & International Subsidiaries

HQ / Subsidiary
BIZTech Partners, Korea Elecom, Haengbokmaru
Overseas Subsidiaries
China, Europe, Americas, India, Indonesia, Japan, Brazil, Colombia, Malaysia, Vietnam, Greece



Financial Status

Total Assets



KRW 2.4753 Trillion

Total Shareholders' Equity



KRW 1.3789 Trillion

Sales



KRW 3.1177 Trillion

Operating Income



KRW 187.1 Billion

Credit Rating



AA- Corporate Bond



DIGITAL INNOVATION ENABLER

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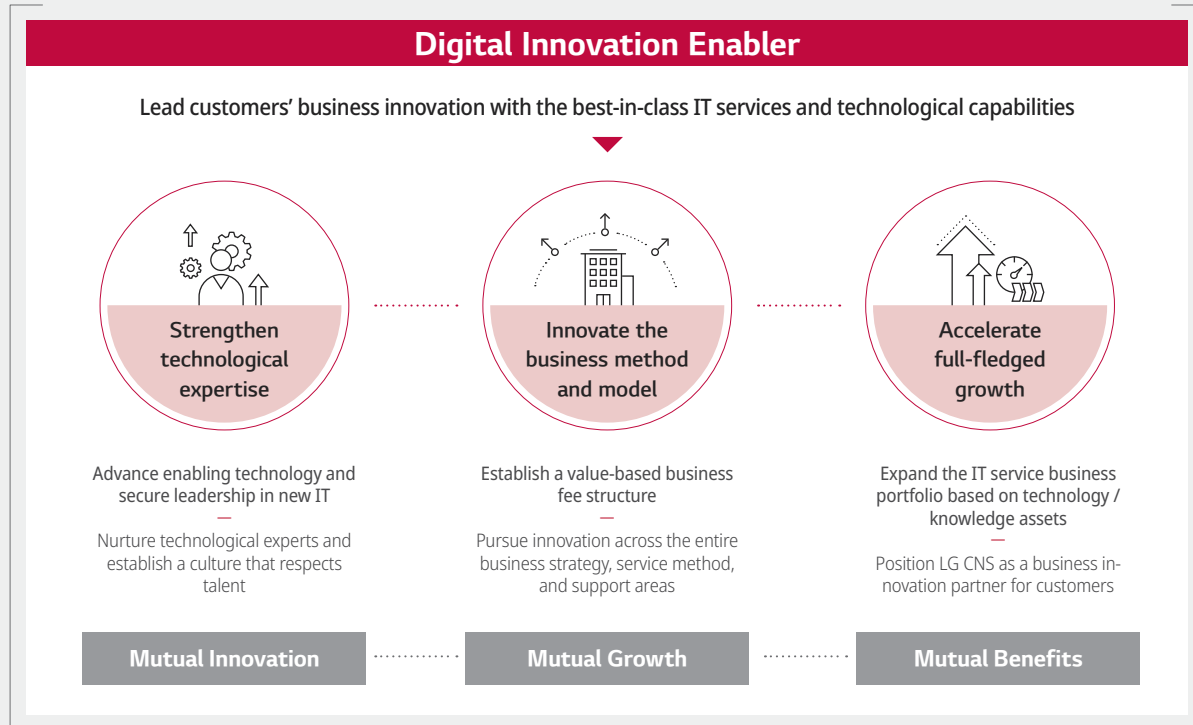
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What We Do

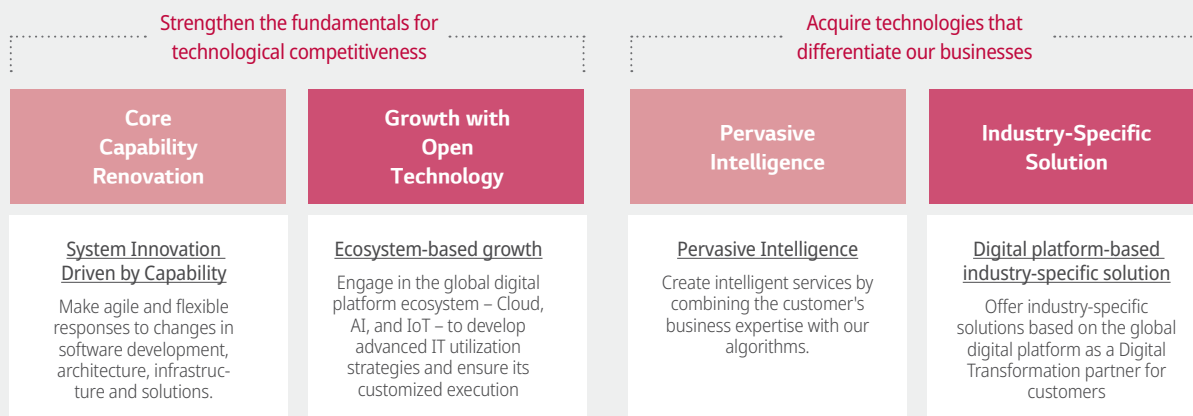
Our Vision

LG CNS provides a one-stop IT service which covers consulting, system implementation / operation, and outsourcing based on our industry-wide insight and IT expertise. Furthermore, to meet the fast changing market conditions and create new values for our clients, we introduce new business models and opportunities of growth by leveraging advanced technology-based convergence solutions.



Technology Strategy

Supported by our exceptional systems, powerful software development, system architecture and IT infrastructure capabilities, LG CNS is always standing by to acquire new and innovative technologies that will achieve digital transformation for our customers.



Major R&D Area

We have proactively researched and acquired new I.T. technology that is leading the way in the 4th industrial Revolution – AI, Robotics, and Blockchain –to develop smart technology-based platforms and solutions to build our future competitive edge. Leveraging our industry-specific expertise and IT technology, we provide professional industrial solutions to assist our customers in taking the lead in Digital Transformation which include smart factories, smart logistics and smart energy that span in wide-ranging areas from manufacturing and finance to public sectors and telecommunications.

Category	R&D Area	R&D Activities
Artificial Intelligence	<ul style="list-style-type: none"> Algorithms on image/video/ language/sound/vibration recognition AI/big data platform 	<ul style="list-style-type: none"> Secure enabling AI technology commonly required to develop AI Services <ul style="list-style-type: none"> Deep learning, STT, NLU, image recognition, etc. Create big data/AI management and analytical environments <ul style="list-style-type: none"> Machine learning/deep learning-based analytical environment, AI engine, analytical library, etc. Secure standardized subject-based service platforms through the use of enabling AI technology <ul style="list-style-type: none"> Conversation/object recognition/behavioral recognition/vision inspection/predictive maintenance/manufacturing quality, etc.
Cloud	<ul style="list-style-type: none"> Cloud-Native Application DevOps Public Cloud Management Platform 	<ul style="list-style-type: none"> Secure cloud-optimized application development technology through micro service, packaging and dynamic scheduling Offer standardized environments for cloud-based application testing, security inspection, integration, distribution and operation Ensure the integrated operation and management of hybrid/multi-cloud environments
Blockchain	<ul style="list-style-type: none"> Blockchain core platform Blockchain service platform 	<ul style="list-style-type: none"> Develop HYPERLEDGER-based commercial Blockchain platforms Develop Blockchain service platforms – local currency, document authentication, gift certificates/vouchers
Digital Twin	<ul style="list-style-type: none"> 3D visualization, Real-time monitoring, simulation 	<ul style="list-style-type: none"> Secure technology on 3D visualization engines, object recognition, and indoor mapping Combine such technologies with smart logistics and autonomous vehicle monitoring
IoT	<ul style="list-style-type: none"> IoT device/IoT service common platform 	<ul style="list-style-type: none"> Obtain global standard certifications and secure technology on high-capacity processing, real-time event processing, and edge computing Establish a developer ecosystem through the distribution of developer tools
Robotics	<ul style="list-style-type: none"> Service platform for robotic integration and operational management 	<ul style="list-style-type: none"> Robot service platform, fleet management, indoor map/vision tracker, etc.
Industry-IT Convergence	<ul style="list-style-type: none"> Professional industrial solutions that combine manufacturing/ logistics/financing/energy and other industries with cutting-edge IT 	<ul style="list-style-type: none"> Conduct R&D on professional industrial solutions that combine the company's project execution experiences in diverse industries with AI, big data, cloud, Blockchain and other information technologies <ul style="list-style-type: none"> Smart factory/smart logistics/energy management solution/digital financing/autonomous driving solutions, etc.

Patent Management

Our goal is to develop technology that will lead the future market and strengthen our competitive edge. And we understand how important it is to protect such technology. Through our patent management program, a total of 355 patents have already been granted in Korea and abroad (as of May 2019, on a cumulative basis). As we continue to protect our strategic technology and innovative business models, we will pave the way in innovation and seek sustainable growth.

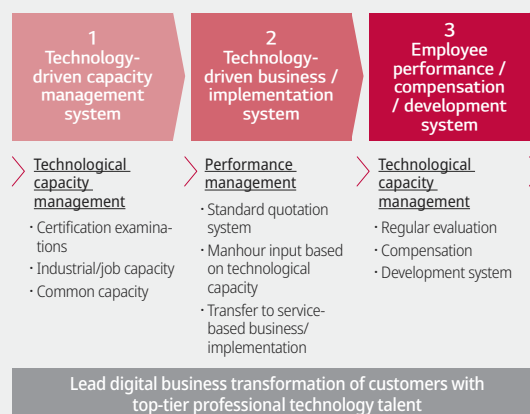


Technology-oriented Business Execution

We aim to nurture top-tier experts who exercise the proper IT leadership based on their technological capabilities. In doing so, we will gain recognition for the exceptional competency exhibited by our leaders and in turn will attract “innovation to customers” and continue to develop “innovative talent”.

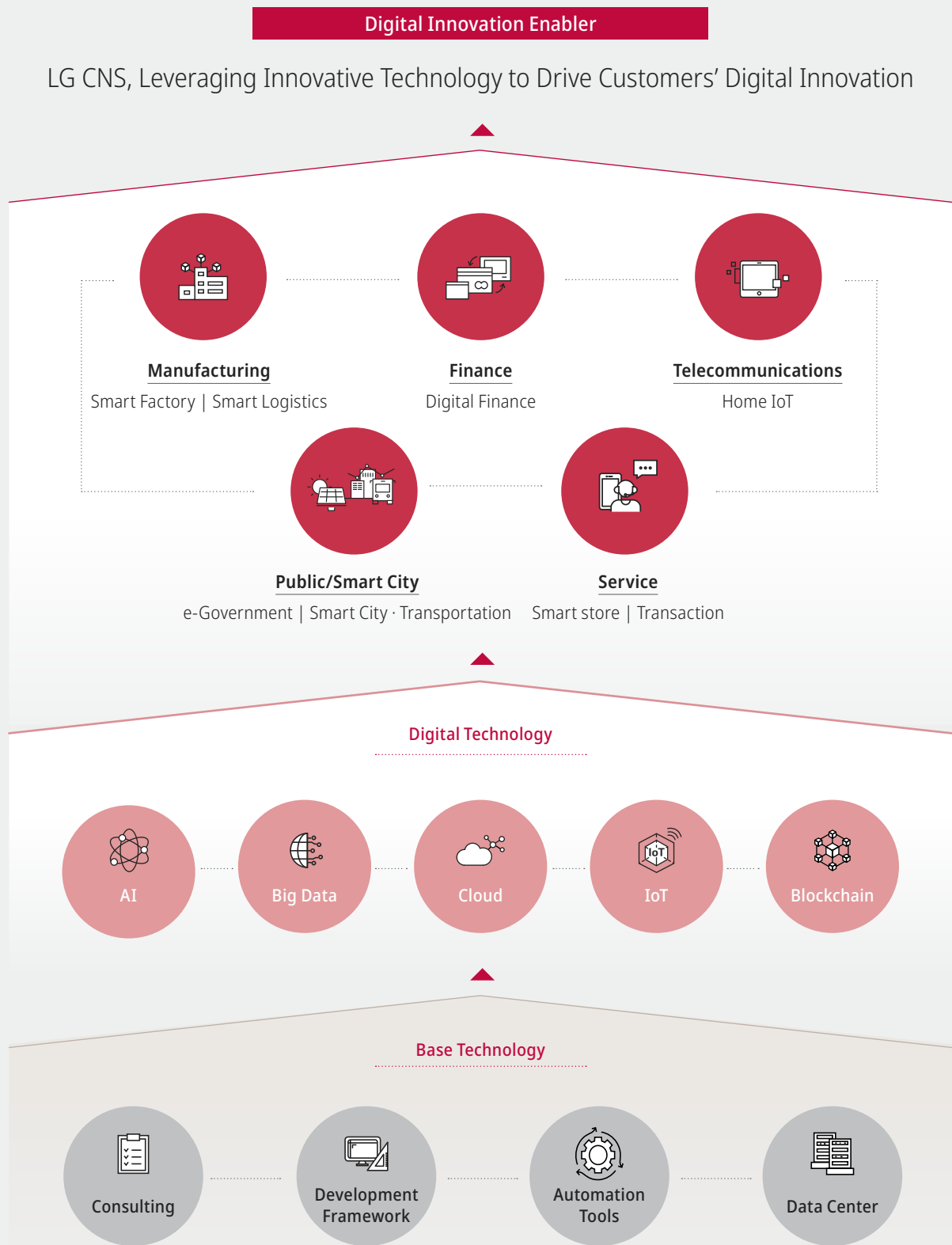
Bringing Innovation to customers
Shift from seniority or job positions to technological competency as the basis for calculating service compensation
Offer reasonable IT services through standard quotes
Establish our position as a business innovation partner through exhibiting IT leadership
Develop innovative talent
Top-tier experts recognized for their technological capabilities
Talent respected for their technological performance and competency
A great workplace that attracts top-notch technology talent

Virtuous Cycle Established through Technology-Oriented Business Execution



Service & Solution

Core Services & Solutions



Through innovative platforms and services, LG CNS enhances the competitiveness of our clients' businesses and leads change for a better life.

We continue to embrace new information technology that is leading the way in the 4th industrial Revolution– AI, Robotics, and Blockchain – in order to develop smart technology enabled platforms and solutions to build our future competitive edge. Using the industry-specific expertise that we gained through our extensive project experience in the manufacturing, financing, public, and telecommunications sectors along with our unparalleled IT capabilities, we deliver professional industrial solutions for smart factories and smart logistics. The sum of all these endeavors allow us to fully assist our customers in achieving Digital Transformation.

Innovative Platforms and Services



We provide Cloud, Big Data, Blockchain and IoT platforms through advanced digital-technologies.

We help our clients expedite digital transformation to gain competitive advantage and respond to changes proactively by providing unparalleled platforms and services with technology-oriented digital innovations.

P.12 Cloud P.15 Big Data P.18 Blockchain P.20 IoT

Clients' Business Competitiveness Enhancement



We provide services in Smart Factory, Smart Logistics, Telecommunications & Media, and Transaction simplification to drive business competitiveness in each sector.

Based on our project experiences and cutting-edge IT technologies we have accumulated across industries, we provide opportunities to drive digital transformation and create new growth engines through tailored services and solutions.

P.23 Smart Factory P.25 Smart Logistics P.26 Telecommunications & Media P.28 Transaction P.30 RPA

Leading Changes for a Better Life



We provide services in business sectors ranging from Digital Finance, e-Government, Smart City and Smart Transportation, for the purpose of improving qualities of people's lives.

Across all industries, ICT is accelerating the transformation into an intelligent society. By applying ICT, we lead the improvement in user friendliness and changes for a better life.

P.32 Digital Finance P.34 e-Government P.35 Smart City P.37 Smart Transportation

IT Service Expertise



We provide services in the 'Base Technology' sector to deliver real values, which include Consulting, and Data Center.

Based on over 30 years of experience in IT consulting, software development, architecture, and infrastructure, we strengthen our clients' business competitiveness and create values.

P.39 Consulting P.40 Data Center



Cloud

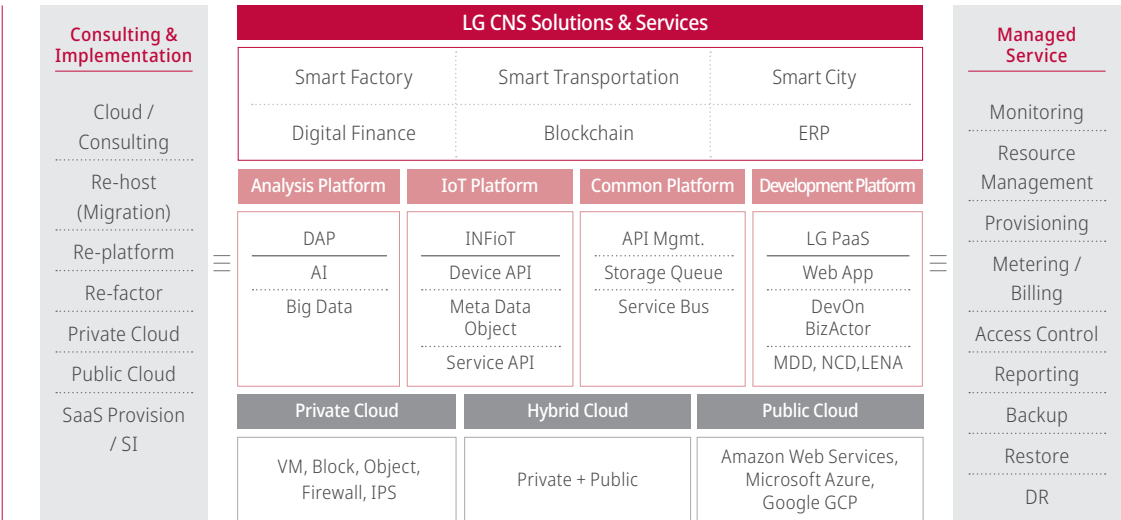
Cloud transformation and managed services for corporations and public organizations

Korea's leading Enterprise Cloud Transformation specialist

We provide cloud professional services with end-to-end concepts that meet the needs of various customers in all areas, including consulting, migration, and managed services, and provide optimal services based on industry expertise and digital technology.

Core Capabilities

- Cloud consulting (based on cloud migration methodology), architecture design and cloud migration capability
- Open source software conversion and SDx capability
- Distributed architecture design / development technology
MSA-based cloud-native application development, DevOps-based operation
- Hybrid-Cloud, Multi-cloud migration, operation and integrated management platform
- Container-based GPU service



Reduction in the total cost of ownership after a migration to the cloud service

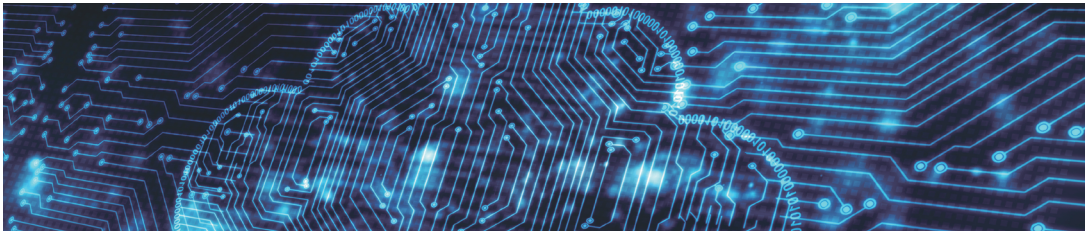


30%





Number of servers / storage serviced through the cloud



40,000



Business Achievements

Public Services	Manufacturing	Logistics / Service	Finance
			
Cloud <ul style="list-style-type: none"> • Korea Employment Information Service • National Computing and Information Agency • Busan NIPA • Incheon International Airport Corporation • National Tax Service • KANGWON LAND • Health Insurance Review & Assessment Service VDI <ul style="list-style-type: none"> • Korean Intellectual Property Office • Ministry of National Defense • KRX • National Agency for Administrative City Construction • Korea Institute for Curriculum and Evaluation • Korea Employment Information Service 	Cloud <ul style="list-style-type: none"> • LG Electronics • LG Chemical • LG Display • LG Innotek • LG Household & Health Care • Ericsson LG • LS Group • LSIS • SERVEONE • Pantos • LGCC VDI <ul style="list-style-type: none"> • LG Electronics • LG Display • LG Chemical • Ericsson LG • LG Hausys 	Cloud <ul style="list-style-type: none"> • Summerce Platform • Kantukan • Honda Korea • Cafe Bene • Hansol • SsangYong Engineering & Construction • Chunjae Education • LG International • SERVEONE • Pantos • GS Home Shopping • GS Retail • OURHOME • Ezwelfare • Chunhofood • Korea compassion • KLEANNARA • Dongwha Enterprise • Korean Air SAP HANA Cloud <ul style="list-style-type: none"> • SR (Suseo Rail) • Woowa Brothers • Memebox VDI <ul style="list-style-type: none"> • LG U+ • Economic Research Institute • LG International • LG • NS Home Shopping • GS Home Shopping • GS Retail 	VDI <ul style="list-style-type: none"> • KB Kookmin Card • KB Kookmin Bank • KB Insurance • KB Capital • Mirae Asset Daewoo • KEB Hana Bank • LINA Life Insurance • Woori Card

Service Offerings

Consulting & Migration Service	<p>We provide analysis consulting and transition to cloud based on our insight into the On-premise system and cloud consultancy. From Lift & Shift transition to application re-factoring in line with cloud attributes, we offer specialized services tailored to our clients' needs.</p>	Hybrid Cloud Service	<p>We provide the ideal cloud service customized to each client and business environment including AWS, Azure, Oracle Cloud, Google GCP, SFDC and SAP HEC via LG CNS' private cloud as well as partnerships with global cloud service providers who can bring their technological capabilities to the table.</p>
Managed Service	<p>LG CNS offers stable integrated managed services for multi-cloud environments. With optimization during the initial operational phase after adopting a cloud system being a critical factor for ensuring stable future operation, we provide a continued stream of architecture optimization and cost rationalization solutions based on usage statistics.</p>	Portal & Management Solution	<p>We provide an integrated management platform for multi-cloud environments, together with operational management solutions such as TunA (APM tool), UXM (service- oriented E2E monitoring tool) as per client needs.</p>

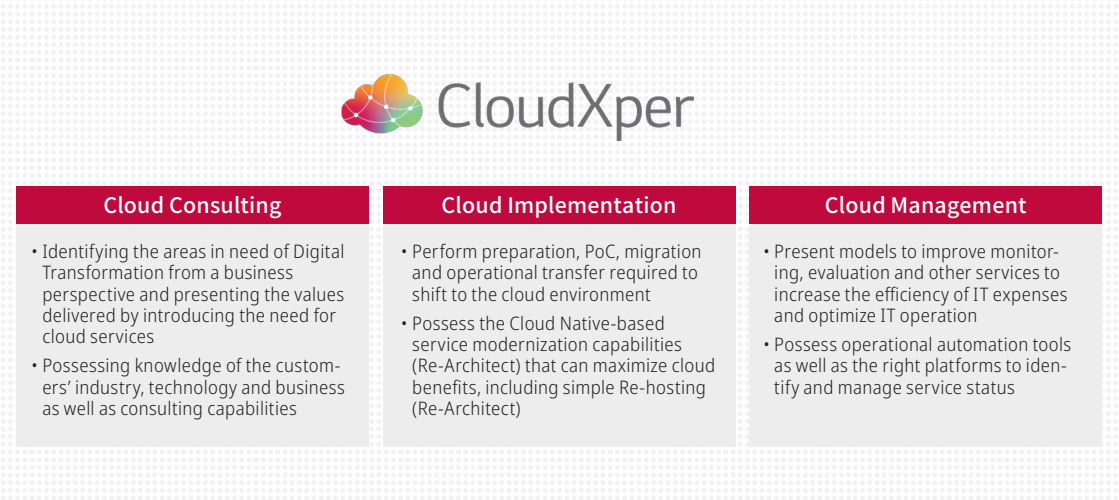
Desktop Cloud: vmCube (automated VDI total management solution)

Proprietary solution that boosts user convenience and operational efficiency through VM life cycle automation, self-repair, integrated dashboard and configuration-based portal.

Features	References
<ul style="list-style-type: none"> - Vendor-neutral - Single console management - Korea's No.1 VDI implementation experience and know-how - Responsive web based dashboard - Largest number of users in Korea 	<ul style="list-style-type: none"> - LG Electronics, LG U+, LG Display, LG Chemical - KB Kookmin Card, KB Kookmin Bank - Mirae Asset Daewoo, Woori Card (implemented for over 150,000 users)

LG CNS Cloud Service

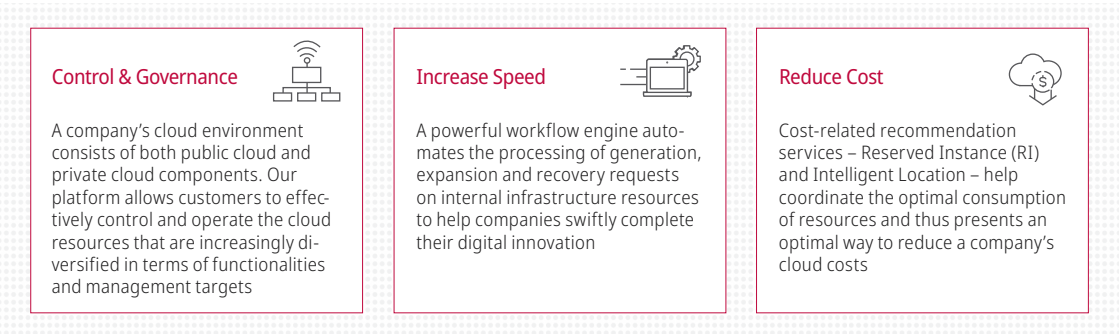
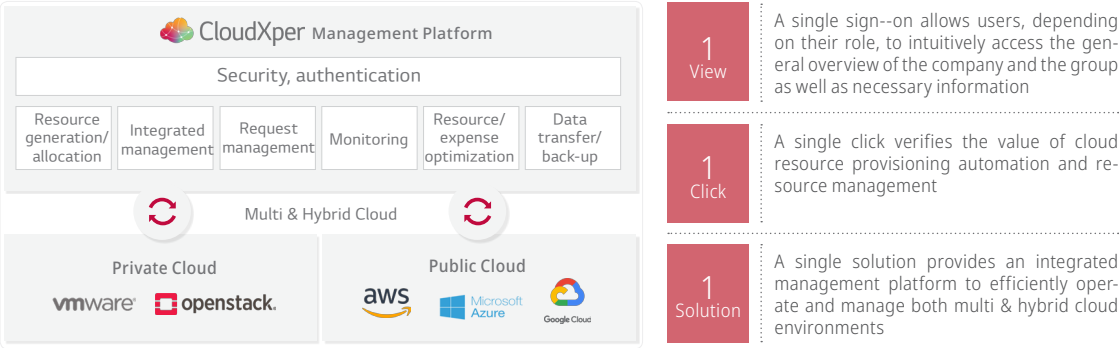
We deliver a tailor-made cloud services that are optimized for specific customer needs on the basis of understanding our customer’s business, expertise on a range of cloud technologies and open innovation in partnership with global market leaders. Furthermore, we enable operational automation and manage our service status through our differentiated consulting services powered by the phase-based Cloud Migration Framework as well as the CloudXper Management Platform.



CloudXper Management Platform

Integrated cloud management platform capable of catering to enterprise requirements and accommodating wide-ranging business environments.

Platform Composition





Big Data

Consulting, implementation and solution services based on sector-specific domain expertise, advanced analytics capabilities and Big Data technological leadership

Total Service for Big Data Analytics

LG CNS provides the entire range of data-based services including data collection, processing, storage, analysis, and utilization. In particular, offering big data total services to our customers in all industries including electronics, manufacturing, finance, telecommunications, public, and services sector by utilizing our advanced analytic capabilities using machine learning and deep learning.

Extensive Enterprise Big Data Analytics Cases

LG CNS has various use cases of analysis including manufacturing quality analysis, image recognition based vision inspection, real-time customer marketing service, social data analysis based R & D technology sensing, VOC analysis and quality improvement, financial transaction FDS, and information security monitoring.

Korea's largest Big Data firm

LG CNS boasts the largest number of big data references in Korea. As the No.1 big data provider in Korea with extensive project experiences, we can provide the optimal solution that is tailored for any client business and IT environment.

Core Capabilities

- Cloud-based DAP(Data Analytics Platform) provides the enterprise-level big data analytics environment and analytics service based on best practices
- Industry domain expertise based algorithm and analysis model development, optimization, analysis life cycle operation
- Most extensive DW/BI implementation capability and most extensive big data system development experience in Korea
- Open source platform technology leadership, internal platform development experience, the capacity to contribute and troubleshooting to open source
- End-to-end service from big data platform, Implementation and analysis solution

Service Offerings

- Discovery of Big Data Analysis Items and Planning for Implementation
- Consulting on Enterprise Big Data Analysis and Platform Implementation
- Consulting and implementation on 'combined architecture of DW/BI and Big Data' and 'Enterprise Data Platform'
- Big data architecture consulting and deployment
- Prototyping and lab services for the verification of new technology (On-premise, Cloud)
- Lab services for development, optimization of 'Algorithm and analysis model'

Clients and Domains

- Electronics / manufacturing (LG Electronics, LG Chemical, LG Display, LG Innotek, etc.)
- Financial / government (KB Card, KB Insurance, Hyundai Card, Woori Card, KB Bank, Government's Integrated Data-Center, Korea Land & Housing Corporation, etc.)
- Communication / Service (LG U+, Pantos, Kakao, Coupang)
- Big data analysis, AI algorithm development, DW/BI

The most extensive domestic reference in big data



No. 1

The number of in-house experts on DW/BI, big data, and AI making LG CNS Korea's largest big data organization

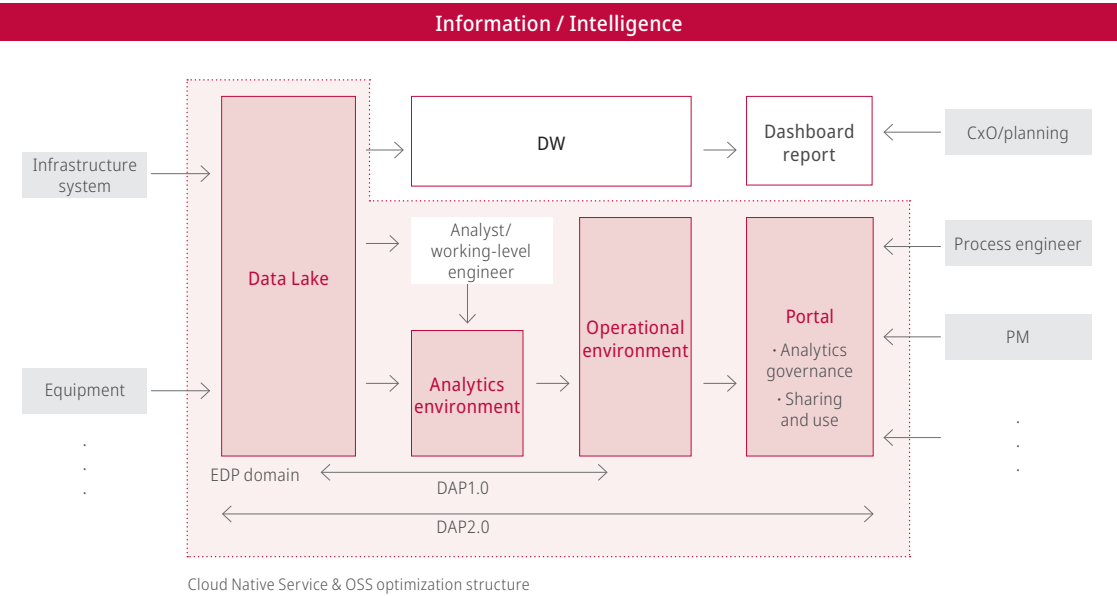


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DAP (Data Analytics & AI Platform)




DAP (Data Analytics & AI Platform) represents an Enterprise Data Platform that supports the full life cycle from the Data Lake to the operational phase through the use of Cloud Native Service and OSS. The analytics full life cycle ranges from project proposal and data exploration to model development/deployment/operation and model management in order to make necessary improvements. When undertaking projects, we deploy the Family-Cloud Native-based DAP as well as the financing/public/open-Cloud or OSS-based DAP.



*Full Analytics Life Cycle: Project proposal – Data exploration – Model development/selection – Release – Operation & management – Model development/disposal

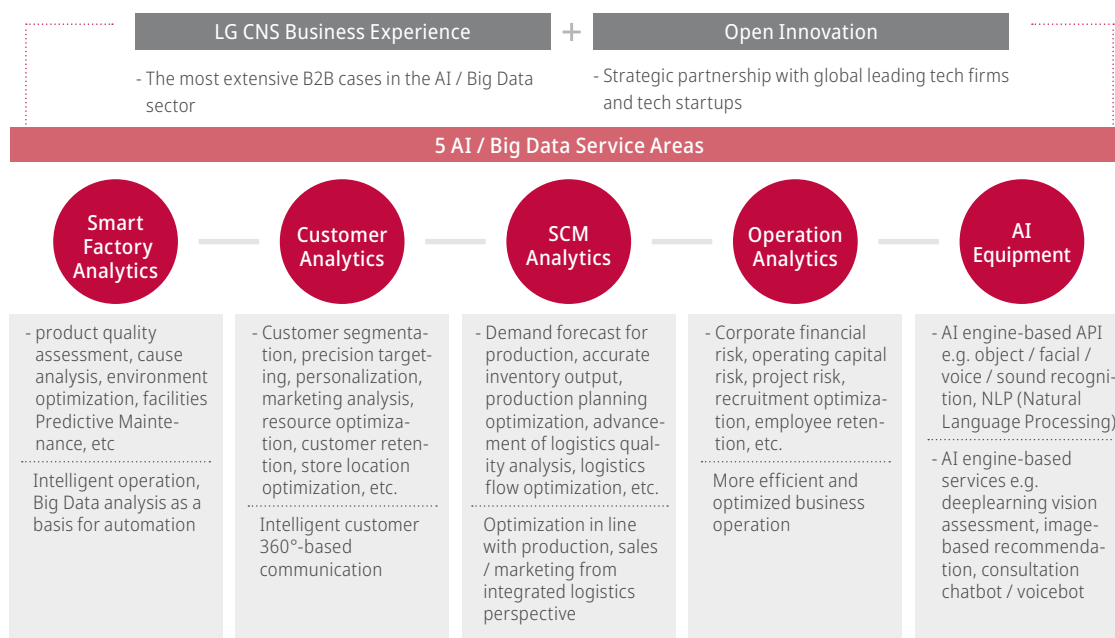
Exclusive Features

Our DAP is optimized for enterprise data analytics: it creates a user-friendly environment for wide-ranging analysts while offering the optimal reference architecture as well as analytics governance and its sharing/use systems.

Improved ease of use	Optimal reference architecture	Analytics governance and its sharing /use systems
		
<ul style="list-style-type: none">- Offer Auto ML, UI-based analytics, and data preprocessing tools- From the web-based interactive computational environment for advanced analysts to the UI-based analytics environment for CDS(Citizen Data Scientist), DAP provides a customized service considering user level.	<ul style="list-style-type: none">- Offer Cloud Native Services and an OSS-optimized architecture to satisfy customer needs- Deliver optimal services/functionalities in pre-combined format based on our accumulated know-how	<ul style="list-style-type: none">- Offer management services along the full life cycle, from the initiation to the operation of analytics services- Enable continuous improvements by offering model sharing/use systems

Service Offerings

Leveraging various use cases, Big Data solutions and AI engines we secured based on our extensive experience and open innovation, we offer AI / Big Data services in five key areas across the entire value chain.



Solution

SBP (Smart Big Data Platform)

"A Hadoop-based big data platform optimized to serve Korean enterprises" that delivers improved stability and accessibility by supporting the full life cycle of big data collection/storage/processing/analysis and by deploying innovative enterprise functionalities

SBP is a distributed architecture multi-purpose expandable platform that provides integrated real-time, batch, interactive analytics and streaming. This platform embraces rapidly-developing open source technologies in a continuous and proactive manner, aimed to deliver innovative services, from security alignment to service downtime minimization. It also provides workflow development tools (EWS - Enterprise Workflow & Scheduler) to assist enterprise customers without previous big data development experience to focus on the development of business logic and to further elevate their productivity and quality. This GUI-driven interface improves convenience in maintaining business operation and sets us apart from the competition in presenting more competitive prices.

DAP ML (formerly SRA) – Workflow based Big Data Analytics Solution

Support provided by the latest version of Python as well as alignment support for diverse analytics environments	<ul style="list-style-type: none"> - Gradual shift from R to Python as an analysis language - Flexible engine structure and alignment assistance for heterogeneous environments to support diverse analytical environments (H2O, R, Java, Spark, Hadoop, etc.)
Container environment support for MDL-ML alignment	<ul style="list-style-type: none"> - Lightweight composition suitable for the container environment: Minimum resources occupied, based on SpringBoot (c.f. Apache/Tomcat) - Improved efficiency of server resources: Resources returned when valid work is not executed
ML-specific solution support	<ul style="list-style-type: none"> - SparkML adopted to support high-capacity data analytics and distributed processing - Auto ML (H2O) adopted to support self-analytics → perform the entire analytics process, from data collection to preprocessing and modeling
Intuitive, workflow-based, and interactive analytics environment	<ul style="list-style-type: none"> - Workflow-based UI that does not require source coding and improve UX/UI for better user experience. - Analytics outcomes provided as tables and charts to support intuitive data analytics



Innovative Platforms and Services

Blockchain

Provides Use case development, implementation and service through validated blockchain core technology and industry-specific domain expertise

The advent of the 4th Industrial Revolution is making hyper-connectivity, ultra-reality and super-intelligence a reality. In the digital economy that is thriving on the basis of advanced digital telecommunications networks and computer software, trust serves as a crucial role more than ever. Blockchain technology is gaining recognition in line with the growing social demand for hacking/forgery-free transaction and economic systems, and this technology is extending its application from financial to other industries. As an IT leader in the blockchain ecosystem, we at LG CNS are engaged in continuous research and demonstration, to deliver blockchain development, operation and consulting services on the basis of our proven technology and industry-specific domain expertise.

Blockchain Use Case Development Consulting

Based on the understanding of blockchain technology, we apply the blockchain consulting methodology to find applicable business innovation opportunities and new business models. We support optimal business solution and strategy for client by collected/analyzed use cases and design thinking.

Core Capabilities

- Solution: Having Blockchain Core Technology and Practical Service Solution
- Experience /Competency : Obtained the Blockchain White Paper of Differentiated Experience-Intensive and Secured Consulting Competency
- Win-win leadership: Aim for building blockchain-based platform partnership with customers and IT service providers

Service Offerings

- Blockchain implementation consulting and development use cases
- Deliver 'Monachain' and offer technical support
- Build and operate a blockchain-based system

Business Achievements

- Contract of blockchain technology consulting for National IT Industry Promotion Agency (NIPA)
- MOU Agreement for blockchain-based food distribution platform with Say Info
- Pilot project of EV Battery 2nd Use Distribution History Management System
- PoC of blockchain based digital assets trading platform
- Expansion with LG Magok and KB Financial partners
- Blockchain consulting and PoC of LG Group's SCM/logistics for PANTOS
- Blockchain based insurance claims for lost or damaged mobile phones with telco and insurance company
- Launch the Magok community currency platform at LG Science Park
- Blockchain based KOMSCO community currency platform implementation
- Blockchain based remittance simulation test with the "Bank of Korea"
- PoC of issuing the Korea's first blockchain based electronic securities for unlisted companies

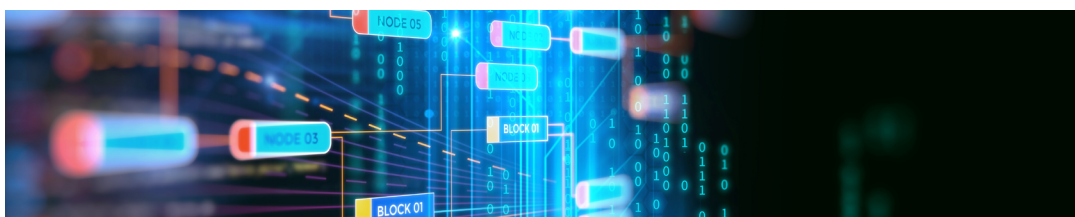
Monachain

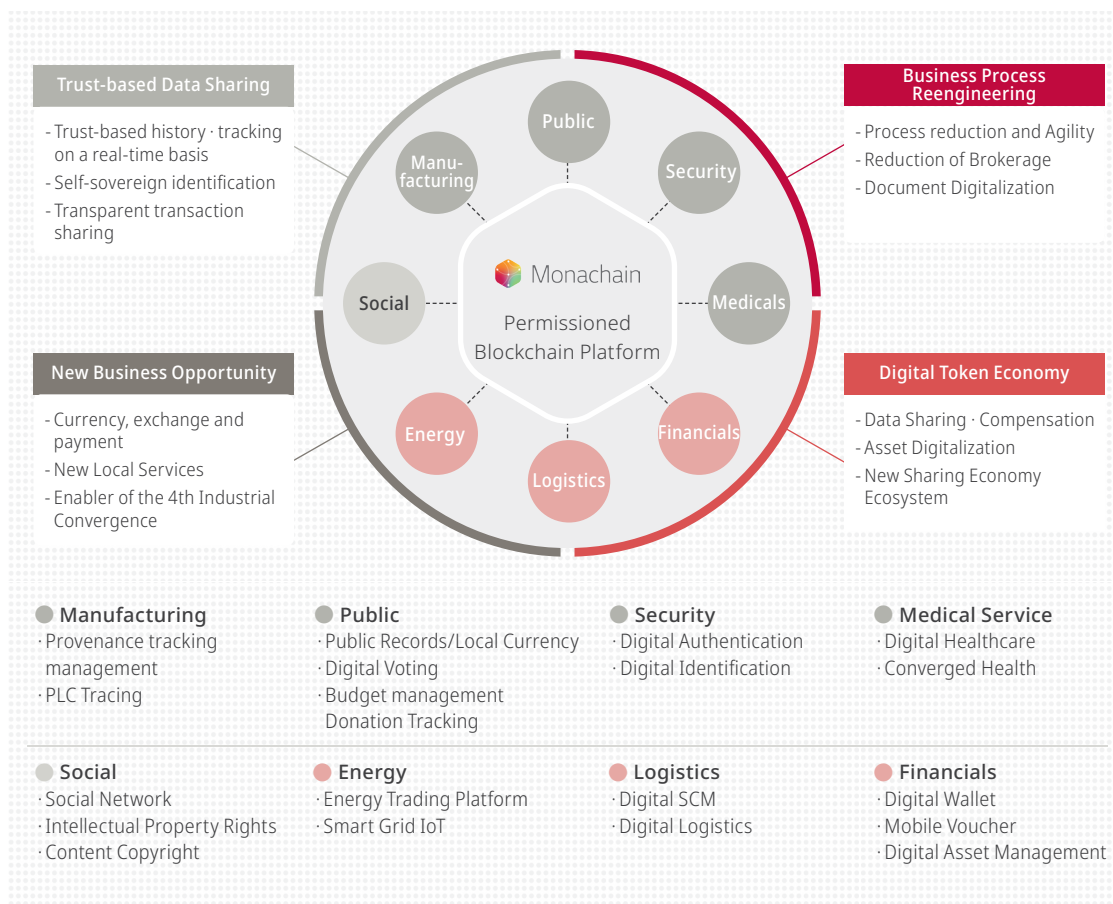
Blockchain solution optimized for enterprise users

LG CNS's blockchain solution, Monachain, adopted the 'HYPERLEDGER Fabric' from the Linux Foundation as its core component. As an enterprise blockchain platform, Monachain is recognized for its flexibility in adding new services. Additionally, Monachain is scaling up as it is capable of embracing the evolution of enterprise blockchain technology with the ability to possess framework, common/interface component, and application service layers.

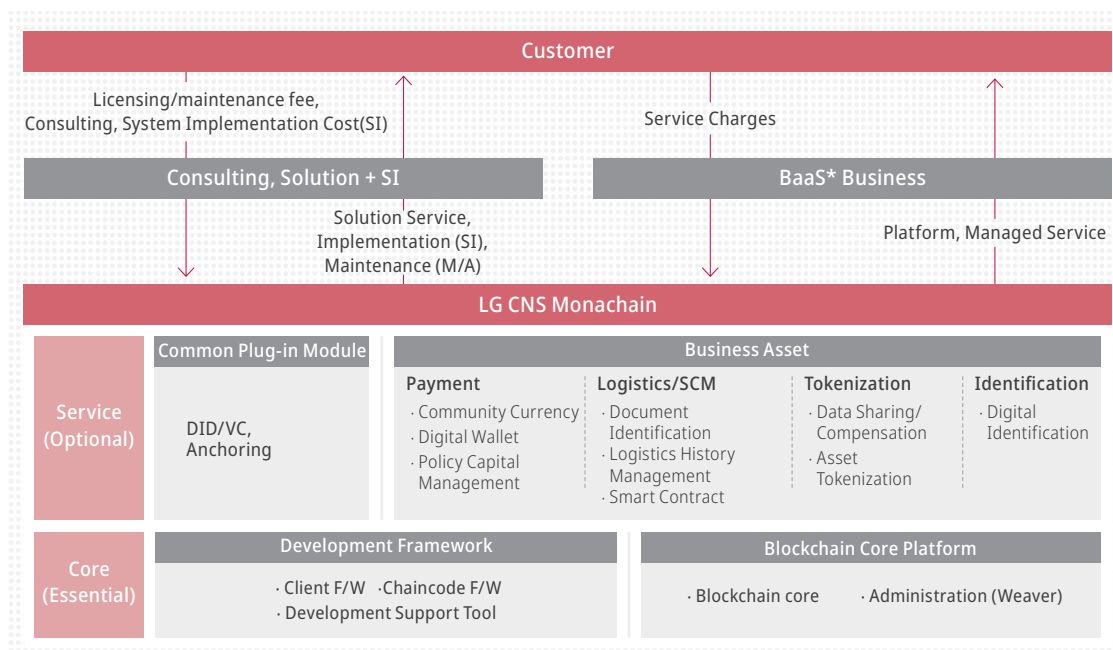
Monachain platform composition

The Monachain platform consists of the core and the service domain. The core domain includes the blockchain core platform and its development framework. The service domain contains business assets – payment, logistics/SCM, tokenization and common plug-in modules.





Monachain Platform Architecture



* BaaS : Blockchain as a Service



Innovative Platforms and Services

IoT

Providing an integrated IoT Platform that supports device / network / service / security software technology, enabling IoT service development

Collecting different types of sensing data

We provide planning, design and development engineering services for collecting meaningful sensor information in a wide range of devices in factories, buildings, automobiles and more.

Stable transmission of data

Through the Edge Platform, gateway solutions ensure the stable transmission of a wide variety of data. Additionally the planning and design of IoT-dedicated networks reflect the best operational environment and technical characteristics.

Safe and secure operation

We provide an integrated security suite across devices, networks and services to protect the entire mass of data linked to the IoT from hacking, duplicating, counterfeiting and other threats.

Core Capabilities

- Platform provided to support diverse industrial protocols and standard/non-standard IoT devices
- Edge Platform deployed to offer data distribution, preprocessing and public cloud-based services
- Device registration, mutual authentication and key management based on IoT device security
- Offers service robots and platforms tailored to the customer's business
- Quality-based planning / development of hardware / embedded software and production management

To acquire the TAA Certification in the SI industry



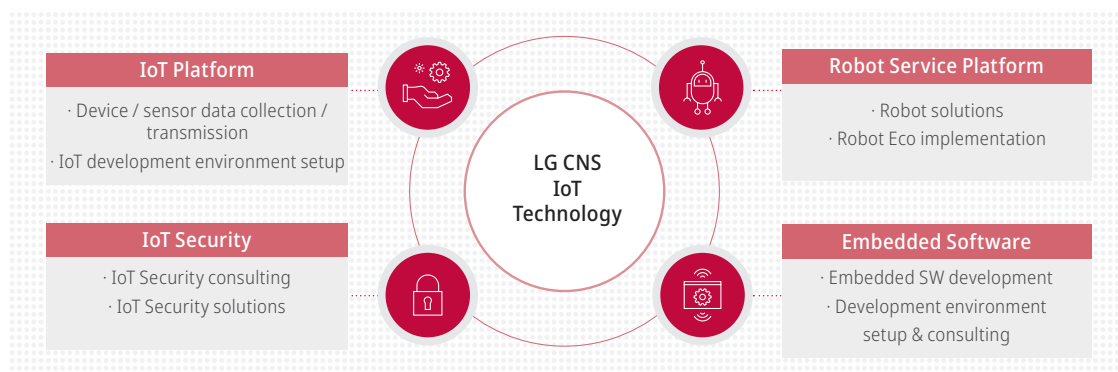
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IoT and industrial standards and protocols supported



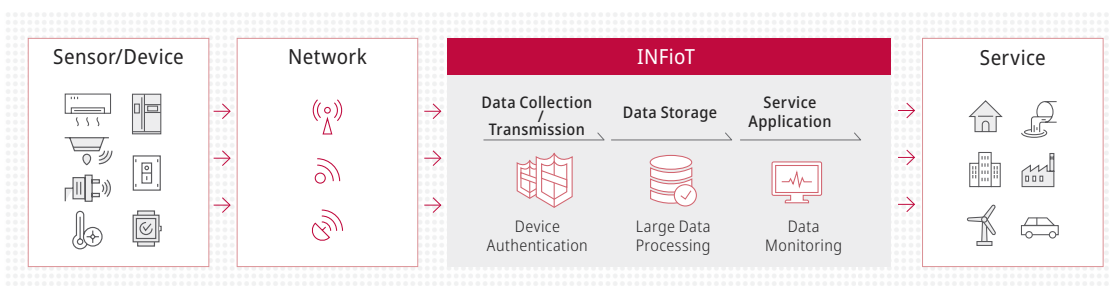
102^{IoT}

Service Offerings



IoT Platform, INFioT

INFioT is an IoT platform based on oneM2M, which is a global IoT standard. With INFioT, users can access to various development tools for different IoT environments, data collected and transmitted in real time from a massive number of sensing devices. INFioT makes IoT service development fast and easy.



INFioT Layout

Device	Data Collection / Transmission	Data Storage	Service Application	Portal	Service
Home Device	IoT Standards HTTP MQTT :	oneM2M Device Registration Data Group Data Data Security Policy	Function Device Data Processing Device Search Group Data Processing	Administrator Portal Service Management Terminal Management Platform Monitoring	Smart City
Detection Sensor	Industrial Standards BACNet	N/W Connection Data Message Transmission Data	Service Data Processing Platform Data Processing	Log Monitoring Firmware Management	Smart Building
Energy Sensor	MODBUS :	Data Subscription Data Device Location Data	N/W Connection Processing Message Parsing / Transmission	Log Monitoring	Smart Factory
Environment Sensor	Device SDK Java, C Android :	Payment Policy Data :	Data Storage / Processing Subscription / Notification	Developer Portal Service Management Terminal Management	Smart Home
Factory Device	Edge Platform Auto Register	Extension Service Data Platform Status Data	Security Policy Application Device Location Search	Technical Support Open API Test	Smart Mobility
Device Switch	Data Processing :	Authentication Data	Payment Processing User / Terminal Authentication	System Management :	Energy
Robot	:		Firmware Data Processing		Safe
		IoT Security - Public Key Infrastructure - Key Management System - Authentication	Development Tools - Monitoring Screen Development Tool - Demo Toolkit		

Key Functions

- IoT standard / non-standard device authentication
- Communication protocol support (5 IoT standards, 19 industrial standards)

- Real-time high-capacity distributed data processing and event processing
- Linking to LG CNS DAP (Data Analytics & AI Platform)

- Providing developers with SDK
- Providing visualization tools for real-time data monitoring

Benefits



EASY
to develop

IoT development becomes easier with the developer portal (e.g. SDK, development guide). The monitoring screen development tool helps build the UI layout more efficiently.



SIMPLE
to manage devices

Administrator portal's device management (e.g. meta data, device registration) enables easy registration / management of various types of devices / sensors. IoT devices can be added through simple settings.



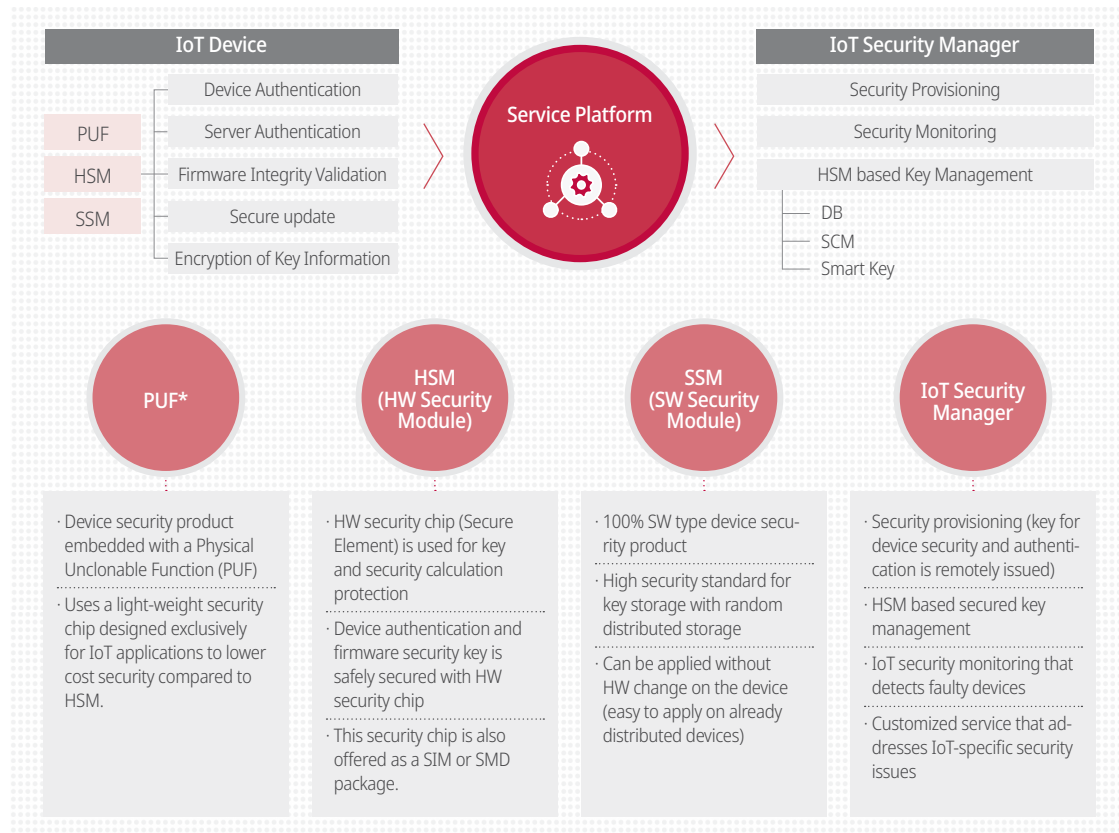
VARIOUS
Conforming to MULTIPLE protocols

Wide-ranging protocols (HTTP, MQTT, CoAP, LWM2M, Web Socket) and industrial standard protocols (19 protocols in total, including BACnet, Modbus, and SNMP) are supported, which allows users to choose from a wider range of devices.

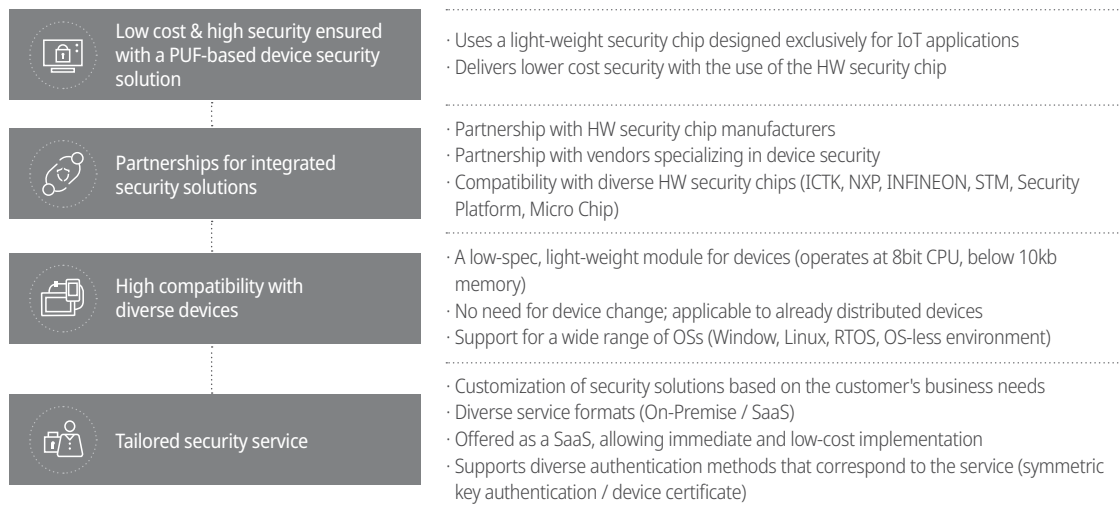
Service Offerings

IoT Security Suite

Our security suite provides device-server mutual authentication and firmware protection service, composed of device security modules (PUF, HSM, SSM) and server security module (IoT Security Manager).



IoT Security Features





Smart Factory

IT solution-driven smart manufacturing / operation system for maximum production competitiveness

We know your top concerns

Factories struggle with production inefficiency due to initial design flaws as well as falling quality and rising production costs caused by mismatches between operating systems and the actual manufacturing environment. LG CNS provides the optimal IT services for manufacturing companies by precisely identifying these pain points.

Smart Factory with Cutting-Edge Digital Technology

The LG CNS Smart Factory Solution is the culmination and optimization of over 20 years of Digital technology know-how accumulated in the frontlines of industry to deliver our leading solution.

Creating Synergy with LG Group Companies to Provide Smart Factory Environment

We provide smart factory environment through integration of LG CNS ICBMA technology, equipment and process design expertise of Materials & Production Engineering Research Institute, LG Electronics, and communication infrastructure of LG U+.

Core Capabilities

- Best practices acquired through our experience in system implementation, accumulated over the past two decades
- AI / Big Data platform DAP (Data Analytics & AI Platform) - based intelligent manufacturing service
- System operation based on the BizActor Platform, our proprietary and patent solution
- Quick and easy installation and usage, thanks to the streamlined PC-based structure
- A wide range of communication protocols for interfacing between systems and devices
- Cloud-based solutions

Business Achievements

- FACTOVA-Design Navigator Product design guide system for LG Display
- FACTOVA-MES
Global MES for LG Electronics
G2/DICC MES for Doosan Infracore
- FACTOVA-iPharmMES
Hanmi Pharm
Daewoong Pharmaceutical
- FACTOVA-View
Ochang Energy Management System Development for LG Chem

Development experience for the manufacturing industry



20^{Years}

Number of businesses that adopted our Smart Factory Solution, both in Korea and overseas



60



Solution

Smart Factory Solution

LG CNS Smart Factory Solution was created based on our 20-year experience and has been deployed as our intelligent factory solution by more than 60 businesses in Korea and abroad.

FACTOVA-Design Navigator

Developed based on the design know-how of the experts, the solution provides guidance on design process for new employees and helps them to improve their productivity. In addition, it assures production quality through validation of mass-production in advance.

FACTOVA-Control

It is a PC-based control platform that precisely controls all the production, logistics, and utility facilities in real-time according to the various global standards. Using the FACTOVA- Control, clients can build complex equipment line with different models in a flexible manner. Various modeling tools and simulation features are available in standard for easy and fast construction of a control system.

FACTOVA-BizActor

Instead of conventional coding, It is designed to develop the separate applications and processes in the form of business rule. In addition, it features various management functions to maintain performance in the system operation phase.

FACTOVA-MES

By managing performance in line with production plans and sharing production status in real time, it improves productivity and efficiency of work process. In addition to standard MES solutions, it offers industry-specific functions embedded with best practice.

FACTOVA-View

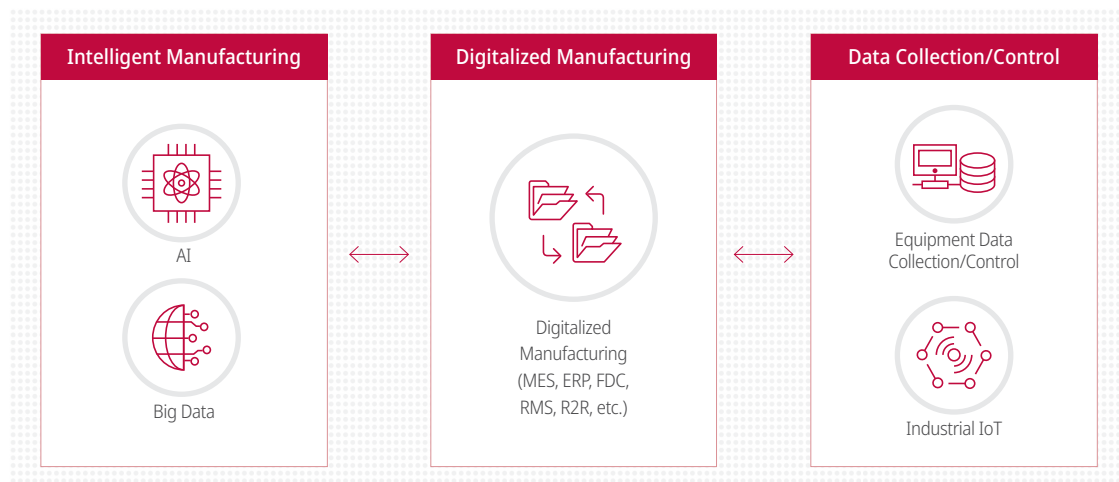
Through real-time monitoring and control of all the environment and utility facilities at an optimal level, it improves product quality. Furthermore, energy consumption can be controlled at the process level as well as the factory-wide level.

FACTOVA-iPharmMES

It provides manufacturing process control, paperless, and regulatory response required for PAT (Process Analytical Technology) at pharmaceutical manufacturing sites. In addition to various regulatory requirements in the pharmaceutical industry, it provides the standard work processes and functions in compliance with MES international standards while controlling and optimizing the processes to ensure compliance with standard procedures. Furthermore, all works are documented automatically to support paperless work environment and improve productivity while meeting international audit requirements.

Smart Factory Platform, FACTOVA

Short for a combination of “factory” and “value”, FACTOVA is a smart factory platform designed to create new values in the manufacturing industry. The platform offers services in three key areas: Data Collection / Control, Informatization for scheduling and managing whole of manufacturing processes, and intelligent services for decision making. It provides solutions tailored to the needs of clients through vertical integration by class and horizontal integration of value chain.





Smart Logistics

IT-based Smart Logistics Service for Maximum Productivity and Efficiency

Business References

- CJ Logistics, Seoul Metropolitan mega hub terminal
- CJ Logistics, logistics automation equipment deployment for Logis Park Dongtan and Yangji centers
- CJ Logistics, express delivery center
- Facility design and implementation for eBay Korea's Mega Logistics Center
- CJ Olive Young, logistics automation equipment for the on/offline-integrated center
- Pantos, Sihwa MTV miniload automation center
- Lotte Super, Euiwang automation center
- CJ Freshway, Eastern RDC automation center
- Pos Malaysia International parcel Center in Malaysia
- DAISO Namsa Distribution Hub center
- Ourhome East Seoul Food Ingredient Logistics Center
- E-Land Shanghai Fashion Logistics Center in China
- Daegu Mail Center of Korea Post, package logistics automation
- E-Land Retail, logistics automation for the Cheonan distribution center
- Shinsegye Food, Logistics automation for the Pyeongtaek distribution center

Ranked first in technology and cost evaluation, outperforming European competitors



1st

We understand your unique logistics process

We provide the optimal logistics processes and facilities for each client business to enable rapid response to changing market conditions.

Total Engineering Logistics Solution

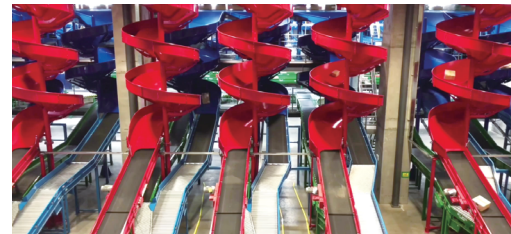
LG CNS provides Total Engineering services for the full range of logistics needs, from consulting and detailed design to system development, facility and solution implementation, and maintenance.

Core Competency

- A rich experience in logistics consulting and optimization, and capabilities in total engineering
- Successful completion of multiple large-scale projects

Service Offerings

- Logistics consulting
- Strategy development for logistics centers
- Logistics center operation process and layout design, logistics cost reduction and optimization
- Logistics center automation facility deployment
- Logistics center optimization facility and solution
- Cross-Belt Sorter · HSS(High Speed Shuttle) · AutoStore
- Robotics · IoT · Digital Twin · Optimizing · Factova-Control
- GreyOrange Butler



Total Logistics Solution Provider

Logistics consulting	<ul style="list-style-type: none"> · Top Industrial experts · Consulting experience · Systematic methodology 	<ul style="list-style-type: none"> · Over 20 logistics / SCM consultants, over 430 IT and facilities engineers · Mid/long-term logistics strategy setting, logistics cost & center operation optimization · Experience in executing 200+ logistics center projects, in Korea and global market, center establishing development methodology
Logistics center design and deployment	<ul style="list-style-type: none"> · Concept/detailed design · Center development · Logistics equipment and solution 	<ul style="list-style-type: none"> · Logistics center role/scale assessment, center layout design, operational/facility design, etc. · Experience in deployment of multiple logistics centers – distribution, courier and fashion industries · C/B Sorter and shuttle localization, miniload/ QPS/pick sort development, global strategic collaboration system for facilities such as Auto Store, Trans robots.
Facility control and IT solution	<ul style="list-style-type: none"> · Facility control · Logistics IT solution · Project quality management 	<ul style="list-style-type: none"> · Proven integrated facility control solution (Factova Control) · Logistics IT solutions – SCM, WMS, TMS, SMS, etc. · Dedicated project management tool, used in over 500 projects per year

Total Service offering for Logistics Center Deployment





Clients' Business Competitiveness Enhancement

Telecommunication & Media

Solutions and services that bring customer value to the forefront and lead innovation with digital technology

Core Capabilities

- IT consulting in all fields of telecommunications, broadcasting, and media industries, industry specialization and IT system developments / operation capability
- Korea's first to develop an integrated (fixed and wireless) BSS and OSS
- Build and operate digital technology (IoT, AI, Big Data, Cloud) platforms (with exclusive platforms)
- Plan, develop and operate data service and ICT convergence service
- Experience in building MSA (Microservice Architecture) infrastructure and its executional capability
- Development capability for media content generation and distribution systems, as well as for devices and their SW

- Deployed Korea's 1st hybrid-based (rules & deep learning) intelligent mobile customer center
- Successfully implemented Korea's first fixed and wireless BSS and OSS (2011)
- Developed Korea's first Android set-top box for pay TV (2011)



1st

Strengthen Clients' IT Leadership and Competitiveness

We successfully delivered the nation's first integrated fixed and wireless BSS and OSS for a leading telecom in Korea. We help our clients strengthen their business competitiveness based on IT / digital technology and insight for market / technology not only in the telecommunication and media industry but also to the industry and service area that are converged with them.

Creating Customer Values through its Sustained Innovation and Technology-driven Thinking

After leading the innovation with downloadable CAS, Android STB, and cloud TV in the media market, now, We have sustained our innovation to realize customer values with the solutions and platforms leveraging digital technologies such as 'virtual agents based smart contact center', 'unmanned store' and 'talk order'.

Best Partner in the Digital Innovation Era

LG CNS supports a digital transformation that drives the innovation of products, processes and business models of our customers, leveraging our extensive experience and technology leadership in building ICBMA (IoT, Cloud, Big Data, Mobile and AI) platforms.

Business Achievements

- Implemented and operated four digital platforms (IoT, Big Data, Media, AI) for LG U+
- Providing total IT services for LG U+ that ranges from infrastructure to application (entire IT system data service, ICT service)
- Developed next-generation OSS and NMS for LG U+ network
- Developing a next-generation BSS(Business Support system) for LG U+ in response to the 5G market (U Cube) (2019~2022)
- Implemented and operated KT bizmeca EZ(SaaS)
- Delivered numerous projects; DW, CMS, PRM, BSS, etc.
- Developed next-generation BSS architecture for KT
- Provided Cloud UI service to cable TV operators; D.live, CMB, and KCN
- Developed SDK and supplied tablets for Softbank's robot, 'Pepper', in Japan
- Implemented digital media centers (production, editing, broadcasting) for SBS and KBS



Solution

Cloud UI (Media Platform)

As a virtualization-based solution, the server performs all operations on the UI and services and the STB receives the processed video from the server and displays it on the screen. Cloud UI solution provides a consistent UI and service to all STBs, regardless of hardware specifications, operating system, or middleware. (customer: D'LIVE, CMB, KCN)

SPACE-N (OSS Solution)

This inventory management solution is designed to manage core assets such as network systems and facilities for telecommunication and cable service providers, and utility companies. As a core component of the telecommunication OSS, it supports logical and physical (GIS) inventory management across its full network in the end-to-end perspective. It is also applicable to managing key assets of various utilities. (customer: Daegu Metropolitan City Hall)

SMUF (Smart Machine-learning Unified Framework)

This integrated solution ranges from machine learning/deep learning model development to test/operation/service environment development. It helps shorten the lead time taken to develop machine learning services and working-level users will have the ability to create machine learning/deep learning services based on their own data without assistance from model developers or machine learning platform operators. (customer: LG U+)

iKEP (Smart Workplace Platform)

This enterprise collaboration platform solution supports a single entry point access to an enterprise information system and creates a smart collaboration environment where users can perform

their job efficiently and free from temporal or spatial limitations. The solution provides a seamless collaboration environment that integrates business conversations, materials and tasks. Additionally, it aligns internal/external services while improving employees' work productivity and bringing innovation to work practices through its combination with latest DT technology.

AI Contact Center

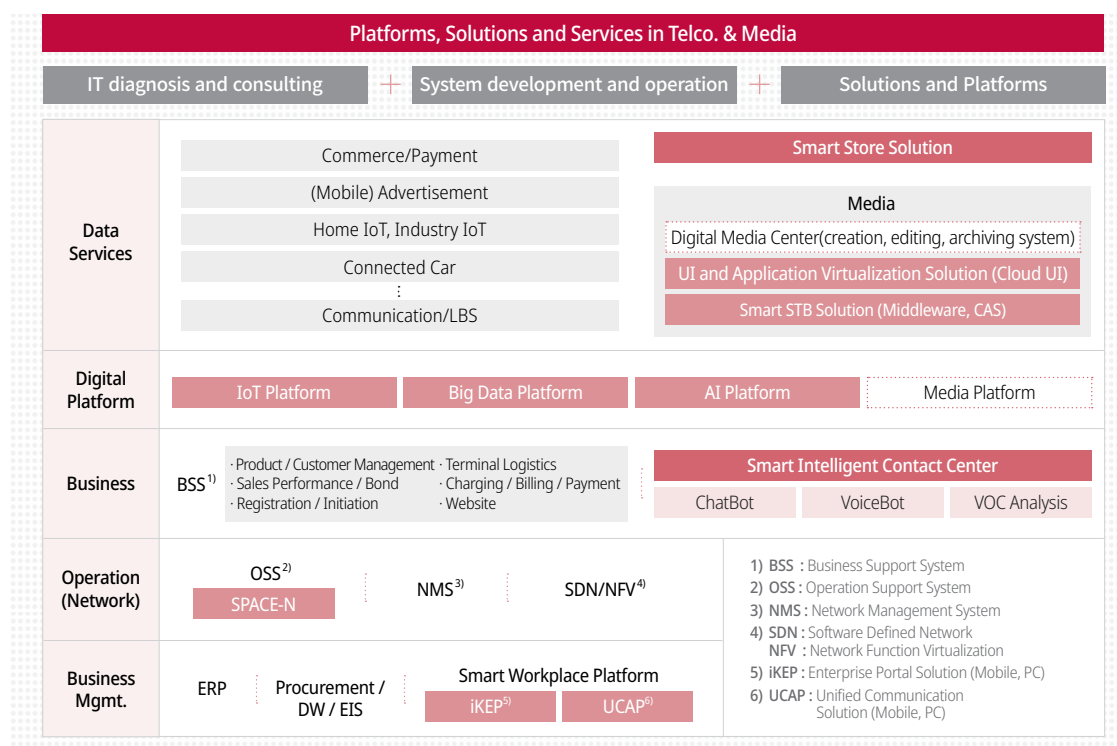
AI-based virtual counselors respond to customer inquiries and automatically receive their requirements. This is enabled by the AI platform built on the combination of Speech to Text (STT), Text to Speech (TTS), Natural Language Understanding (NLU), Dialogue Flow with machine learning technology, and by the voiceBOT developed as virtual counselors in alignment with call modules. As an intelligent AI service, the voiceBots identify the customers' needs through dialogue and provide them with the best answer without transferring their calls to human counselors.

Smart Store

Including SEMS (Smart Equipment Management System), which manages electricity effectively through temperature sensing and facility control, This is a next-generation retail store solution that can be operated as an unmanned store, provides services such as store access control, In-store security, customer shopping path analysis, self-checkout using AI based image recognition technology and automatic ordering system that automatically orders insufficient products through big data analysis.

Service Offerings

■ LG CNS solutions/platforms (including those currently in development)





Transaction Platform

Total Digital Financial Service based on Insight into Digital Technology and Finance Industry

Transaction Platform

We provide client-centered seamless process relay services based on our platforms to facilitate transaction between customers and companies (inquiry, order, reservation, booking, payment, after-sale service) using an array of digital medium.

CNS Pay/MPay

CNSPay / MPay is a convenient payment solution that only requires a single password to carry out e-commerce transactions.

- Supports password-only payment for credit card payments of over 300,000 won, without public key authentication.
- Reduces payment failure rate by removing the need to install additional payment apps.
- Secures personal data by segregating information between the smart phone and authentication server.
- Graded 'Ga' under the Financial Supervisory Service's security certification program
- Enhances payment success rate by supporting multiple browsers, with no ActiveX requirement.

Talk Service

Chatbot Order / Reservation

Leverage messenger/mobile website-based chatbot technology to offer automated order handling services that allow users to place orders and make payments

Based on wide-ranging chatbot builders (KaKao Talk i Open Builder, Google's Dialogflow, Naver's CEK, and DAP), our mobile chatbot order handling service enables users to place orders by simply choosing their product and entering their delivery address. Through different mobile channels including mobile websites and the KaKao Messenger that are aligned with customer websites, order placement and payment are handled within one minute in a user-friendly chatting format without the need to install additional apps. This service can also be aligned with the back end system (legacy system) of commerce businesses to enable them to automate their order handling service without recruiting additional staff.

Chatbot Customer Center

Automated customer center operations that respond to customer inquiries in chatting format

Our automated customer center service allows consumers to check their order details, delivery status, cancel their order, and post their reviews through a chat-based UI on the basis of different chatbot builders, including KaKao Talk i Open Builder, Google's Dialogflow, Naver's CEK, and DAP. Through different mobile channels including mobile websites and the KaKao Messenger that are aligned with customer websites, automatic chatbots respond to customers in accordance with the predefined rules, and, if aligned, can connect customers to the chatting service provided by human counselors.

Talk Marketing

Wide-ranging events hosted on the basis of Kakao Talk, including surveys and the receipt of sample requests

Our Talk marketing builder solution can be used to develop a range of events and this automatically leads to the creation of Kakao Talk-based event services. This cloud-enabled service does not require any alignment with customers and thus can launch events within one to two days to reduce customers' financial burden in hosting corporate marketing events.

The number of vendor agreements with airlines, shopping malls, and restaurants



1,000

The time required from ordering to payment for home shopping



Within 1 min.

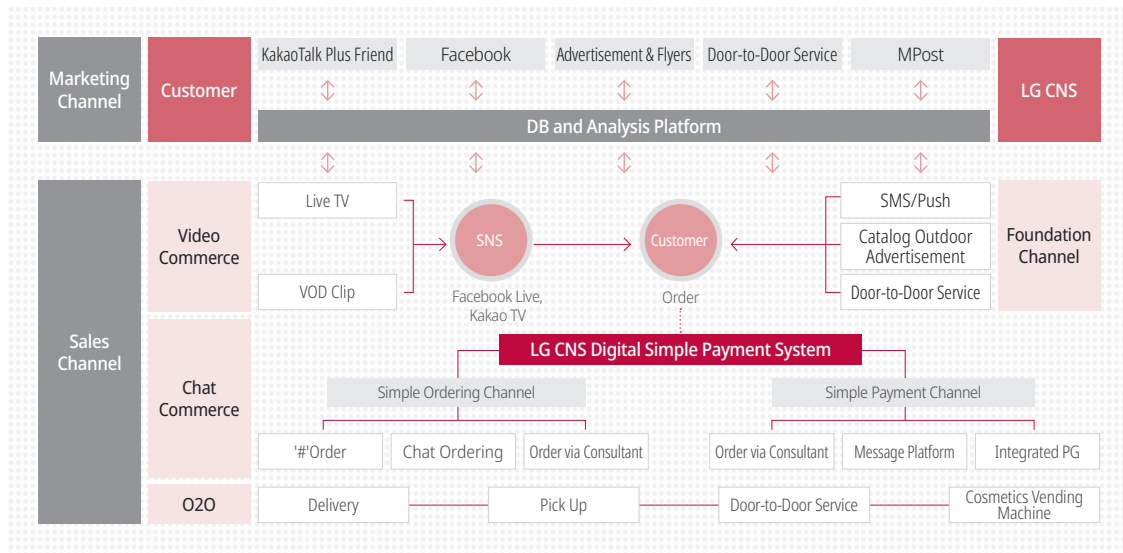
Core Capabilities

- Deep understanding of commerce business and the legacy commerce system
- Large-scale commercial references including Talk order services for such large home shopping companies as GS Shop, CJ O Shopping, Hyundai Home Shopping, NS Home Shopping and Shopping & T as well as Talk ticketing services for the Daemyung Resort and the Konjiam Resort
- Large-scale commercial references including Nu Skin Korea's mobile web chatbot customer center based on Google's Dialogflow, and Pulmuone's customer satisfaction center based on Kakao
- Deep technological understanding on wide-ranging chatbot builders including mobile websites, Kakao Talk, and Facebook as well as deployment capabilities in diverse application areas including chatbot service planning and development

Business Achievements

- World's 1st and greatest service offerings to commercialize chatbot-based order services for real-time TV and catalogue order placement
- Chatbot reservation service - Lift ticket and room reservations at the Konjiam Resort and the Daemyung Resort
- Chatbot customer center - Nu Skin Korea's mobile web chatbot customer center based on Google's Dialogflow, Pulmuone's customer satisfaction center based on Kakao Talk
- Talk marketing service - Yuhan Kimberly, Hiplaza, etc.

Service Offerings



Smart Message

Secure messaging platform

LG CNS offers messaging platforms that enable real-time / large-scale service with minimum costs via highly optimized SMS and push messaging.

Proven track record in finance, government, logistics, retail

We provide payment solutions to over 160 top companies in a wide range of sectors including Shinhan Card, Samsung Card, Hyundai Card, Korea Post, eBay Korea and Interpark, with our client base continuously expanding to include healthcare and retail companies.

Core Capabilities

- Provides integrated messaging platforms that integrate app-based push messages / SMS / LMS such as KakaoTalk based alert and MPost
- The only proven provider of large-scale messaging service in financial and public sectors
- Stable infrastructure for large-volume message transmission
- Offers customized services for each industry by combining processing, messaging, ordering, payment, and customer services
- Our own IDC infrastructure offers flexibility, expandability, safety and security

Business Achievements

- Credit card companies (Shinhan, Samsung, Hyundai, etc.)
- Korea's first implementation case (Post Office)
- eBay Korea, Interpark, BaedalMinjok
- MPost mobile billing 6.4 million application downloads, 3 million unique users, 8.5 million in monthly transmission, 32 corporate clients from financial, government, and communication sectors

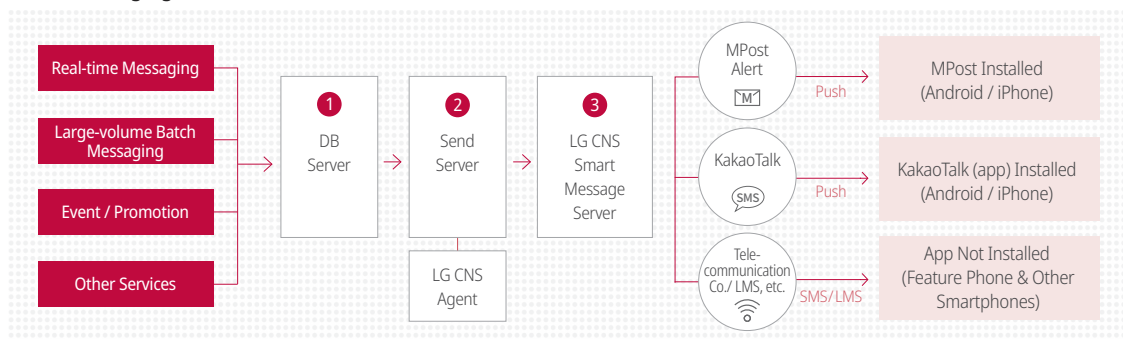
The largest number of push messages transmitted in Korea



1st

Service Offerings

Smart Messaging & MPost





Robotic Process Automation

Automation Solution That Enables Businesses to Reduce Simple and Repetitive Work and to Focus on Core Operations to Ultimately Build a Stronger Competitive Edge on Automation Solution

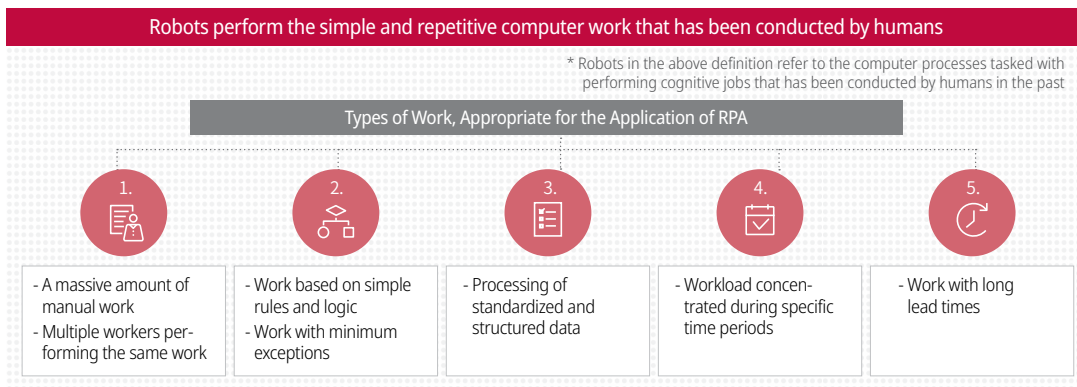
Establishment of RPA governance allows us to cater to customer needs along the entire life cycle, from introduction and development to operations rather than simply developing solutions

One common misunderstanding is that RPA solution based development may effortlessly result in automation. However, we at LG CNS, take it a step further by developing strategy to clarify the purpose and goal of introducing RPA while presenting task discovery methodology and task selection criteria to assist our customers in identifying the most effective automatable tasks. We also provide a stable and continuous work environment for robots by defining policies, R&Rs and KPIs on RPA planning/development/operation/monitoring, including RPA security policies and bot monitoring plans.

Adopting the Global No. 1 Product as Our Standard Solution to Compile All Our Capabilities

In line with our Best of Breed policy, we have chosen "UniPath", the global No. 1 RPA solution, for our group-wide application. This allows us to compile all our capabilities on solution development and trouble-shooting in order to ensure a more productive and stable development.

Concept of RPA (Robotic Process Automation)



Evolution into Intelligent RPA

While the current level of RPA is capable of automating standardized simple and repetitive work, its future lies in the adoption of chatbot and image recognition technology to meet the needs of automating images, natural languages and other non-structured data. At LG CNS, we have already advanced to the level of communicating with robots through chatbot technology and performing deep learning OCR technology verifications by offering relevant services.

Core Capabilities

- RPA task development and operation capabilities built through the undertaking of projects for group affiliates based on standard solutions
- RPA governance consulting service (policy development, task discovery workshop, change management support, etc.)
- Public cloud-based robot monitoring platform service
- Chatbot, AI, and big data capabilities deployed to establish Intelligent RPA

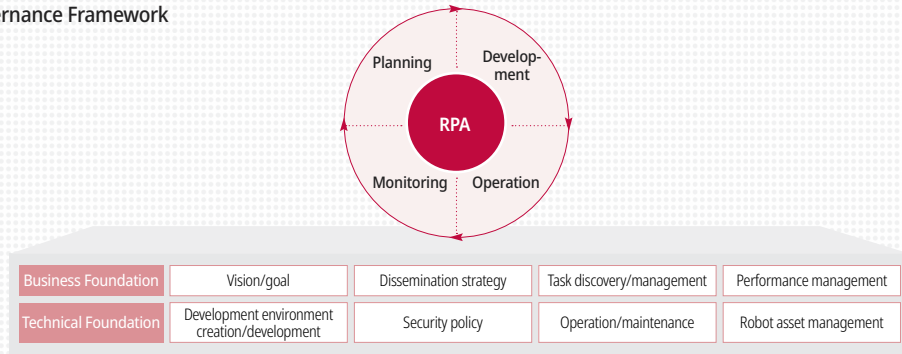
Business Achievements

- LG Electronics, LG Display, LG Households & Health Care, S&I corp., LG Chem, LG Hausys, LG U+, SERVEONE, and LG CNS
- Pilot project undertaken for GS Retail
- Experience in executing more than 400 tasks along the entire value chain of manufacturing/service/retail/telecommunications businesses

RPA Governance

To systematically introduce and disseminate RPA following PoC, it is critical to lay the basis for governance on RPA planning, development, operation and monitoring

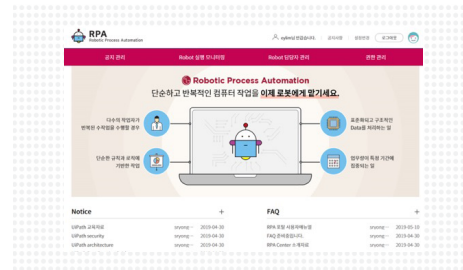
RPA Governance Framework



Public Cloud-based Robotic Monitoring Platform

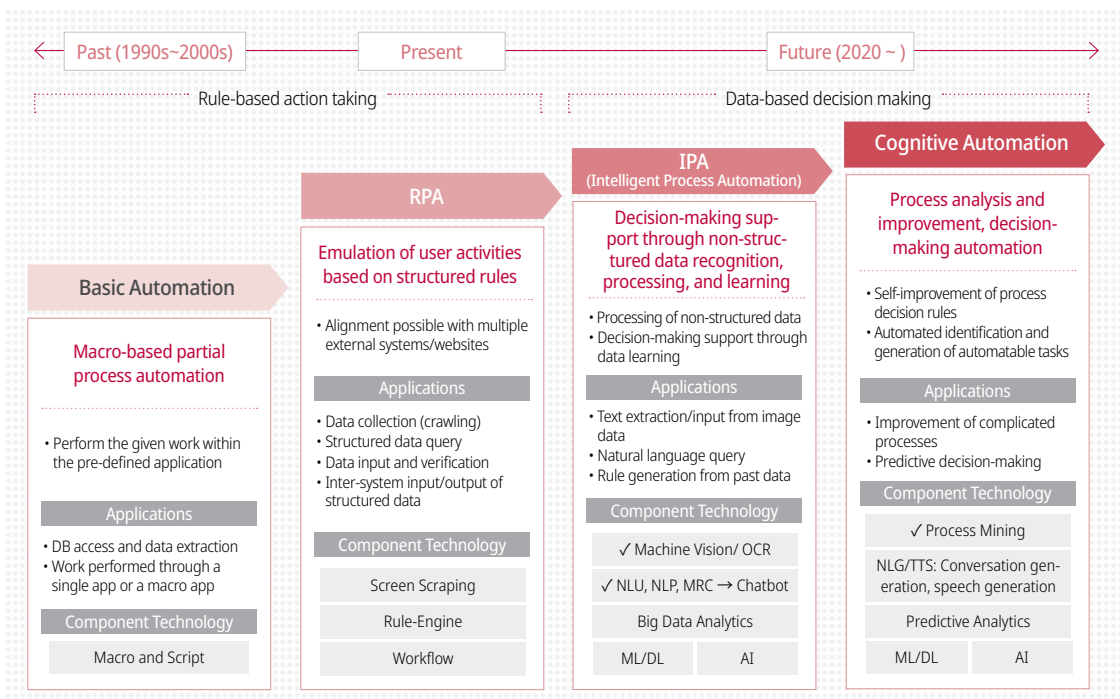
Provisioning of a Public Cloud-based Robotic Monitoring Platform

We have independently developed a robotic monitoring platform and are offering the platform through AWS: this platform allows non-expert users to easily access the functionalities that are not readily available in standard solutions, including robotic execution result monitoring, task-based credential management, common library management, chatbot-enabled robotic execution, robotic execution result reporting through KakaoAlim Talk, and Elastic search/Kibana-enabled reporting.



Intelligent RPA

LG CNS aims to embrace new digital technology in each phase of the process automation evolution in order to deliver intelligent RPA and to extend the work scope of its application





Leading Changes for a Better Life

Digital Finance

LG CNS' total services for financial institutions' digital transformation, which reflect our deep insight in digital technologies and BFSI

Key requirement for changing financial services environments

Financial services industry is being heavily impacted by the Fourth Industrial Revolution, embodied by “disruptive innovation” and “digital technology”. Digital transformation is an indispensable requirement for financial institutions today.

Supporting business innovation through The advanced finance solutions

Our financial IT solutions are deployed in domestic and overseas leading financial institutions to play a pivotal role in their business transformation, innovation and efficiency improvement.

Best reference in the industry

The IT systems that we have developed across the entire financial industry domains, from credit card business to banking business, are recognized as the ‘Best-in-Class’.

Core Capabilities

- Financial solutions and IT service capabilities delivered based on our extensive experience in developing and operating in a wide range of financial IT systems over the past two decades
- An innovative development method MDD, Model-driven development, for post next generation systems
- A leadership in digital financial services industry with new technologies, including digital banking, AI and Blockchain

Business Achievements

- Next-generation IT system implementation for Kakaobank, Shinhan Bank, KEB Hana Bank, NH Bank, Suhyup Bank, Jeon Buk Bank, Kwangju Bank, Kyobo, PCA Life Insurance, Shinhan Card, NH Card, KB Card, and Korea Securities Depository
- New digital technology business: KB Kookmin Bank chatbot, blockchain-based Magok Community Currency, Shinhan Bank's face recognition unmanned payment system, Korea Insurance Development Institute's IFRS17 System
- Large-scale IT outsourcing: Shinhan Card, KB Insurance, and Prudential Life Insurance

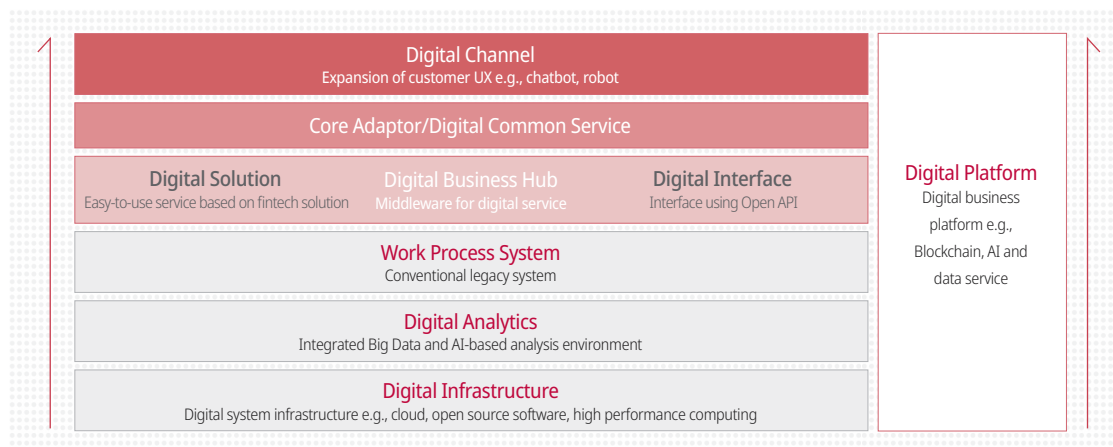
Leader in the next generation credit card system development market in 2018 (KB / NH / BC)



No. 1

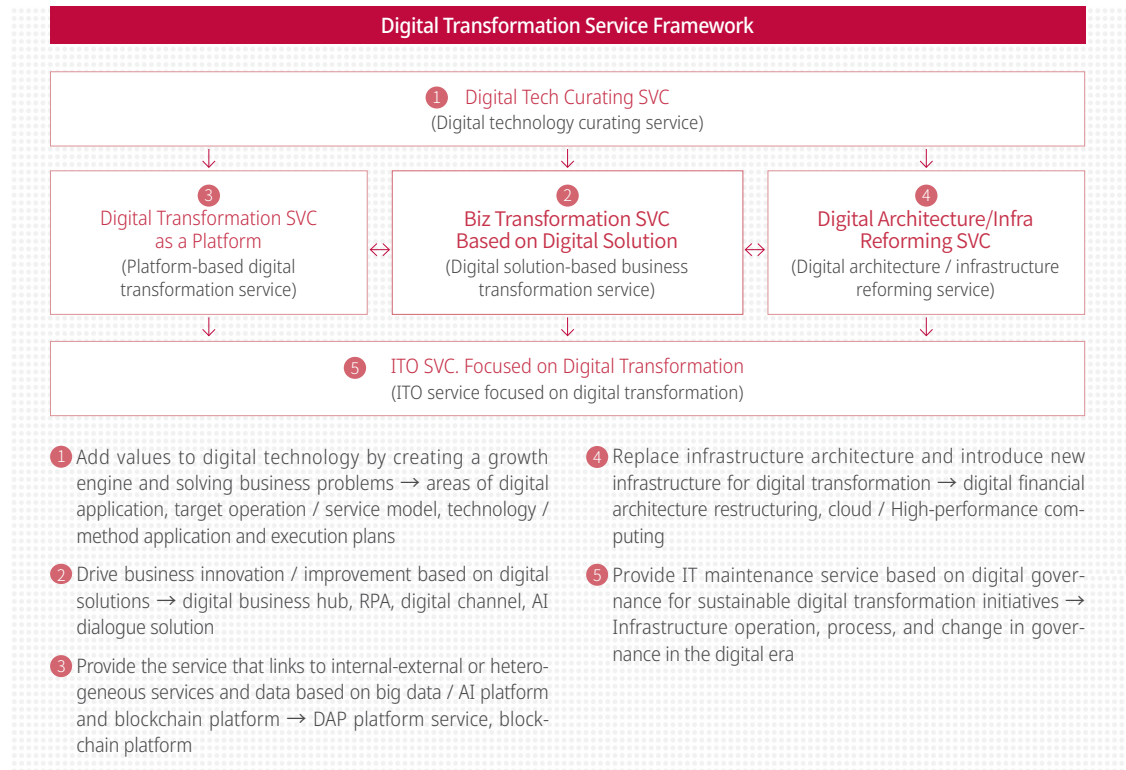
Digital Financial System “Blue Print”

The goal that financial firms should aim for through digital transformation



Service Offerings

We have provided comprehensive services to satisfy various financial institution's needs of digital transformation.

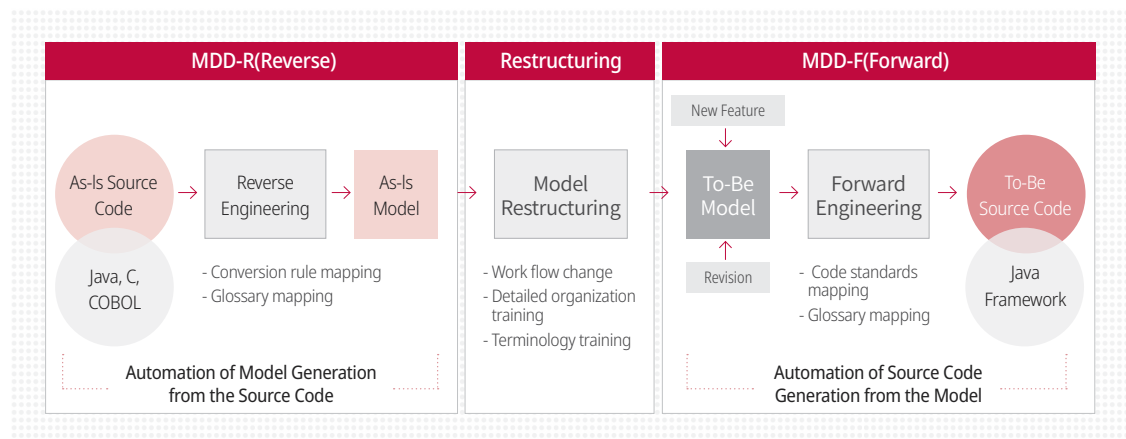


Solution

MDD (Model Driven Development)

Making the dream of automated software development come true, creating the complete source code without hard coding

Modeling tools are used to create a model for software design, and detailed logics are expressed in natural language(Korean), without the need to code in a programming language. Once the model is complete, a single click automatically creates the Java source code. In essence, a full source code is created solely from the software development design, just like inserting the design drawings into a 3D printer to create a fully-rendered three-dimensional product. Errors during software execution can be fixed by changing the design model, not the code. Generating and understanding software design documentation is considerably simpler than source code thanks to models.





Leading Changes for a Better Life

e-Government

Efficient and competitiveness-boosting administrative and government services built on unmatched public service technology capabilities

Strengthening Korea's e-Government

Competitiveness

LG CNS provides transparent and efficient public administration service and plays big role in passing down Korean e-Government knowhow to overseas.

LG CNS was awarded as Hall of fame for its contribution to the e-Government achievement at the 50th e-Government Anniversary Ceremony in 2017.

Core Capabilities

Republic of Korea is world-leading e-government country, Korea was awarded as winner of UN e-Government development index for the three consecutive times, in year 2010, 2012, 2014. LG CNS implemented more than 60% of initiatives e-government projects.

- Provide e-government consulting / design / implementation service based on extensive experience
- Extensive experience in overseas public project implementing more than 40 e-government systems in over 20 countries worldwide

Business Achievements

- Smart School/ICT-based Education System Transformation
 - ICT Education System in Colombia
 - First Village Smart School in Sejong City
 - Operation of Hanyang Cyber University and Cyber Hankuk University of Foreign Studies
- e-Passport system: Participated in Korea's e-Passport System project from the 1st to 7th phase
- e-Library
 - National Electronic Library Project in Navoiy, Uzbekistan
 - National Digital Library (NDL)
- Public Registration System (Internet Registry)
 - Online corporate registration system development in Bahrain
- Data base system for the judicial branch
 - Criminal justice information system development
- Disaster Response & Safety System
 - 112 Control Center & 119 Situation Room in Korea
 - Emergency Response System in Mongolia / Crime Information Management System in Indonesia
 - Maritime navigation safety system development in Bangladesh
- Finance and tax Informatization
 - Tax administration system development in Laos
- Mail Information System

Service Offerings

- Education & culture: Smart School, e-Library
- Ministry of Foreign Affairs: e-passport, consular complaints
- Life: Smart City, Disaster Response & Safety
- Judicial: Corporate / real-estate registrations, criminal justice matters
- Legal: criminal justice matters, immigration regulations, border control
- Administration: Government services, administrative information sharing, public records
- Tax: National finance, national tax, local tax, custom duty
- Other: Mail information, weather forecast

Ranked first in the UN e-Government Survey for three consecutive times



1st

e-government export to more than 20 countries worldwide



USD 250 Million

Public ICT	Smart School / Education ICT	Electronic Library	Public Safety LTE	Smart City	e-Passport	Disaster Safety Solution
Jurisdiction / Judicial Affairs	Real-estate Registration	e-Court System	Criminal Justice	Immigration Administration		
Administration / Other	Mail Information	Weather Information	Customs	National Computing and Information Service		



Smart City

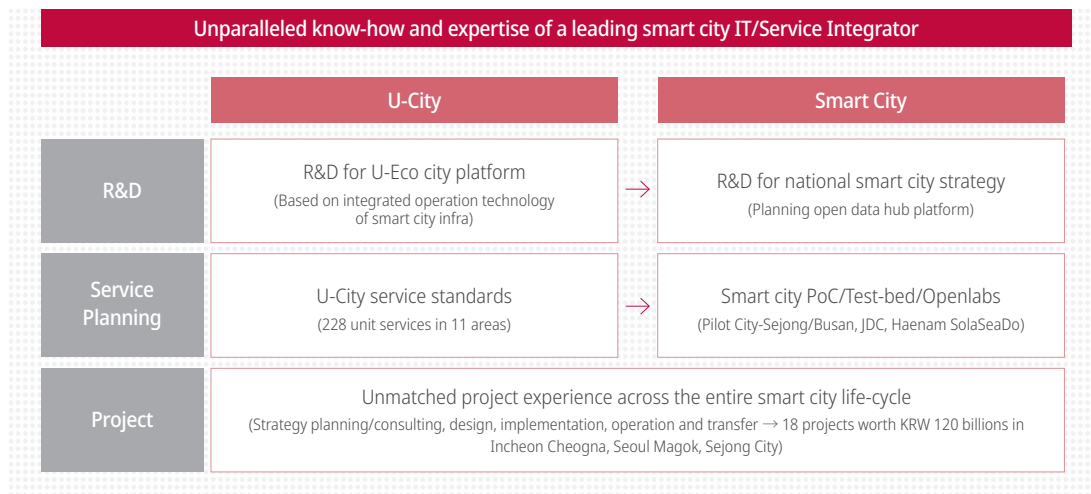
We provide data-driven city platforms and smart city services with the focus on providing experience for citizens by incorporating digital technology into extensive city data.

Korea's Top Smart City IT/Service Integrator

Based on unparalleled digital technology and expertise in solutions we have gained by implementing city infrastructure since the introduction of U-City, we are leading the smart city revolution.

Core Capabilities

Unrivaled business know-how and technological expertise as the No.1 leader in smart city business



Business Achievements

Smart City strategy planning and master plan

- Private sector participant in the Smart City Challenge project led by the Ministry of Land, Infrastructure, and Transport (Daejeon Metropolitan City, Changwon City in Gyeongnam Province)
- Goyang Smart City development strategy
- Haenam SolaSeaDo
- Specialization strategy for Jeju pilot smart city
- National smart city strategy project (R&D)
- Concept design for Smart City Innovation Test-Bed
- U-City plans and designs for Songsan, Gangwon Wonju, Chungbuk / Jeju, Goyang Samsong, Yeongjong, Incheon Cheongna, and Wonju

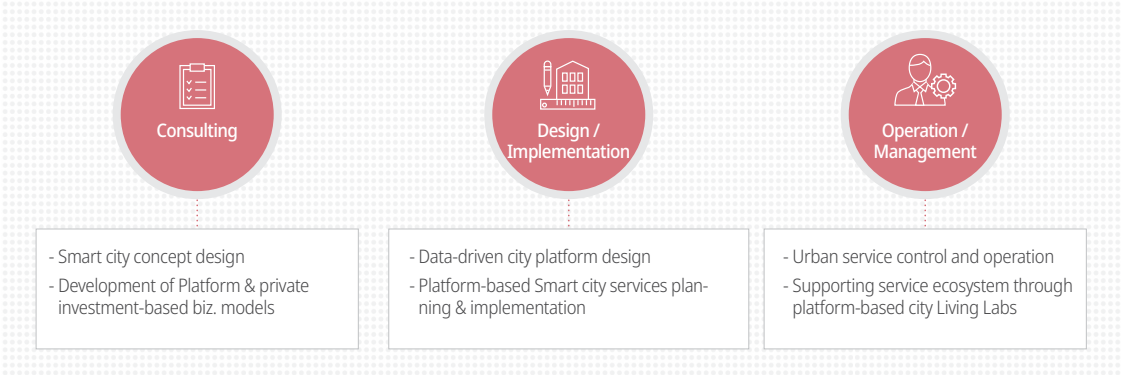
Smart City working design and implementation

- Urban renewal project in Seun-4-district in Seoul
- Design and implementation of U-City in Seoul Magok District
- Working design and implementation of MTV Smart City in
- Implementation of U-City in Sejong-si, Incheon Cheongna, Suwon Homaesil, Daejeon Future-X, Pangyo, Eunpyeong New-town and Songdo.

- Smart city development experience in Korea
- Korea's No. 1 smart city IT/Service Integrator with full life-cycle experience and expertise

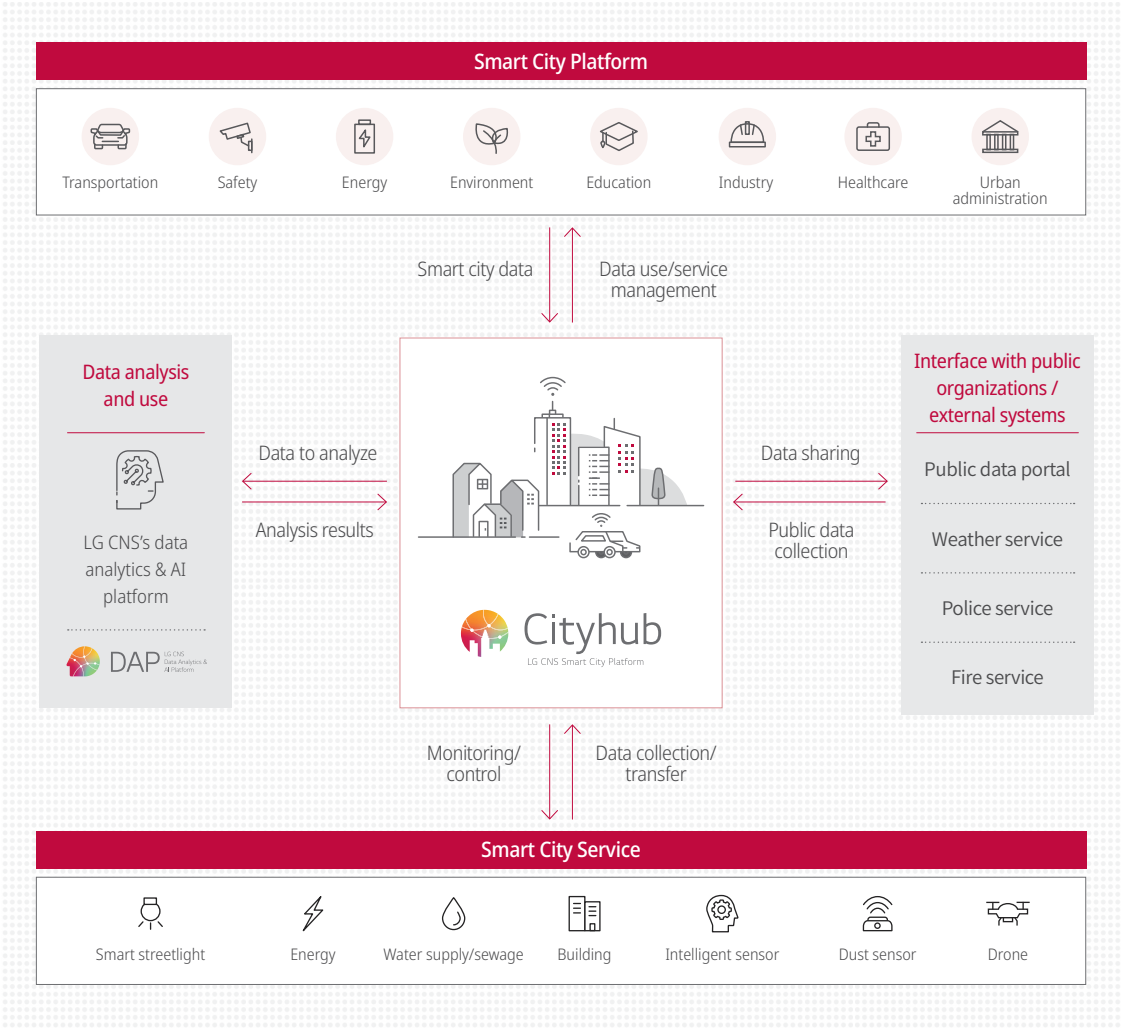


Service Offerings



Solution

We create new smart city services through the combination of digital technologies including IoT, cloud, big data, AI, digital twin, and blockchain across wide-ranging industries from transportation, safety, and living to urban management and energy while delivering proven integrated urban operation and management services on our smart city open platform.





Smart Transportation

Building convenient and safe transportation systems with Information Technology

Creating an advanced transportation system

LG CNS Smart Transportation solutions aim to maximize operation efficiency, convenience and safety for multiple transportation modes such as bus, metro, taxi, rail and air travel.

Convenience for passengers, efficiency for operators

Our Automatic Fare Collection (AFC) supports both integrated fare payment and multi modal platforms that ensure convenience for travelers, while our Fleet Management System (FMS) enhances bus operation efficiency.

Global project references for Smart Transportation solutions

Our successful implementation of the Seoul Tmoney System, the Seoul Transport Operation & Information Service (TOPIS), the Korea High Speed Rail's Integrated Rail Information System (IRIS) and the Incheon International Airport lead to a number of other international projects in the smart transportation sector.

Core Capabilities

- LG CNS provides end-to-end services and solutions for fare collection by integrating fare information and applications across multiple transportation systems and routes
- LG CNS is fully capable of leading other Smart Transportation initiatives including Intelligent Traffic Management System (ITMS), Fleet Management System (FMS), Smart Rail and Smart Airport.

Business Achievements

- Tmoney (AFC) – Seoul (Korea)
- Tullave (AFC) – Bogota (Colombia)
- Bus FMS – Bogota (Colombia)
- Hellas Smart Ticket (AFC) – Athens (Greece)
- Bus AFC & FMS – KL, Penang (Malaysia)
- TOPIS – Seoul (Korea)
- Smart Tolling Information System – Korea
- Communication & Security System – Korea High Speed Rail
- Communication System – Seoul Metro (Korea)
- MRT Line 1 Communication System – Kuala Lumpur (Malaysia)
- Monorail PSD - Kuala Lumpur (Malaysia)
- LRT PSD – Lusail (Qatar)
- Air Traffic Control (ATC) – Incheon, Daegu (Korea)
- Airport Security & Integrated Airport Information System – Incheon International Airport, Korea

Number of daily Tmoney transactions

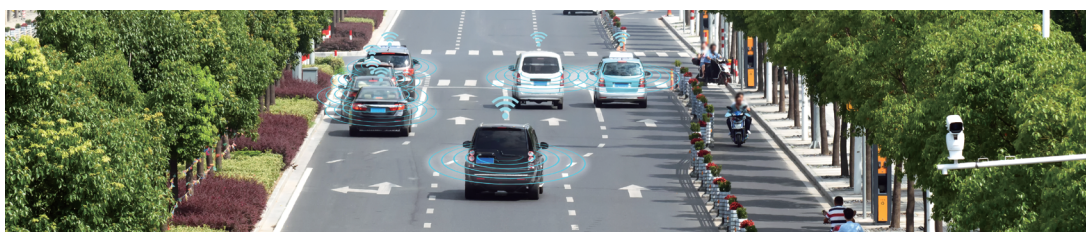


40 Million

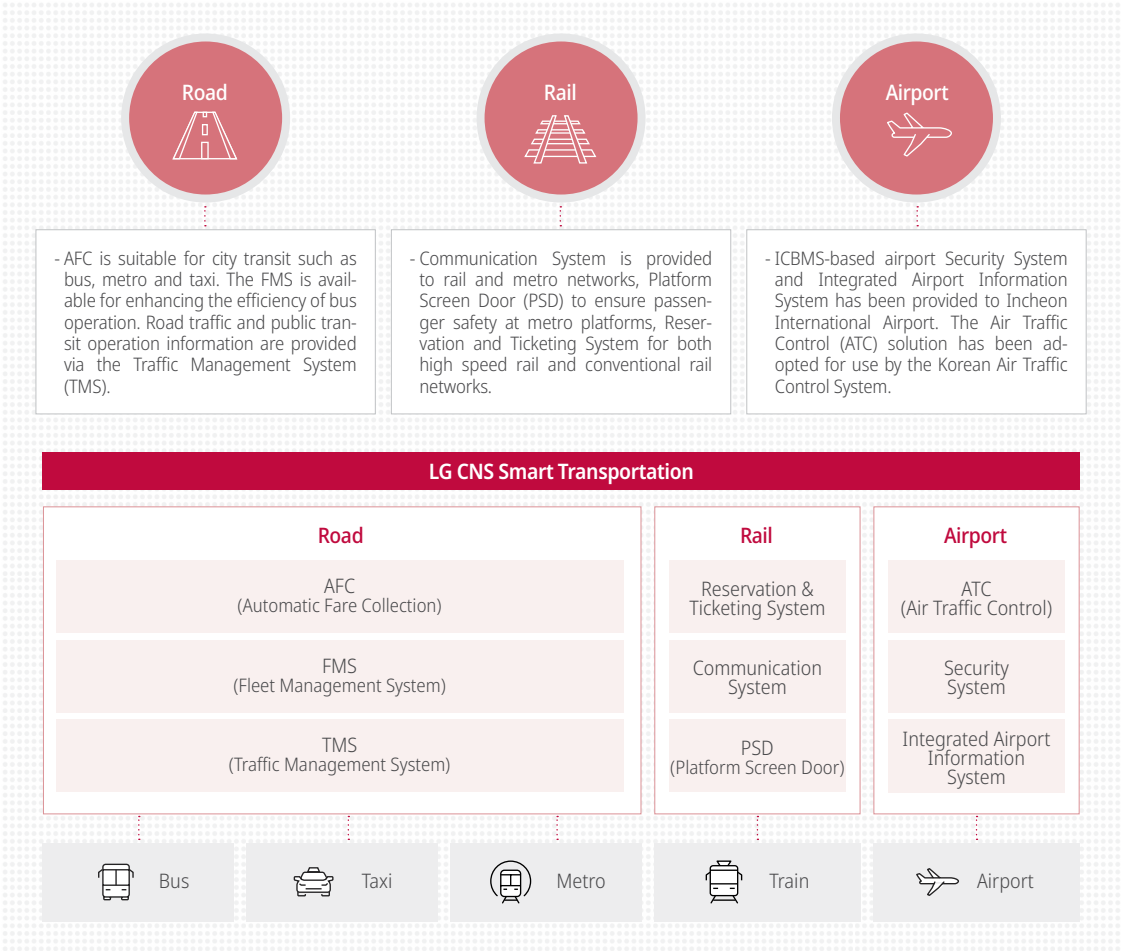
Tmoney usage rate for public transportation fare transactions in Seoul



99%



Service Offerings



Solution

World's Most Convenient Transportation Smart Card System – LG CNS



Our smart card-based fare payment solution can be expanded to all city transit such as bus, metro, tram as well as taxi. The solution provides flexibility for different fare types for different transit modes as well as for integrated multi-mode ticketing. City-wide fare payment infrastructure can be expanded to multi-functional sector such as retail and public services.

LG CNS FMS provides planning & dispatching service from planning timetables to optimized allocation and assignment of vehicles and drivers. The system also tracks the location of vehicles in real-time to enable bus drivers and companies to maintain appropriate vehicle intervals and optimize the vehicle dispatch process.





Consulting

**Entrue Consulting -
Innovation leader in Digital Business
delivering real value to our clients.**

No.1 Partner for Top Global Companies

We help our clients to boost innovation and to enhance growth momentum by leveraging our unparalleled consulting services.

Specialized Consulting Firm in Digital Business

In today's digital era, we take the lead in assisting our customers every step of the way in strengthening their competitive edge and in creating new markets by using our unrivaled expertise. At Entrue Consulting, we have Thought Leaders from respective areas, who engage in projects under the cross-functional matrix structure. Moreover, our Smart Factory, Smart Engineering, Future Technology Strategy, Customer Value Innovation, FCM/Financial Services, SCM/Logistics, and Optimization Groups are dedicated to understanding customer problems in a swift and accurate manner in order to present optimal solutions.

Business Achievements

- Strategy consulting for LG Corp., LG Electronics and LG Chem on automotive components business.
- Strategic development consulting for LG Group on energy business.
- Business opportunity evaluation consulting for LG Group on Smart City business.
- Convergence strategy consulting for LG on digital technology business including AR/VR, robots, drones, healthcare, etc.
- SCM/logistics diagnosis and strategic roadmap development for LG Electronics, LG Display, LG Chemical, LG Innotek, Pantos, GS Home Shopping and CJ Korea Express.
- Digital Marketing/CRM/e-Commerce consulting for LG Electronics, Jeju Air, financial holding companies, credit card companies, and consumer product manufacturers.
- Management system enhancement for LG subsidiaries.
- Strategy development for LG Chem's battery business and Smart Factory.
- Big data strategy development and service enhancement for LG U+.
- Mid/long term IT innovation solution plan for GS Retail.
- Micro-grid planning for Guam Power Authority.
- FACTA implementation consulting for Korea Federation of Banks and General Insurance Association.

Mission

As a professional consulting service provider, we have built knowledge and reasoning based expertise to drive innovation and growth for our clients.

Vision

We offer differentiated and client-specific services with our unparalleled expertise, and as the industry's leading consulting service provider, we have become the company and partner of choice for exceptional talents aspiring to become consultants and top global companies, respectively.

Number of IT/business consulting projects completed.

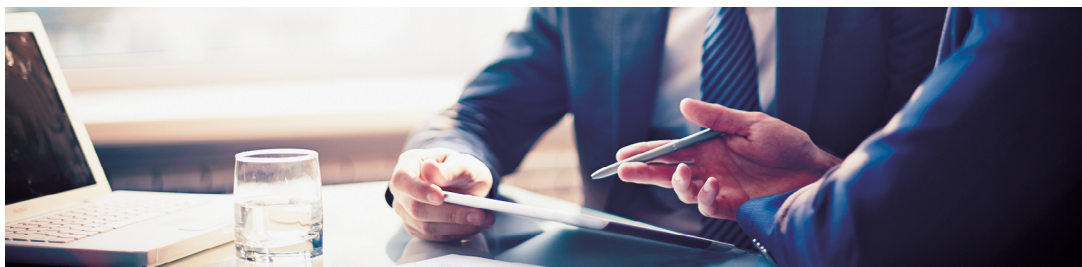


Over **3,500**

Since its foundation in 1991, LG CNS has led the IT/business sector for 28 years



28 Years





IT Service Expertise

Data Center

We provide data center services with net neutrality for global companies, internet companies and financial companies.

Following the establishment of Korea's first dedicated data center in Incheon, LG CNS current operates data centers in Sangam, Busan and Gasan as well as in four global key locations in the United States, Europe and China. Our data centers are acknowledged for excellence throughout the world as green data centers, and feature infrastructure redundancy and seismic isolation designs, the highest level of power efficiency, and standardized and automated operational environment and processes.

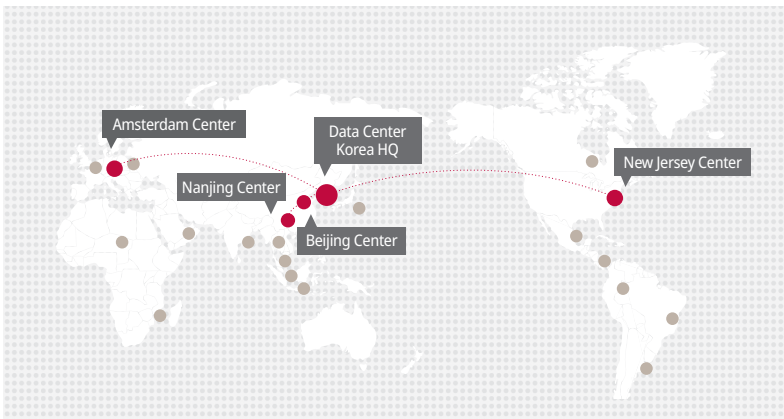
Core Capabilities

- Guarantees end-to-end network neutrality from the center entry to the client's white space.
- Responds to client demands through groups of professionals from architecture, electricity, fire safety, security and network.
- Provides stable infrastructure environment based on 30 years of experience in error-free data center management.
- Has client references across local and international industries from cloud, internet, mobile, finance, communication and distribution to manufacturing.

Busan Global Cloud Data Center	Sangam IT Center	Gasan Data Center	Incheon Data Center
<ul style="list-style-type: none">· Dedicated Data Center (5 aboveground floors, seismic isolation floors)· Total Area: 32,321 m² / Data Room: 12,177 m²· Richter scale 8.0 seismic isolation design, 40,000 KVA	<ul style="list-style-type: none">· Dedicated Data Center (12 aboveground floors, 4 underground floors)· Total Area: 43,808 m² / Data Room: 13,686 m²· Richter scale 8.0 quake-proof design, 18,000 KVA	<ul style="list-style-type: none">· Dedicated Data Center (13 aboveground floors, 1 underground floor)· Total Area: 75,041 m² / Data Room: 12,734 m²· Richter scale 7.0 seismic isolation design, 20,000 KVA	<ul style="list-style-type: none">· Dedicated Data Center (3 aboveground floors, 1 underground floor)· Total Area: 14,326 m² / Data Room: 4,073 m²· Richter scale 6.0 quake-proof design, 7,000 KVA

Service Offerings

- Offers white space services supported by stable infrastructure.
- Provides network cables for all local and international mobile carriers.
- Operates infrastructure based on the top domestic SI/ITO business: network/security/server/DB/middleware management.
- Offers stable and efficient IT infrastructure based on more than 30 years of data center management experience, four local centers and four overseas centers.



Constructed and operated Korea's first dedicated data center in 1992



No. 1

Busan Data Center acquired the highest Green DC rating



A+++

2

SUSTAINABILITY ISSUES

CUSTOMER-FIRST

- 42 Quality Management
- 44 Information Security

HUMAN RESOURCE

- 47 HR Management
- 50 Corporate Culture

MUTUAL GROWTH

- 53 Shared Growth
- 57 Social Contribution

61 FAIR TRADE

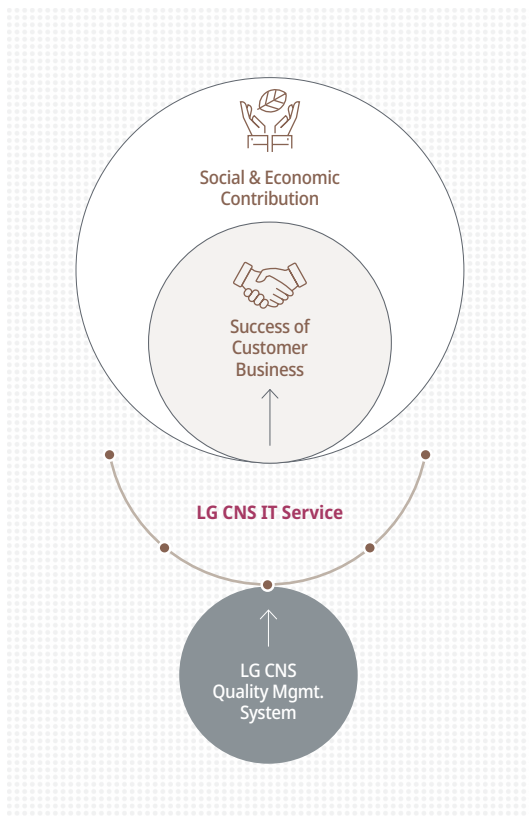
ENVIRONMENT

- 63 Environmental Safety and Health
Management
- 66 Climate Change Response

Quality Management

Our Quality Management System

LG CNS believes that our business mission is to create customer value based on our technological expertise. We also fully understand that preemptive risk management and quality assurance are essential in large-scale projects, particularly those for the public and financial sectors, as they have overarching economic and social impact. In order to raise employee awareness on quality and accountability, LG CNS has in place a corporate-level quality management system as well as a quality policy to ensure that our quality standard is clearly communicated and implemented internally.



Global Standard for Quality Management System

Since we became the 1st SI service provider to achieve ISO 9001 across all our business sites in July 1994, we have successfully completed its surveillance audits as well as renewal audits as part of the three-year renewal process. This allowed us to consistently improve our business process and to establish an LG CNS quality management system that assists all employees in generating the greatest possible business outcomes. Our Headquarters and our subsidiary in Greece remain certified against ISO 9001:2015, the latest version of this international standard.



ISO 2015



ISO 2015

Quality Management

LG CNS operates an integrated quality management system that integrates people, process and technology to comprehensively manage project quality, operation / maintenance service quality and solution quality from the IT service perspective.

Project Quality Management

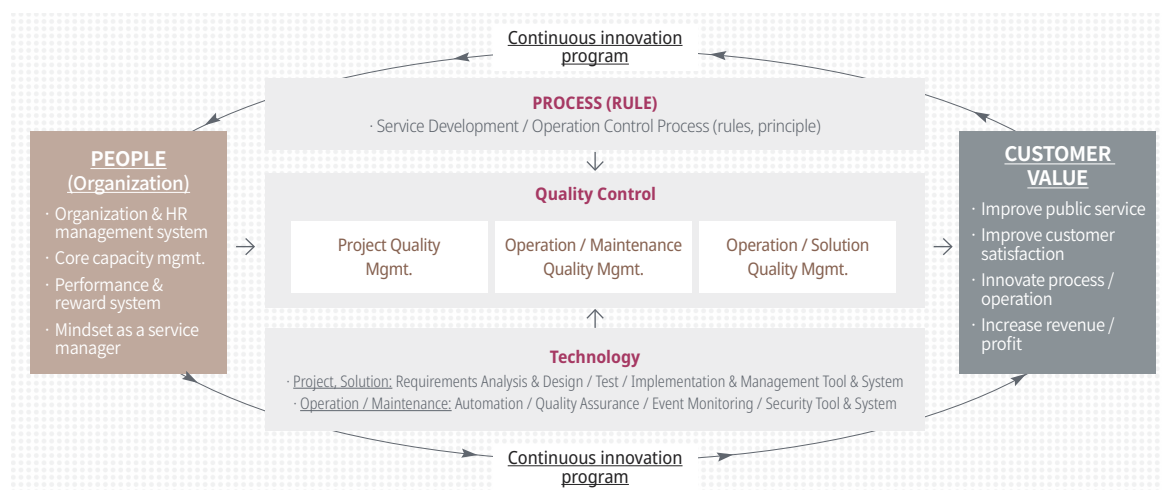
In order to break from the conventional quality management framework that primarily relies on follow-up management, LG CNS established a quality management process that allows us to preemptively identify risks and address them. As part of these process-based internal quality assurance efforts, we developed implementation rules for mandatory adherence during project performance and established an ongoing monitoring system to ensure strict employee compliance at our offsite projects.

Operation / Maintenance Service Quality Management

As part of our ongoing efforts to ensure service integrity, deliver uninterrupted IT services and make ongoing improvements, LG CNS established core action requirements that serve as a basis for employee action at our maintenance service sites and ensure the stability and reliability of our services. We also have in place an E2E (End-to-End) quality management system that combines real-time event monitoring with a rapid response system to enable detection immediately following, or prior to, an event.

Solution Quality Management

We operate the 'Solution Management System' across the entire process, from solution planning and development to operation and maintenance, to keep track of the quality of our solutions and products in order to deliver high-quality solutions.



Increasing Customer Satisfaction through Development of PM

In our pursuit to deliver customer value and to accompany our customers on their way towards business innovation through project undertakings, we are keenly aware of the importance of Project Managers (PM) who are responsible for implementing projects. Therefore, we leverage our experience-based case studies to help PMs learn how to manage their projects with a focus on customer business value and to predictively respond to risks that may arise in any business areas. In addition, we ensure that our PMs are armed with optimal capabilities to maximize customer value through our PM professional certification, PM development and training, and PM performance assessment programs.

PM Development System & Training

Category	Certified PM	PM	
		Large Scale / Open	Small Scale / Family
After Certification	- PM In-Depth Workshop		
Certification Test/Review	- Preliminary Written Test (Basis / Engineering) - Group Debate Review (with 2-3 applicants)		
Before Certification	- Basic Project Management (for Large Scale / Open Projects)		- Basic Project Management (for Small Scale / Family Projects)
	- Project Finance Management - IT Contract / Legal Affairs - Practical S/W Engineering		

Increasing Customer Satisfaction with Greater Customer Value

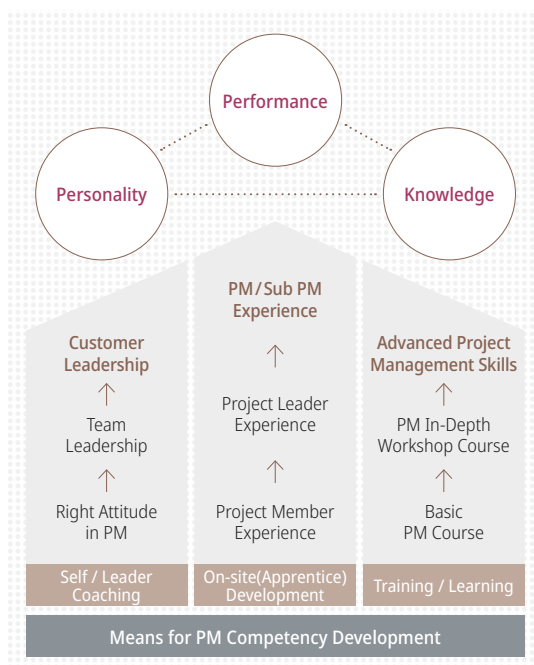
As part of our efforts to drive customer business innovation with best-in-class IT service capabilities, LG CNS utilizes diverse channels for customer engagement such as satisfaction surveys tailored to individual customers in improving our service quality and customer satisfaction based on close communication with our customers.

Customer Satisfaction Survey Process

In 2018, we surveyed 14,981 customers in 31 client companies from 66 internal teams (including 7 overseas corporations) for their satisfaction with our operations/maintenance services. An analysis of the responses show that their satisfaction level is similar to last year at 79.6%. And the ratio of positive responses to continuous use of services, expansion of business scope and recommendations to others has been steadily increasing.

Items	2016	2017	2018
Customer Satisfaction	5.57 (79.6%)	5.58 (79.7%)	5.57 (79.6%)
Customer Loyalty(%)	Continuation	67.6%	68.0%
	Expansion	70.1%	71.5%
	Recommendation	63.7%	64.4%

Competency Development Model for PMs



Information Security

Our Response System for Information Security

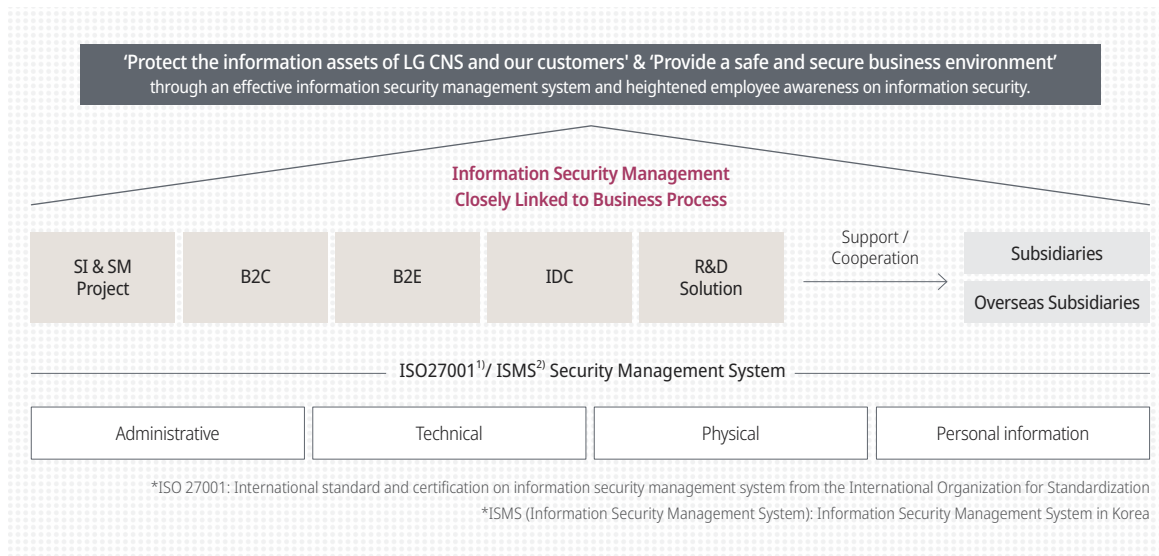
As part of our strong initiatives to safeguard the valuable personal data and information assets of our customers, LG CNS developed an information security management system based on relevant local and international laws and regulations, including the Act on Promotion of Information and Communications Network Utilization and Information Protection, Etc. and the Personal Information Protection Act.

Establishing Information Security as a Requirement

In addition to the official appointment of a CISO (Chief Information Security Officer) and a CPO (Chief Privacy Officer), LG CNS requires all of our business departments to assign an information security officer and an information security manager in order to increase accountability in our information security efforts. The information security manager at each department assists the information security officer (department head) and performs various security management tasks (personnel management, core asset management, communicating security issues, etc.) in his or her organization. LG CNS also holds the Information Security Conference with the participation of business department and B2C division leaders on a semiannual basis to discuss major security policies, security measures and related business plans.

Employee Training & Awareness on Information Security

LG CNS requires all of our employees to submit a pledge for information security and to receive training on information security and protection of personal information on an annual basis. In particular, business departments that handle personal information are required to assign a personal information protection manager to further our efforts to protect personal information and prevent data breach. In an effort to raise employee awareness on information security, we also visit our major SI and SM project sites to provide employees with information security security training, and send out regular information security bulletins.



- 1) Information Security Conference
- 2) On- and offline Information Security Training

Global Standard Information Security Management System

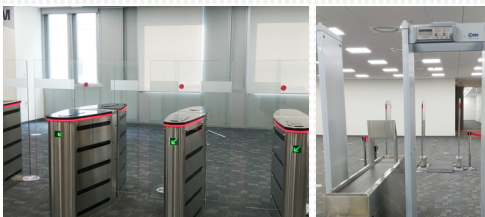
Our information security management system has acquired local and international certifications such as ISMS and ISO27001, and received the “Best Protection Award” in 2014 for our outstanding efforts in infrastructure protection. LG CNS continuously engages in information security efforts based on a management system in compliance with local and international standards to safeguard the valuable assets and information of our customers.



Local and International Certifications

Eliminating Breach of Personal Data & Core Solution Data

In response to the increasing risk of data breach incidents as well as greater accountability, LG CNS assigned controlled areas in our business locations (2015) and implements stronger security measures compared to general office spaces. In addition to security speed gates, we also utilize metal detectors, X-ray inspections and document inspections to strengthen our physical security barriers, ensuring that no attempt at data theft bypasses our security measures.



Physical Security Control

Strengthening our Personal Information Management System

As part of our efforts to effectively manage personal information, LG CNS provides annual training to employees who handle personal information and conducts annual inspection on our contractors that processes personal data to monitor their practices. We also utilize a system specifically developed to process personal information to perform automated self-assessment and conduct site inspections to monitor employee practices in handling personal information—all of which lead to tangible improvement. Additionally, we conduct regular data-breach drills with all of our employees to raise employee awareness on data breaches and enhance our information security levels.

Privacy Policy

- 01 Collect a minimum amount of personal information absolutely needed in providing the service.
- 02 Do not collect any identification information such as resident registration number and sensitive information such as health data.
- 03 Use of Information within the collection purposes and do not provide the information to a third party.
- 04 In personal information, Disclose the privacy policy if personal information is used.
- 05 Implement all necessary security measures such as internal management plan, access control, firewall & vaccine, etc.
- 06 Destroy the personal information that served its purposes without delay and ensure that the information is completely destroyed and unrecoverable.
- 07 If personal data is breached, immediately inform the fact to the data subject.
- 08 Install notification that informs the operation of surveillance cameras.

Information Security Assessment

LG CNS manages information security as one of the measures of our organizational performance to systematically and effectively address security risks. We included the information security performance of the organization in the performance assessment criteria for department leaders to further motivate them to monitor the information security performance of their organization and implement measures to prevent security issues. We also conduct quarterly security checks on employee PCs and any personal information stored on these machines to thoroughly protect employee PCs, delete personal data not required for the employee's job performance and encrypt the personal data required for the employee's job performance. Additionally, we engage in diverse information security campaigns such as “Clean Desk” and project security compliance activities, and incorporate the results into the information security rating.

Information Security Assessment – Security Rating for Each Organization (Illustrative)

Items	Status	Security Violations
Current Month	☀	0
Cumulative	☀	0

Global Compliance Risk Management

In response to the strengthened regulatory environment for the protection of privacy, as evidenced with adoption of EU GDPR(General Data Protection Regulation) or Network Security Act of China, we, LG CNS, minimize compliance risk through proactive and on-going measures with help of our global network. We identify every compliance criteria and set up appropriate measures to take and conduct continuous inspection for safe and sustainable global business operation.

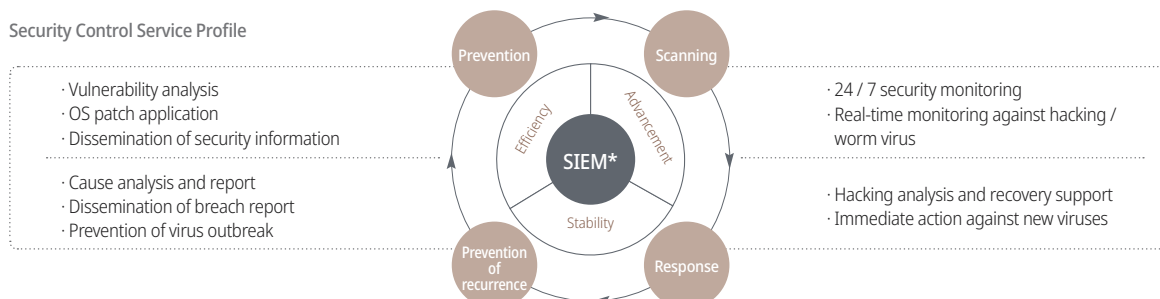
Actions to Security Act of China	
Main Criteria	Measures
<div>Network Security</div> <div>Breach Prevention</div>	<ul style="list-style-type: none"> Establish feasible security policies and ensure strict compliance Implement data classification Monitor security breach and setup appropriate measures Strengthen access control and account management Malware vaccination Regular inspection and setup response system
<div>Management</div> <div>Technology</div>	<ul style="list-style-type: none"> Establish management system based upon the life cycle of personal information Classify personal information handler and provide training Establish personal information access / correction / destruction procedures
Privacy protection management system	

Actions to GDPR	
Main Criteria	Response Measures
<ul style="list-style-type: none"> Data subject's rights protection - Right to be informed - Right of access - Right of correction - Right of erasure - Right of process restriction - Right of data portability - Right related to automatic decision and profiling 	<ul style="list-style-type: none"> Establish management system based upon the life cycle of personal information Ensure access, correction, erasure and move of personal information Minimize disclosure of personal data, implement security measures, and ensure anonymity. Restrict transfer of personal information to outside of EU – international coordination, requiring supervisory agency's approval or consent of data subject Identify applicable rights per business type and establish appropriate procedure and system Establish measures for personal information breach incidents (i.e, notification process) Safety measures for personal information devices
<ul style="list-style-type: none"> Actions against breach 	

Security control service for safe business environment from Cyber attacks or malware

In recent years, we face increasing personal information breaches and cyber attacks, which impact our society seriously. We, LG CNS, make great efforts to minimize the possible security breaches through continuous prevention activities against internal and external hacking and malware attacks. Also, we built total security service such as real time monitoring, detecting security breaches and providing timely response. Furthermore, by adopting solutions to malware and ransomware, we provide secure business environment.

Security Control Service Profile

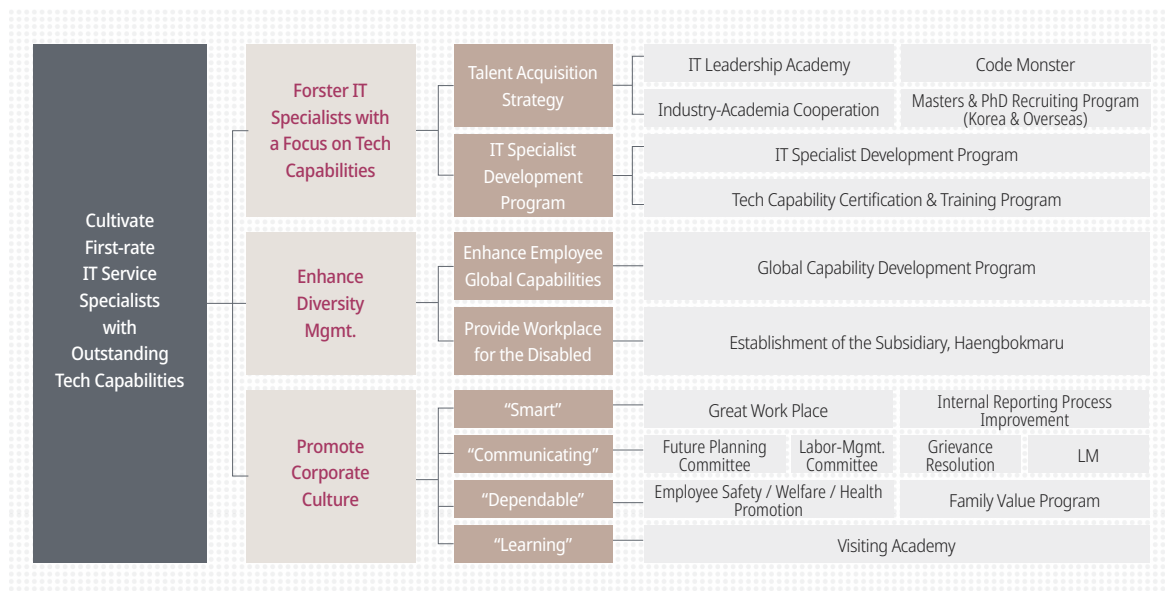


* SIEM(Security Information and Event Management): a security system designed to detect threats through integrated security event

HR Management

Talent Acquisition & Cultivation

The vision of LG CNS is to become a digital innovation leader, and we are striving to achieve this vision with our organizational capability built on technology. We also understand that the key enabler of our vision is our people, the primary source of our competitiveness and the value we create. Based on this recognition, LG CNS has in place a comprehensive talent acquisition strategy and a broad range of capability development programs to build a “crack team” of information technology specialists, carefully nurturing talented individuals on a systematic development roadmap to thrive in the constantly changing IT business environment.



Nurturing IT Specialists with Outstanding Tech Capabilities

Our Strategy for Acquiring Top Technical Talent

LG CNS spares no effort in recruiting talented individuals and nurturing them into topnotch software specialists who can drive the digital transformation, augmented by our hiring channels and training programs that are best suited for an IT business.

IT Leadership Academy

An entry-level recruiting program unique to LG CNS, our IT Leadership Academy targets candidates whose career vision is to become IT specialists. We employ an internally-

developed methodology to identify candidates who possess exceptional software programming capability and great potential as a software engineer. As part of our efforts to discover talented software engineers, we operate the Winter & Summer Internship Program, the Code Monster Competition and the LG CNS Mentoring Program. Our in-depth evaluation of candidates is carried out in two parts: employment test and interview. Our employment test consists of the standard LG Group personality and aptitude test and the LG CNS Software Capability Test and the LG CNS ITQ Test, internally developed assessment tools designed to scientifically measure candidates' competence and potential as an IT engineer.

Recruiting Programs for Masters and PhD Candidates

In order to recruit future digital transformation leaders, LG CNS conducts a regular campus recruiting program for masters and PhD candidates. With a particular emphasis on science and engineering talent in AI, big data, the IoT, mobile technology, smart energy and consulting, LG CNS visits major US universities known for excellent science and engineering programs twice a year and hosts campus recruiting events. We also participate in the LG Techno Conference, a global recruitment event hosted by our holding company, LG Corp. in the United States, and engage in recruiting activities and leadership interviews of candidates. Masters and PhD holders recruited through these events undergo a fast-track training and development program to take leadership positions in the R&D and new business efforts of LG CNS and the LG Group.

Code Monster

'Code Monster' represents our unique recruitment process designed to identify talented individuals solely based on their algorithm and programming skills. Initiated back in 2016 as an external programming competition, it is currently hosted as an in-house competition as well. Code Monster has been held for the past two years to widely publicize our corporate brand and to discover exceptional yet low-profile programmers, and has become part of our recruitment system this year. Code Monster is exclusively focused on algorithm and programming capabilities: applicants do not need to submit any documents that outline their previous career experiences or qualifications, and are given an opportunity to be interviewed by our executives once they pass the 1st and 2nd programming tests and personality/attitude tests.

Industry and Academia Cooperation

LG CNS operates a broad range of industry-academia cooperation programs with major universities in Korea, as part of our effort to secure high quality talent and fulfill our corporate social responsibility by promoting joint research between industry and academic institutions.

'SW Engineering Course' Operation

LG CNS teamed up with the Computer Engineering Department of Seoul National University to develop a software engineering course, which is offered to juniors and seniors from the undergraduate program as part of the regular curriculum. Leading IT specialists from LG CNS serves as the lecturers for the course that presents cases from actual IT projects and solutions to provide an empirical study that strikes a balance between theory and practice. The academy-industry cooperation programs offer jobs for participants.

Organization of "AI Academy"

In response to growing demands for AI in the industries worldwide, we have organized "KAIST AI Academy" twice a year since 2017 to drive technological innovation and boost

our business performance and expertise. Seven professors in the fields of Industrial and System Engineering (Knowledge Service Engineering) and AI Deep Learning give lectures and provide opportunities to gain hands-on experience on the latest technology. We plan to further develop the program in the future.

IT Specialist Development Program

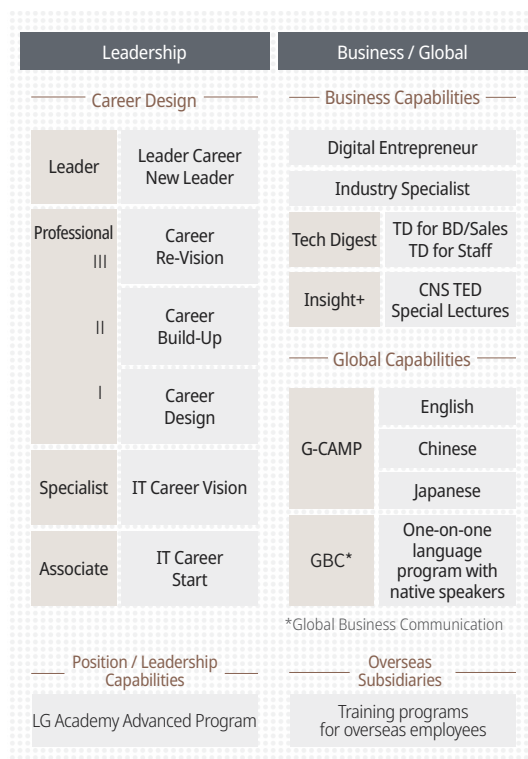
LG CNS has in place a systematic HR development program to strengthen our technological competitiveness on fundamental level which leads to transforming ourselves into an organization of experts that delivers first-rate performance. Since 2016, LG CNS has been expanding our technology certification and training programs to enhance technological expertise across the organization, as part of our HR initiatives to produce stronger results by upgrading our tech capabilities to drive the Fourth Industrial Revolution and achieve HR innovation centered on the cultivation of IT specialists.

IT Specialist Development Program

Technology			
Digital Technology			
IoT	Blockchain	AI/Big Data	
Cloud	Mobile	Smart Factory	
Base Technology			
Analysis & Design Specialist	Modeling	PM	Project Management
Quality Specialist	Methodology	ERP Specialist	SAP
	Quality		Oracle
SW Architect	Framework	Infrastructure Architect	OS/System
	Middleware		DB
	Testing		Network
	UI		Cloud
UX Specialist	UX Planning	Convergence Specialist	Engineering
	UX Design		Energy
Security Specialist	Security	Data Science	DW/BI, Big Data
Development (Programming) Language			
Technology Training for New Recruits			

Tech Capability Certification & Training Programs

As part of our initiatives to help our employees acquire and upgrade tech capabilities that are immediately relevant to our business and performance, LG CNS in 2016 consolidated our business functions and reorganized the required skillsets accordingly, and introduced an examination-based technology certification program. In parallel, we overhauled our technology training program based on the new skills map to organize core training courses for each skill and skill level, and implemented new channels for transferring the knowledge and know-how of top internal and external experts to enable our employees learn how to facilitate a virtuous cycle of tech capability development. In the same year, we introduced a tech capability certification program that combines technology training and certification test for employees in technical business functions, and formulated a three-tiered expert development track from "Tech. Expert" to "Tech. Meister" and finally to "Research Fellow / Expert." We extended the scope of this certification program to include tech-related positions as well as non-tech positions in 2017, and have aligned the program with our job competency personnel assessments since 2018.



Growing Emphasis on Diversity Management

Supporting our Employees to Develop Global Capabilities

As a global corporation, LG CNS strives to understand the different cultures and customs of the countries in which we have operations and meet the disparate needs of our multinational customers. In order to effectively support these efforts, we continually endeavor to create a work environment that pro-

motes maximum performance through management training, business function training and performance management at overseas subsidiaries.

Global Language Program

LG CNS also has in place language programs to strengthen the global capabilities of our employees. In 2016, we introduced the language teaching program G-CAMP to foster elite global business specialists who can lead our overseas businesses. Developed based on the global business experiences of LG CNS throughout the project cycle from project acquisition to completion, this program is designed to help our employees acquire and enhance their capabilities in on-site IT business communication. We also organized "Global Business Communication" programs where native speakers provide one-on-one language lessons to help our employees improve their language skills. The program is designed to help employees who are already working or will be working on overseas projects to learn about business etiquette, conversation practices and culture simulating meeting situations with overseas partners for 4 months so they can apply it in practice.

Creating Jobs for People with Disabilities

"Haengbokmaru" Standard Workplace for People with Disabilities

We established Haengbokmaru Co., Ltd., a standard workplace for people with disabilities in October 2016. As a subsidiary of LG CNS, the company provides employee welfare service for the Magok LG Science Park Head Office (B1, 3F), Sangam DDMC, Cafeteria at Sangam IT Center, improvement of workplace environment and health therapy. Out of the total 86 employees, 80 of them have disabilities with 72 of them having severe disabilities. There are seven managers who provide work instructions and career development assistance for these challenged individuals. In 2017, we received a commendation from the Minister of Employment and Labor at the 2018 Employment Promotion for People with Disabilities. Haengbokmaru offers amenities and dedicated rest areas as well as group insurance for people with disabilities to create a comfortable workplace. They will also have the opportunity to fully engage in exhibitions attended by artists with disabilities to promote culture and arts for these challenged individuals as well as in the social contribution programs undertaken in conjunction with the Korea Employment Agency for the Disabled. We will continue to promote diversity in job aligning CSR with our business operation and mutual growth in our organization.

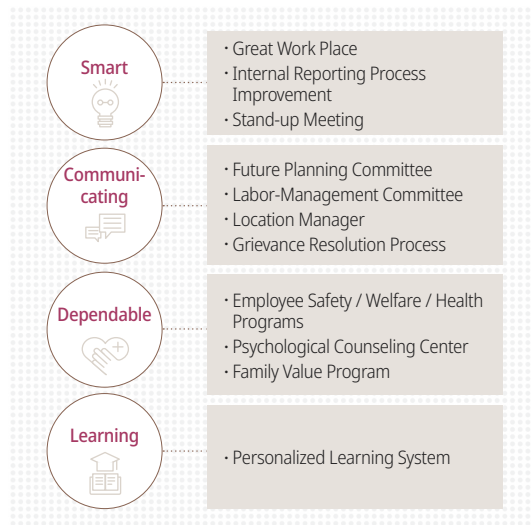


"Haengbokmaru" Standard Workplace for People with Disabilities



Corporate Culture

LG CNS promotes a corporate culture that encourages employee creativity and autonomy with a wide range of internal communication programs.



“Smart” LG CNS

Great Work Place Campaign

We endeavor to improve our work efficiency by changing the way we work, reduce unnecessary corporate dinners, eliminate protocols that do not directly contribute to customer value, and disseminate Smart Work practices. In so doing, we facilitate employees’ behavioral change in their daily work life and elevate our corporate culture on par with leading global IT companies.

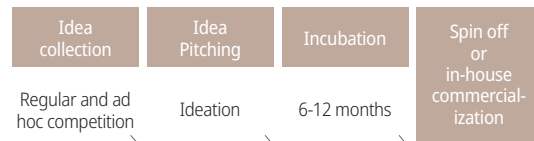
Internal Reporting Process Improvement

At LG CNS, we are keenly aware of the importance of “practicality” in the way we work. As such, we make sure that relevant documents are shared two days prior to meetings to focus on discussion and decision-making and to ensure that discussions are held mainly on the ‘discussion and decision-making agendas presented in the one page summary reports. To minimize document preparation and utilize data at the right time, we continue to improve our meeting system and its utilization in order to effectively transform our internal reporting process.

Self-initiated Programs

Idea Monster

As a self-initiated end-to-end in-house venture program, Idea Monster is directly led by our employees every step of the way from ideation to commercialization. Idea pitching and mentoring help fine-tune ideas, and the winners are given company-wide support. This program is open to any new business ideas based on information technology and to anyone working at LG CNS. Under the Idea Monster program, regular competitions are held in the 1st and 2nd half respectively, and ideas can be submitted at anytime of the year. A dedicated support unit is under operation year-round to assist the operation of Idea Monster.



Startup Monster

In 2018, we initiated the Startup Monster program to nurture independent external startups (high-tech startups in their initial development phase). Its primary objective is to discover startups to promote open innovation through the use of external ideas and to provide capable startups with an opportunity to collaborate with LG CNS in order to pursue mutual growth. In the 1st Class of 2018, a total of 363 startups attended at the competition: three of them were chosen as the finalists through the pitching session, and were provided with full-fledged support for six months. Support ranged from financial assistance, work spaces, and R&D monitoring to opportunities to undertake PoC and pilot projects with LG Group affiliates to advance their product and service performance and to open new sales channels.

Code Monster

As our in-house programming competition intended to nurture top-notch technical experts, Code Monster aims to establish a corporate culture that encourages the development of a growth-driven mindset and entrepreneurship so that our employees build exceptional software capabilities and successfully rise to highly technical challenges. Initiated as an annual program in 2017, Code Monster winners are granted prize money and an opportunity to develop their expertise in wide ranging areas at LG CNS.



“Communicating” LG CNS

Future Planning Committee

The Future Planning Committee is an internal junior board that serves as the change manager and innovation driver in making LG CNS a greater workplace and creating a positive corporate culture. The primary mission of the committee is to promote communication between employees and top management and present ideas for driving the growth of the company and employees.

Labor-Management Committee

First established in February 1998, the LG CNS Labor-Management Committee is composed of eight employee representatives and eight management representatives. Convened on a quarterly basis, the Labor-Management Council discusses a broad range of labor-management issues such as employee grievances, working conditions and management strategies, creating a positive model for labor-management cooperation.

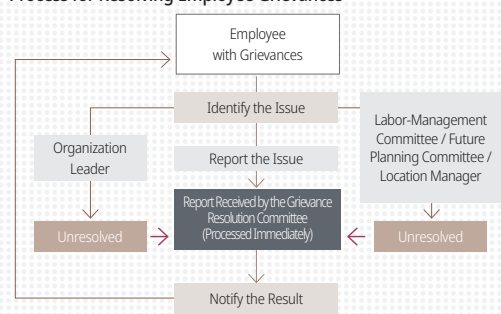
Location Manager

Under the Location Manager program, regional leaders are assigned to Paju, Gyeongnam, Gyeongbuk, Jeolla, Chungnam, Chungbuk, and the Seoul Metropolitan area to discuss issues that arise at our main establishments and project sites to explore possible solutions. This allows us to facilitate communication with employees and pay on-site visits to address their grievances with an aim to take better care of these local employees and improve their sense of belonging and loyalty.

Employee Grievance Resolution Process

LG CNS scrupulously collect employee grievances and spares no effort in resolving the issues fairly, as part of our efforts to protect the labor rights of employees, improve employee satisfaction and create a positive work environment. To this end, we operate diverse on- and offline grievance resolution channels. We also have an online reporting form on our intranet to accommodate our employees working at many different locations offsite, which is often the typical work arrangement for an IT business, and help them report their grievances free from the confinements of time and location.

Process for Resolving Employee Grievances



“Dependable” LG CNS

Promoting Employee Safety, Welfare and Health

As part of our efforts to promote employee health, LG CNS provides employees with an ongoing support package that includes regular medical check-ups and group personal accident insurance. For instance, LG CNS provides a comprehensive medical checkup to all of its employees to protect, maintain and promote their health (on an annual basis for employees aged 35 or older and on a biannual basis for employees aged under 35). We also offer the same package to the spouse of our employees on a biannual basis (35 or older) to help our employees and their family members lead a healthier life. LG CNS also operates a counseling center on our premises to help our employees and their family members who struggle with personal, professional and family issues with counselling sessions and psychological tests conducted by counselling psychology professionals.

Operation of Psychological Counseling Center

LG CNS operates a psychological counseling center with two permanent professional counselors to help our employees maintain good mental health and deal with stress. Counseling offers guidance on how to deal with difficult issues in their personal and professional life, and improve their focus on the job and productivity. It also focuses on gaining insight into their mental health and the development of skills required for the job. In addition, we organize counseling sessions to increase their loyalty to the company and help manage their mental health through proactive response to psychological crisis, consultation on leadership and employee management, and communication for cooperation, on-site psychological counseling, and counseling programs for employees' family members. In 2017, 1060 personal counseling sessions and 850 psychological tests were provided as well as more than 20 on-site counseling sessions. 67% of the sessions were about personal matters including family, personality and mental health and 23% of them were about career management and conflict in the workplace. In 2018, the center provided 1,030 individual counseling sessions, 880 psychological tests, and on-site counseling sessions in 20 areas total. Individual counseling in regards to personal issues – family, personality, and mental health – accounted for 68% of the total sessions, and work related issues such as – career management, workplace onboarding, and work-induced stress – accounted for 29%. The center maintains strict confidentiality of information shared during sessions in accordance with our privacy policy.

"Maeum" Counseling Center Programs

Program	Details
Psychological Test	<ul style="list-style-type: none"> · Offers Personality Test, Aptitude Test, Job Stress Test, Mental Health Analysis, IQ Test, Inter-personal Skills Analysis, etc. · Psychological test for employees' children · Team-based mental health check-ups
Counseling	<ul style="list-style-type: none"> · Offered in strict confidence and anonymity · Offered at major business locations as a visiting service · Employee family counseling service · Group counseling to understand the personality of team members
Stress Mgmt.Clinic	<ul style="list-style-type: none"> · Relaxing lounge with meditation music · Offers simple health checks, i.e. blood pressure, blood sugar levels and the body mass index
Newsletter	<ul style="list-style-type: none"> · Monthly email message

Family Value Program

In line with our commitment towards promoting employee work-life balance, LG CNS has in place a variety of employee family care programs. For instance, we operate the LG CNS Childcare Center at the Magok LG Science Park and celebrates memorable moments of our employees and their family members through a family care program that sends out a small gift to employees for welcoming a new member to their family, employees' children to congratulate their matriculation to elementary school, or to wish them their best on their college entrance exam.



Learning Program

On-site Education

LG CNS organizes on-site training programs for employees working on SM and SI. Designed to offer contents as required by each business site, the program was first organized for more than 1,400 employees at 13 business sites in 2016, and expanded to offer 130 sessions of training at 42 business sites in 2017. Furthermore, in 2018, 97 sessions of training at 45 sites have been conducted, benefiting approximately 3,000 employees. As the program has continually expanded throughout the year, it now encompasses job / technology training, client participation seminar, W/S support by SI project phase, member care program, and work support for minority employees. As of April 2018, the program is available in 22 sites. The program will be implemented in more sites to help our employees develop their expertise along with their work.

SM On-Site Training Program



- Technical training required for on-site work
- New technology seminar with clients
- Member care program
- Support for sites with less than 5 employees
- Work Synergy-UP
- Relationship improvement program with clients

SI Project Training Program



- Technical training required for project
- Team building for undertaking projects
- W/S by key project phase
- Post-project healing program
- Melt-in Program for project members

Shared Growth

LG CNS is fully committed to creating a sustainable system for shared growth based on partnerships defined by trust and cooperation. To this end, we continually search for innovation-ready suppliers provide ongoing support to help them grow into business partners with strong business competitiveness.

Key Performance Indicators(KPI)



Performance Summary

Key Management Issues	Implemented	Major Activities
Expanding communication with suppliers	Year-round	- Workshops for CEOs from the supplier side - Operation of the Supplier Cooperatives (a form of a supplier council) - Year-round operation of the VOS pro 67.6%
Strengthening support programs for promoting supplier competitiveness	As Required	- Support for the Technology Escrow Service - Support for the Original Certificate Service for the Trade Secret - Support for suppliers establishing overseas operations for LG CNS projects
Expanding financing programs for suppliers	As Required	- Financing support for suppliers (Direct financing, Win-Win Growth Fund, and Network Loan) - Fulfillment of 100 percent cash payment
Increasing fairness and transparency in business transactions	May to August	- CSR risk assessment on major suppliers

Promoting Fair Business Transactions

Compliance with Fair Trade Guidelines

LG CNS adopted the Four Action Guidelines for Fair Trade as part of our initiatives to ensure full compliance with the "Fair Transactions in Subcontracting Act" as well as to protect our suppliers from unfair treatment in their business transactions with LG CNS.

01.

Action Guidelines for Fair Contracting Practices

Fair trade guidelines to be complied in contracting a supplier



02.

Action Guidelines on the Subcontract Review Board

Guidelines for ensuring compliance with the Fair Transactions in Subcontracting Act for subcontracts exceeding the reference amount & guidelines for reviewing the selection and operation of suppliers



03.

Action Guidelines for Fair and Transparent Selection (Registration) of Suppliers

Guidelines on procedures and standards to be complied to ensure fairness in supplier selection and operation



04.

Action Guidelines for Documentation & Record Keeping

Guidelines on documents to be issued and maintained in transactions with suppliers



Adoption of the Standard Subcontracting Agreement

LG CNS adopted the "Standard Subcontracting Agreement," developed and recommended by the Korea Fair Trade Commission (KFTC), in the early stage of its implementation. In 2012, we participated in the public-private taskforce led by the KFTC on improving subcontracting practices in the software industry, and helped the commission in developing the "Standard Subcontracting Agreement for the Software Industry". LG CNS became one of the first companies to adopt the revised standard agreement, taking leadership of the industry's effort to establish fair contracting practices among large software companies and SMEs.

In addition to our transactions with suppliers from the four major software business categories, we use the Standard Subcontracting Agreement in our business transactions with construction companies (four categories) and consignment manufacturers (three categories), in full implementation of the standard throughout our business operations.

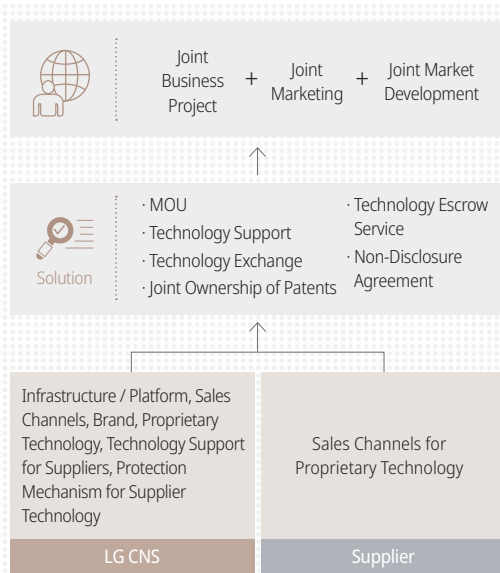
Pledge for Jeong-Do Management

As part of our initiatives to eliminate unfair practices and irregularities / corruption in our business transactions with suppliers, LG CNS requires a pledge for Jeong-Do Management to be signed and submitted on all of our subcontracting agreements.

Support Programs for Enhancing Supplier Competitiveness

Joint R&D, Marketing and Business Projects

LG CNS strives to share our vision with suppliers through joint R&D, marketing and business projects with suppliers that possess technological capabilities. In particular, we provide support to our suppliers who establish overseas operations for LG CNS projects in order to secure future growth drivers and create a sustainable system of mutual growth.



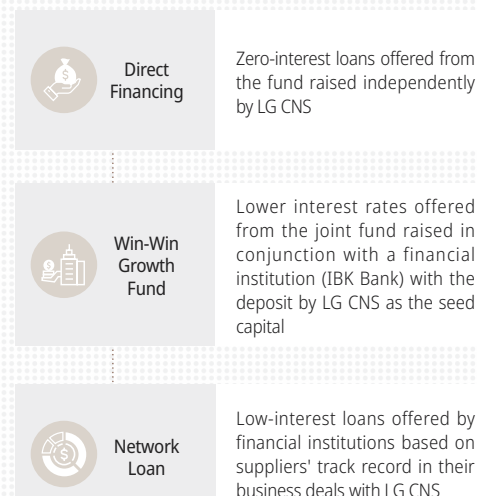
Supplier Support for Developing and Protecting Technology

As part of our initiatives to promote supplier competitiveness, LG CNS actively pursues joint R&D projects with suppliers to create an opportunity for technology support and exchange. In order to better protect supplier technology, we also seek joint ownership for patents on the products of our joint projects and utilize the Technology Escrow Service for new technologies developed through our collaboration.



Financial Support

In 2010, LG CNS established the Win-Win Growth Fund and has since provided financial support to our suppliers, i.e. working capital for day-to-day operations and financing for mid-to longterm initiatives for building competitiveness (R&D, investment support for new businesses, etc.).



Improvement of Payment Terms

As part of our initiatives to promote the financial soundness of our suppliers, LG CNS does not maintain a fixed payment cycle and makes payment to our suppliers for each contract upon the completion of the internal verification process for project delivery, placing no monthly limit on the number of payouts (made in cash within ten days of verification).

Waiver of Surety Insurance

As for our key suppliers, we do not require them to submit surety insurance on the payments made for the services and products that have already been delivered or when the client do not make any specific request.

Cost Adjustment

In business dealings with our suppliers, LG CNS maintains an accommodating position on cost adjustment. In the occurrence of cost-impacting factors, we review and adjust the cost (or contract amount) based on the standard more favorable than the terms specified in the Korea Fair Trade Commission's Standard Subcontracting Agreement.

HR Support for Suppliers

As part of our HR support for our suppliers, LG CNS operates the U-CAMP Software Developer Training Program to address one of the major HR challenges faced by our suppliers—acquisition of quality talent. We also conduct professionalism training in addition to expertise training through various on / off-line programs.

U-CAMP SW Developer Training Program

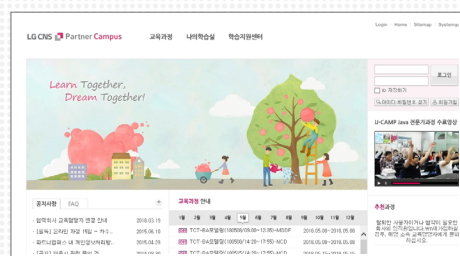
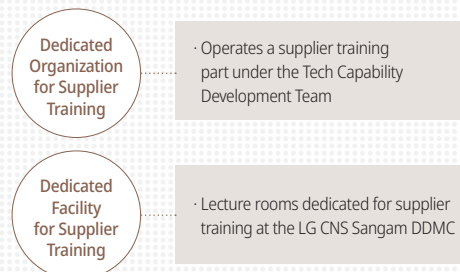
First introduced in 2006, this recruitment and training program for entry-level employees was developed to help our SME suppliers address challenges in recruiting and training entry-level employees as well as to promote job creation in the software industry. The 12-week program offered for free has recruited and trained over 1,000 entry-level employees for our suppliers through 29 cycles, as of 2019.

Suppliers On / Offline Study (2018)

(As of 2018)	Online Study	Offline Study
No. of Programs	34 courses	34 courses
No. of Persons Completed the Programs	15,722	618
Key Areas	Technology, policy, and work knowledge	Technology, methodology Performance Innovation

Dedicated Organization & Facility for Supplier Training

In addition to a business department that oversees our corporate initiatives for shared growth, LG CNS has in place a training team and facility dedicated to training supplier employees.



Operates a supplier training portal, the Partner Campus

Academy-Industry Cooperation (Large Company / SME / University)

We formed partnerships with universities and suppliers to provide job opportunities for talented individuals and to help our suppliers secure human resources in the software industry. The students are provided with opportunities to gain on-site job experience and work for our suppliers after graduation.

Management Support

LG CNS offers management support to our SME suppliers who are comparatively vulnerable to business management risks.

* Sexual harassment prevention training for employees, training for on-site representatives, management consulting for HR and finance

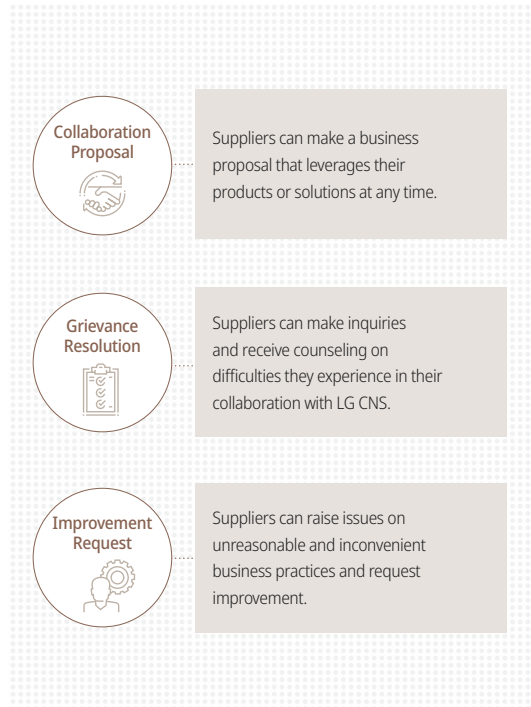
1) Team project presentation
2) Completion ceremony



Open Communication

Year-round VoS (Voice of Supplier) Program

LG CNS operates a dedicated supplier portal, Partner Plus, which features a section for open communication to collect the real voice of suppliers year-round and incorporate their feedback into creating a powerful culture of collaboration.



Workshops & Talk Sessions with Supplier CEOs

LG CNS organizes workshops and talk sessions with suppliers on a regular basis to share our performance and business issues as well as to inform our suppliers on related laws and regulations (data security, protection of personal information, etc.) pertinent to our business transactions with suppliers. These efforts promote mutual understanding and strengthen the foundation for our shared growth.



LG CNS Workshop & Talk Session with Supplier CEOs

Participation in Large

Corporation-SME Cooperation Meeting

The Large Corporation-SME Cooperation Meeting offers an opportunity for LG CNS to introduce our policy on business partnerships to SMEs interested in collaboration with LG CNS, as well as for obtaining information on the technology and business strengths of potential SME partners. LG CNS actively participates in these events as part of our ongoing efforts to discover and build business partnerships that create synergy.

Supplier CSR Risk Assessment & Management

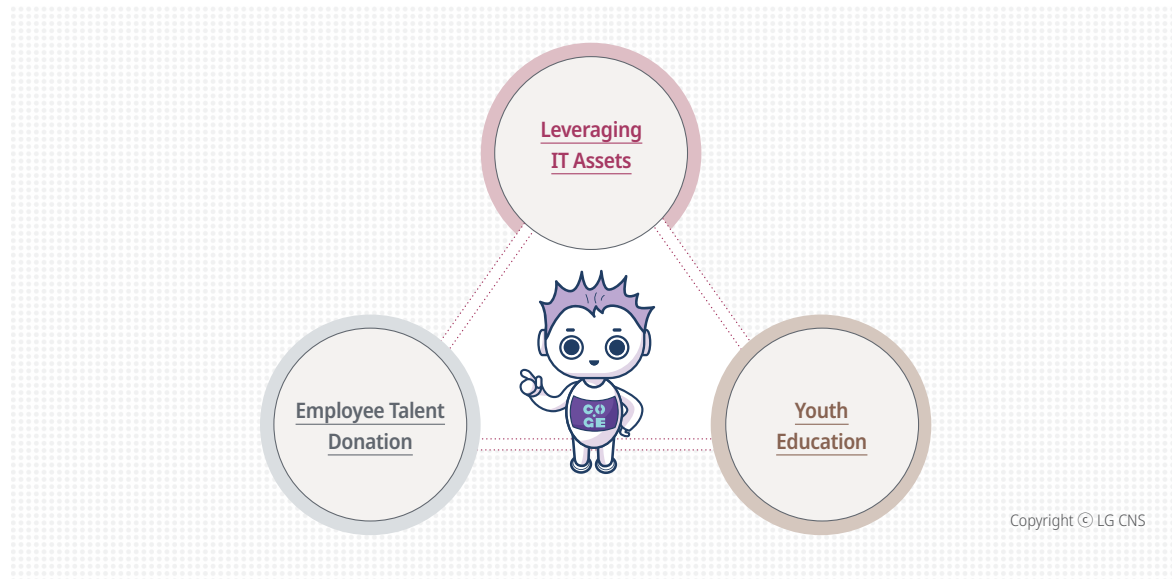
Since 2015, LG CNS has conducted supplier CSR risk assessment on an annual basis. In the assessment, our suppliers are evaluated on their CSR compliance performance in five categories: ethical management, working conditions, labor rights, industrial safety and health, and the environment; the annual review is composed of a self-assessment, request for CSR guidelines and pledge for CSR compliance, and a CSR audit. The Corporate Procurement Department selects assessment targets from suppliers who are subject to our regular supplier assessment, and the results will be incorporated by stages into our regular purchasing review. LG CNS is in the process of establishing a support system, including CSR templates, to provide assistance to our suppliers in their improvement initiatives. Additionally, we provide a comprehensive range of CSR awareness training programs such as lectures on CSR to CEOs and executives from our suppliers, employee CSR training offered as part of our CSR audit, and CSR newsletters.

Supplier CSR Management Performance

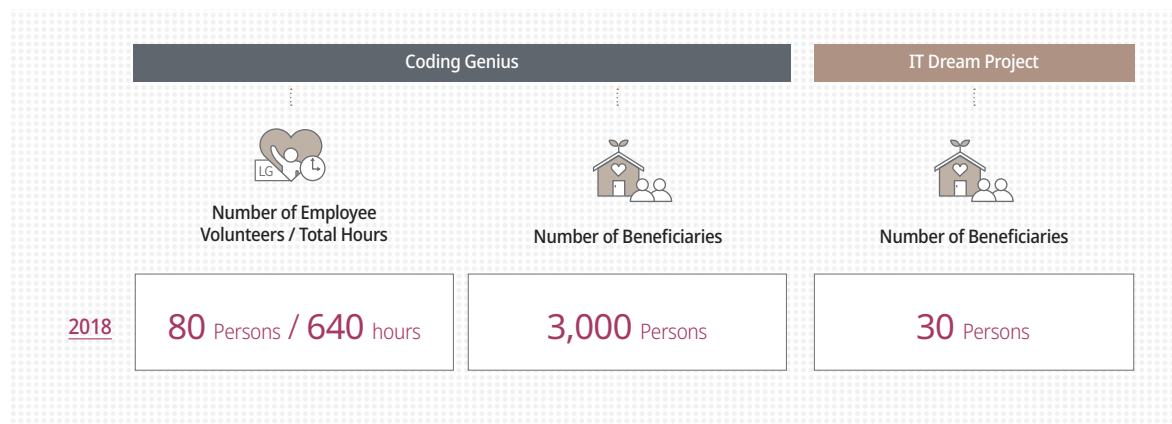
Year	2017	2018
Number of Suppliers Participated	147(Regular Assessment)	157(Regular Assessment)
Major Activities	<ul style="list-style-type: none"> Request for CSR guidelines CSR self-assessment / audit Provision of CSR templates 	<ul style="list-style-type: none"> Request for CSR guidelines CSR self-assessment/audit CEO/management meeting
Criteria for Pledge / Assessment	<ul style="list-style-type: none"> Ethical Management Labor & Human Right Information Security Industrial Safety & Health Environment 	<ul style="list-style-type: none"> Information Security Labor & Human Right Ethical Management Workplace safety, environment

Social Contribution

In an effort to create greater impact with our social contribution initiatives, LG CNS does not rely on simple cash donations; we select the beneficiary groups based on a clear strategy and strong principles to identify the most effective means of support, while enhancing the impact of our programs through partnerships with government agencies and professional organizations. LG CNS established the followings as the governing principles for our social contribution efforts: ① leverage our IT assets, and ② with the direct participation of our employees, ③ provide youth education programs. Guided by these principles, LG CNS focuses our capabilities and resources on addressing social issues, while carrying out our corporate social responsibility by nurturing tomorrow's IT experts.



2018 Social Contribution Key Performance Indicators (KPI)



Coding Genius

"Coding Genius" is LG CNS' signature social contribution program that aims to offer an opportunity to learn coding skills to young students, the future leaders of the Fourth Industrial Revolution, and help them explore their interests, dreams and future careers through a broad range of experiences and intellectual stimulations that can stoke their curiosity and imagination.

Espousing the highest standards of creative and original convergence education, this program is designed to help young students, regardless of their knowledge of IT, acquire computing concepts and experience and develop problem-solving ability through courses on the concepts and principles of software architecture.

We signed an MOU with the Seoul Metropolitan Office of Education to facilitate its 'Free Semester System', and are undertaking this program with the Kids & Future Foundation, an NGO dedicated to the education of teens and children.

Cases for Software Education

As part of their initiatives to nurture the talent of future generations, national governments around the world are actively embracing software education, with advanced nations like the United States and the United Kingdom having completed their implementation of software education as the core component in their formal education curriculum. Korea also implements software education as mandatory courses in the primary and secondary curriculums from 2018, but software education programs tailored to young students as well as the necessary infrastructure for such programs are still lacking in the country. As a responsible corporate citizen, LG CNS has stepped in to bridge the gaps with our expertise in software and software education and is leading this important initiative for our future generations.

Professional Program Design & Review

Our software education programs have been proven for their effectiveness in a review by the Computer Engineering Department of Seoul National University and the Education Engineering Department of Hanyang University. Designed to motivate students, our curriculum places an emphasis on creativity and collaboration, and utilizes interactive and hands-on learning processes to help students develop capabilities required in the IT environment of the future.

Talent Donation of Employees

Our employees volunteer to help students explore career opportunities and plan for the future by serving as instructor and mentor. The program is recognized for providing students with opportunities to gain hands-on experience in the IT industry and find their career goals.

Program Details

We provide basic SW education programs at middle schools during free semesters. Designed to offer basic programming principles and insight into job for students without background knowledge in programming, the program consists of three subjects based on the LG CNS' main solutions: Basic Programming, Physical Programming, and Software Data Lab.

Program Details

Basic Programming - Coding Itself

1. Understanding Information System & Software
2. Practicing Logical Problem Solving through Flow Charts
3. Programming Fundamentals: Learning through Java



Physical Programming - Dynamic IT

1. Introduction to Lego Mindstorms EV3
2. Making the Robot Move
3. The "Do-It-Yourself" Autonomous Bus System



Smart Data Lab - IT Insight

1. Big data and my career
2. Data collection and analysis
3. Build my own strategy through big data



College Student Supporters

On a biannual basis, we organize college student supporters as part of our education and communication programs. Students studying in various fields including education and business management as well as computers volunteer to help middle-school students understand software. The program provides college students with opportunities to use their talent for a good cause and understand the true meaning of social contribution.

Continued Operation of Self-initiated Learning Channels

Since offline education only benefit a limited number of students, we are also operating online channels to offer wide-ranging learning contents. We opened a social contribution blog to develop contents from the perspective of students and to distribute them in webtoon or card news format while offering video-enabled coding education. In so doing, we ensure that even more teens can continue to benefit from software education beyond the limits of time or space.



Social Contribution Blog blog.naver.com/codinggenius

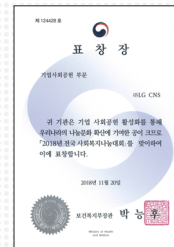
Performance & Certification

Recognized for the achievements we made through the LG CNS Coding Genius Program, we won the Deputy Prime Minister and Minister of Education Award at the 2017 Korea Social Contribution Award and the Deputy Prime Minister and Minister of Education Award for the 2017 Free Semester Best Practice Contest. In April 2018, we were selected as the Educational Partner for Career Exploration by the Ministry of Education.

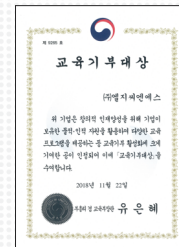
Our Coding Genius Program was recognized for its excellence as it was honored with the Deputy Prime Minister and Minister of Education Citation at the 2019 Education Donation Awards as well as with the Minister of Health and Welfare Citation at the 2019 Social Contributor Awards.

Expanded Operation

In consideration of the increasing social needs for software education, we are operating our Coding Genius program in diverse formats. In addition to the existing on-site training provided at school, we have also arranged key locations to invite students to receive such training, including the science exhibition hall of the Seoul Metropolitan Office of Education.



Minister of Health and Welfare
Citation at the 2018 Social
Contributor Awards



Deputy Prime Minister and Minister
of Education Citation at the 2018
Education Donation Awards

IT Dream Project

IT Dream Project is part of our social contribution programs that we organized 4-day coding camp for aspiring students to help them develop their creativity and problem-solving skills and prepare them for the era of the Fourth Industrial Revolution.

Startup Experience

The IT Dream Project is designed to provide opportunities to develop their own IT service for students using the smart mobility solution, which is an upgraded version of the autonomous bus solution from the Coding Genius. Students are grouped into bus, taxi and car teams to develop services and gain experience in creating synergy and startups through technology trading and team M&A.

Career Exploration

During the career exploration camp, students have the chance to interact with their undergraduate mentors on both curricular and extracurricular subjects, as well as engage in in-depth conversations on their future career through the career mentoring session called IT Dream Night. Our lab tour program as well as special lectures on the 4th Industrial Revolution given by professors also serve to offer students an opportunity to ponder upon their future career paths.

LG Young Maker Festival

As part of the IT Dream Project, we provide opportunities to join the LG Young Maker Festival for those with excellent performance. Taking place at the Gwacheon Science Museum, students can gain valuable experience and learn by running their own booth at the festival and interacting with other students.



IT Dream Project

CO-GE Explorer

LG CNS operates CO-GE Explorer as the middle school voluntary software (SW) club development program. This program is focused on the maker initiative, creating practical software services that help people in their daily life. In conjunction with the Seoul Metropolitan Office of Education, LG CNS selects and supports outstanding middle school SW clubs as a way to discover and nurture next-generation leaders interested in software development.

From One-off to Long-term Support

Through CO-GE Explorer, we engage in organizing the club program every step of the way beginning from the initial operational setup all the way to the year-end performance presentation. We provide the education and equipment required for club operation and assist students in attending maker festivals and other relevant events. These students also receive mentoring from our employees as well as LG CNS certificates and are supported in developing their individual portfolio. In so doing, we give these young students an opportunity to elaborate on their future career path and achieve their set plan.

2019 Performance

In 2019, we chose five voluntary software clubs at middle schools in Seoul, and hosted the club launching ceremony at our headquarters in May. These selected clubs are currently working on the diverse ideas proposed by club members, from AI pet toys to solutions to address PM (particulate matter) issues and to ensure student safety (prevent accidents at the crosswalks and alleyways).



CO-GE Explorer

Fair Trade

Fair Trade

Promoting fair practice and raising awareness is a key part of driving sustainable growth and fulfilling our social responsibilities. LG CNS pursues fair competition and Jeong-Do Management to achieve the vision of "LG WAY" which provides a basis for our employees' conduct. Recognizing the importance of risk management of fair transactions and prevention as our action plan, we continue to engage in various activities and take a proactive approach in risk management while creating culture for fair practice at a corporate-wide level.

Key Activities

Based on our reviews on the regulatory requirements, we conduct a risk analysis of sales, procurement and project development organization that are subject to high level of risk with a focus on cartel, subcontract regulations and transaction between affiliates. If necessary, additional on-site inspections are conducted to identify the areas of improvement and carry out performance management as part of risk prevention. To integrate fair trade practices in our daily business operations, we realigned our training system that had been focused on group training at the headquarters to add on-site training to the curriculum from the 2nd half of 2018 onwards. Furthermore, we created the Fair Trade Portal to assist employees in abiding by fair trade regulations: our employees can ensure their fair trade compliance simply by conducting their work through this portal

system, and we use the portal to share the revisions made on fair trade policies, regulations, and systems as well as latest issues and relevant cases as a way to raise employees' fair trade awareness.

Progress by Area

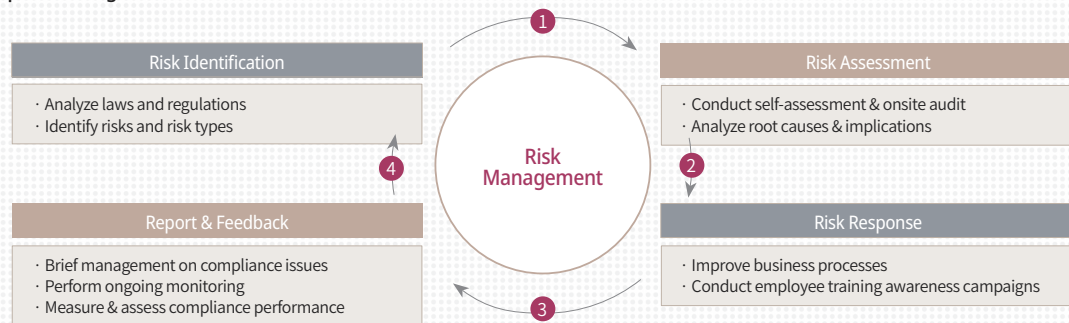
Cartel

LG CNS shares our commitment to the prevention of cartels and conducts annual special training for employees who are at high risk. In 2018, we provided online training in addition to offline training to raise employees' awareness on cartels and other fair trade practices, and have performed relevant reviews from the beginning of 2019. We prohibit any contact with competitors to prevent any suspected cartel activities. Any contact with employees of our competitors that is necessary for business will be reported to keep our employees and company from being exposed to risk.

Transaction between Affiliates

We analyze potential risk factors and review cases to prevent violation in the course of business while conducting training and reviews for related organizations. In addition, we carry out in-depth reviews of documents and contracts of more than certain amount to identify the areas of improvement and take initiatives to prevent violations.

Compliance Program



Subcontract Practices

LG CNS promotes fair subcontracting practices and builds a foundation for mutual growth between big and small companies. To this end, we conduct employee training on statutory compliance and organize on-site reviews and work process improvements on a regular basis. In 2017, we established a framework and improved existing guidelines on unfair concessions and technical data to ensure compliance. In 2018, we monitored whether existing business processes successfully came online and abided by relevant regulations to establish and disseminate fair trade practices across the board. Our 2019 plan is to provide on-site training to raise employees' awareness on fair trade compliance and to alert them to the need for such compliance.

Category	2017	2018	2019
Fair Trade Training	29 times	23 times	23 times
Review	8 times	6 times	6 times
Improvement	Implementation of the Data Storage Policy	Building Fair Trade Portal	Offering on-site fair trade training



Fair Trade Portal

LG CNS sets guidelines on conduct for the prevention of any violations of the law and conducts necessary training and monitoring. As part of these efforts, we are building Fair Practice Portal as a basis for fair practice to raise awareness and promote culture at a corporate-wide level.

Implementation Directions

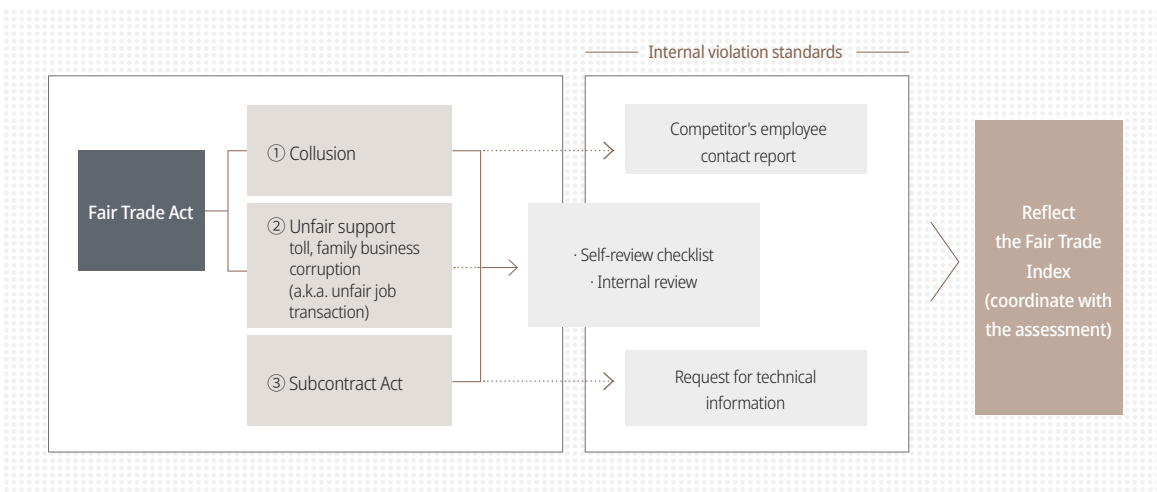
We are building a system based on the Fair Trade Act to incorporate our internal work process and standards into our business practice. In addition, we plan to develop an online employee-training program to raise awareness and establish a self-review system on legal compliance to help our employees to manage risks. Furthermore, we are reinforcing field-driven fair trade training to accelerate our endeavors to establish a culture of fair trade compliance.

Key Roles

Our work process is designed to ensure compliance with laws and regulations and we have implemented "Technical Data Request System" and "Competitive Contact Report System" to prevent any unintentional violations. In addition, we plan to establish additional monitoring systems so we can conduct assessment of fair trade based on the index of training and review results.

Reflection of Index and Coordination with Assessment

Based on the Fair Trade Act and our internal policy, we are going to strengthen our monitoring system against violations of laws and establish a system to coordinate with assessment to promote fair trade.



Environmental Safety and Health Management

LG Safety & Environment Policy and Seven Principles for the Safe Working Environment

Following LG Group's Safety and Environment Policy, LG CNS developed safety and environment policies for the continued implementation of management philosophies and practical actions in response to ever-changing demands. LG CNS further established the seven major principles that all employees must adhere to.

LG Safety & Environment Policy

Based on the philosophy of "Management with Respect for Human Life and Dignity," LG CNS recognizes Health and Safety, Environment as a factor of the company's sustainable management and pursues it as the highest priority throughout the entire life-cycle of its management activities.

- ✓ For improving health of its employees, LG CNS eliminates the root causes of risk factors to create a safe, pleasant work environment.
- ✓ LG CNS dutifully fulfills its responsibilities for environmental protection and operates a globally competitive Health and Safety, Environment management system through continuous improvement activities.
- ✓ LG CNS faithfully carries out the requirements of both domestic and overseas laws and regulations as well as requests from its stakeholders and pursues continuous improvement.
- ✓ LG CNS establishes opportunity and risk management system to secure business continuity against external risk factors such as environmental changes.
- ✓ LG CNS regularly evaluates its Safety & Environment management performance, shares the information in a transparent manner, and sincerely communicates with the stakeholders.
- ✓ All employees actively participate in building a culture of safety together with the business partner and local communities.

Seven Principles for the Safe Working Environment

- 1 LG CNS should make efforts to prevent safety accidents.
- 2 LG CNS must continuously evaluate safety hazards, eliminate risk factors and conduct safety inspections.
- 3 All employees must comply with regulations and procedures on implementing a safe work environment to prevent accidents.
- 4 All employees should place the highest priority on activities to implement a safe work environment and make efforts not to expose themselves to any danger.
- 5 LG CNS should conduct trainings to ensure compliance, and employees should participate in these trainings whenever possible.
- 6 LG CNS should establish emergency response procedures, and employees should familiarize themselves with their roles and responsibilities in emergency situations through emergency response drills.
- 7 Any safety accidents must be reported immediately after they occur, and corrective and preventive measures must be in place through root cause analyses.

To ensure compliance with these guidelines, we place the highest priority on implementing safe work environments in all business activities.

Safety and Health Management System

In order to promote corporate growth and safety and health for our employees, LG CNS has established and is currently operating the Industrial Safety and Health Committee. We also engage in a series of initiatives including the development of an accident prevention plan, establishment and revision of safety and health management regulations, safety and health training, inspection and improvement of the working environment, and investigation and recurrence prevention of industrial accidents.

※ Safety and Health Managers by Site

Data Center
Safety and Health Managers
Cloud centered operational staff
Construction Project
(General) Safety and Health Managers
Project PM
Corporate Research Center
Safety and Health Managers
IT Research Director



Performance Summary



Workplace Initiatives

Industrial Safety and Health Committee

LG CNS is currently operating the Industrial Safety and Health Committee in order to improve workplace safety and employee health through active employee participation. The committee brings together management and employee representatives on a quarterly basis, discussing and making decisions on important issues concerning workplace safety and employee health.

Emergency Response Training

Head Office & Work Facilities

Each year, we conduct emergency response drills in the 1st and 2nd half respectively to promote the safety of our employees in the event of an emergency. At E13-E14 of the LG Science Park where we are headquartered, we are building a close cooperation system with the SP Safety Environment Center, the Gangseo-gu Fire Station, the Gangseo-gu Office, the Korea Gas Safety Corporation and other related organizations, and have developed scenario-specific response manuals in preparation for fires, earthquakes, and other disasters.

Data Centers

Asides from regular business offices used by management and employees, our data centers have in place additional response scenarios for all risk factors including natural disasters, power outages, and infrastructure failures that may potentially interrupt center operations. These scenarios were developed as prevention measures to ensure customer information security and stable operations. The data centers conduct weekly

situational emergency action drills and comprehensive emergency response drills at least once or more per year. In case of power outage, our data centers secure emergency power and implement an emergency power supply plan of three or more stages. Additionally, we have designated a team that protects the lives and safety of the people on the premises and ensure the stable operation and recovery of the data centers in emergency and disaster situations. Our data centers are also equipped with emergency response plans to protect the safety of our employees as well as our facilities.

Workplace Safety Inspection

In order to ensure that no accidents or disasters occur at project sites, the Safety and Environment / Construction Management Team conducts regular safety inspections of workplaces, investigates potential hazards and risk factors, and makes improvements accordingly. We increased the number of data centers and on-site projects that are subject to inspection. Our management, led by the CEO, is actively engaged in on-site inspections to raise corporate-wide awareness of safety and set an example to our employees.

2018-2019 Company-wide Safety Inspection:

Status and Outcomes

In 2019, our priority was to conduct a full-scale workplace safety inspections on construction-based projects to improve the on-site compliance with safety management and to highlight the importance of project safety management among employees. Based on the outcomes of the workplace safety inspections performed in the 1st half, necessary improvements as well as the expansion of the scope of change management and headquarters guidelines were reflected in the following 2nd-half inspections. In 2019, we are engaging in external third-party inspectors to improve our workplace safety inspections in order to ensure that these inspections are performed in an objective and systemic manner.

Category	Safety Inspection Activities
Workplace	<ul style="list-style-type: none"> FKI Tower (2017) Magok Science Park (2018) Sangam DDMC
	<ul style="list-style-type: none"> Workplace safety inspection (H1 / H2) (FKI is subject to H1 inspection in July / December due to relocation of the head office.) Fire response inspection in for Magok Science Park (H1) System inspection in coordination with firefighting (April) Emergency evacuation for Magok Science Park (H1 / H2) Scheduled simulated training (June / October) System maintenance and internalization of laws Inspection and measures based on the results of LG safety and environment analysis Sangam IT Center: 43 out of 43 cases Improvement completed (2017), 100% completion rate Busan Cloud Center: inspection conducted in April 2018
Construction Project	<ul style="list-style-type: none"> Education on compliance with industrial safety and health regulations at the start of the project and risk assessment Job site safety inspection and frequent monitoring during construction stage On-site inspection conducted by the management including CEO, CTO and Quality / Safety Managers Safety and environmental analysis and confirmation of improvement measures at nationwide sites

Change Management

Environment, Safety & Health Training

LG CNS seeks to develop safety, health and environment capabilities of our employees and establish the Environment, Safety and Health Management (ESH) System. To that end, LG CNS provides employees with on- and off-line training including safety and environment seminars tailored to project managers and ESH staff.

Visiting Safety Academy (2018)

To address the inconvenience of on-site employees who may face difficulties in attending training, we have provided visiting safety training services to LG Group affiliates since 2017. In 2018, such safety training was offered at six locations, including LG Display in Paju, LG Chem in Yeosu, LG Electronics in Gumi, Pyeongtaek, and Changwon, and LG Innotek in Gumi. In addition to group affiliate employees, we designated Convergence Engineers (CEs) who lead the execution of our construction projects as the key target of our safety training. They have provided training on the importance of safety training, regulatory compliance, risk assessment, on-site safety management, and workplace safety system utilization on five occasions in the 1st and 2nd half of the year. Our plan is to expand our company-wide training curriculum development and training support in the fields of health, safety, and environment.

Safety & Health Compliance Campaign

Day of Safety Inspection in 2018

The fourth day of each month has been designated as "Day of Safety Inspection" for safety prevention and internalization of safety awareness.

- Date: 4th day of each month
- Target: business sites (head office, Sangam DDMC, data centers) and construction projects
- Operation Policy
 - Organized by site / project head of each site, safety inspection / event are carried out
 - Organized by the Safety Environment Team, promote and support "Day of Safety Inspection"
 - "Day of Safety Inspection" is organized in consideration of the season
- Monthly Safety Areas of Focus
 - January - June: safety inspection on site, safety inspection in response to thawing season, protective gears, availability of MSDS, safety inspection in response to rainy season
 - July - December: safety and health indication labeling, safety inspection in response to storm and flood, fall, disaster prevention, prevention of muscular skeletal disease, safety inspection in response to winter season

LG Safety and Environment e-Learning

LG CNS clearly recognizes the importance of safety and environment as an important market-leading management and acts accordingly. In order to prevent accidents and establish LG's unique culture of safety and environment, LG CNS conducted an e-learning program for all of our employ-

ees, touching on the "importance of safety and environment and compliance with policies and basic principles."

(Mar 2018 - Apr 2018)

Supplier Safety Environment Seminar

We hosted the Supplier Safety Environment Seminar which was attended by 32 suppliers. This served to arrange in-depth discussions on the prevention of various disasters, including major accidents that may occur in the field, and to exchange views on necessary collaboration or support requests that may arise in executing projects that engage suppliers. We will continue to hold such gatherings with suppliers to promote practical communication and mutual benefits concerning safety issues. (Nov. 2018, Apr. 2019)



Environment, Safety & Health (ESH) Certifications

Environment, Safety & Health (ESH) Management System Certifications

LG CNS has in place the Environment, Safety & Health (ESH) Management System. Based on the system, we develop action plans (Plan), act and operate according to said plans (Do), and perform checks (Check). Afterwards, we share feedback on the results and act (Action) accordingly.

ISO 14001

Throughout the entire process of corporate business activities, ISO (International Organization for Standardization) provide a certification system to ensure compliance with international requirements for continuous identification of environmental impact and improvement of environmental performance. We were certified against the international environmental management system standard ISO 14001:2004 back in 2010, and remain certified following our transition to ISO 14001:2015 in August 2018.

ISO 45001

The certification assesses whether safety and health practice is improved on a continuous basis through a process of declaration of safety and health policy by CEO, planning, implementation, inspection, correction, review of the results, and improvement measures. We obtained the health and safety management system certification OHSAS18001:2007 in 2014 and transferred to ISO 45001:2018 in August 2018, which added 'organization's understanding on internal/external issues' and highlighted the need for employee engagement. We have remained certified since then.

Climate Change Response



Data Center Environment Certifications & Awards

LG CNS has sought to improve public opinion and create a foundation for the industry growth through the improvement of energy efficiency (consumption reduction) of our data centers, which have high energy consumption. Accordingly, LG CNS has been engaging the following initiatives:

Green DC Certification

LG CNS has received the Green Data Center Certification, which is presented by the Korea Information Technology Service Industry Association to environment-friendly data centers. The LG CNS Sangam IT Center has received consecutive A ratings from 2013 to 2015. The Busan data center has received the highest rating, A+++, consecutively from 2014 to 2016. Furthermore, the Incheon center has received a rating of A+ in 2016. These ratings demonstrate LG CNS's achievements in the creation and operation of eco-friendly data centers.

Brill Awards

In recognition of unique, technology-intensive innovations in 2014 (having considered energy efficiency and safety as early as the design stages), the LG CNS Busan Data Center received the Brill Award for Outstanding Data Center in Design Category—the most prestigious annual award presented by the only data center certification organization in the world, the Uptime Institute. The design of the Busan Data Center included innovations such as the world's first and only "wind path," a data center air duct, as well as a "builtup exterior air conditioning system," a proprietary patented technology. In particular, it is the first data center in Korea to feature a seismic isolation system, which ensures uninterrupted services even in the event of an earthquake of magnitude 8.0 on the Richter scale. Such attentive disaster and accident prevention received recognition within the industry.

* Brill Awards: The Brill Award is the most prestigious award in the data center industry, presented by the only data center certification organization in the world, the Uptime Institute. Of the 23,000 data centers around the world, 100 facilities from 19 countries are chosen in the initial phase. Following an assessment by 90 experts, a total of 18 data centers are chosen for the Brill Award for Outstanding Data Center.



Climate Change Response

Based on the recognition that climate change not only poses a threat but also presents an opportunity for business growth, LG CNS engages in a broad range of initiatives to make our business locations greener such as creating environment-friendly office spaces and green data centers. We are also developing new growth engines by integrating our capabilities in information technology with energy business models. For instance, we believe that our experience and capabilities in energy efficiency can drive multifaceted CO2 reduction efforts in the power plant sector and the building management sector (hospitals, hotels, resorts and mega skyscrapers), and that these new and integrated business models may expand opportunities for groupwide collaboration to create greater synergy.

Response to Environmental Regulations

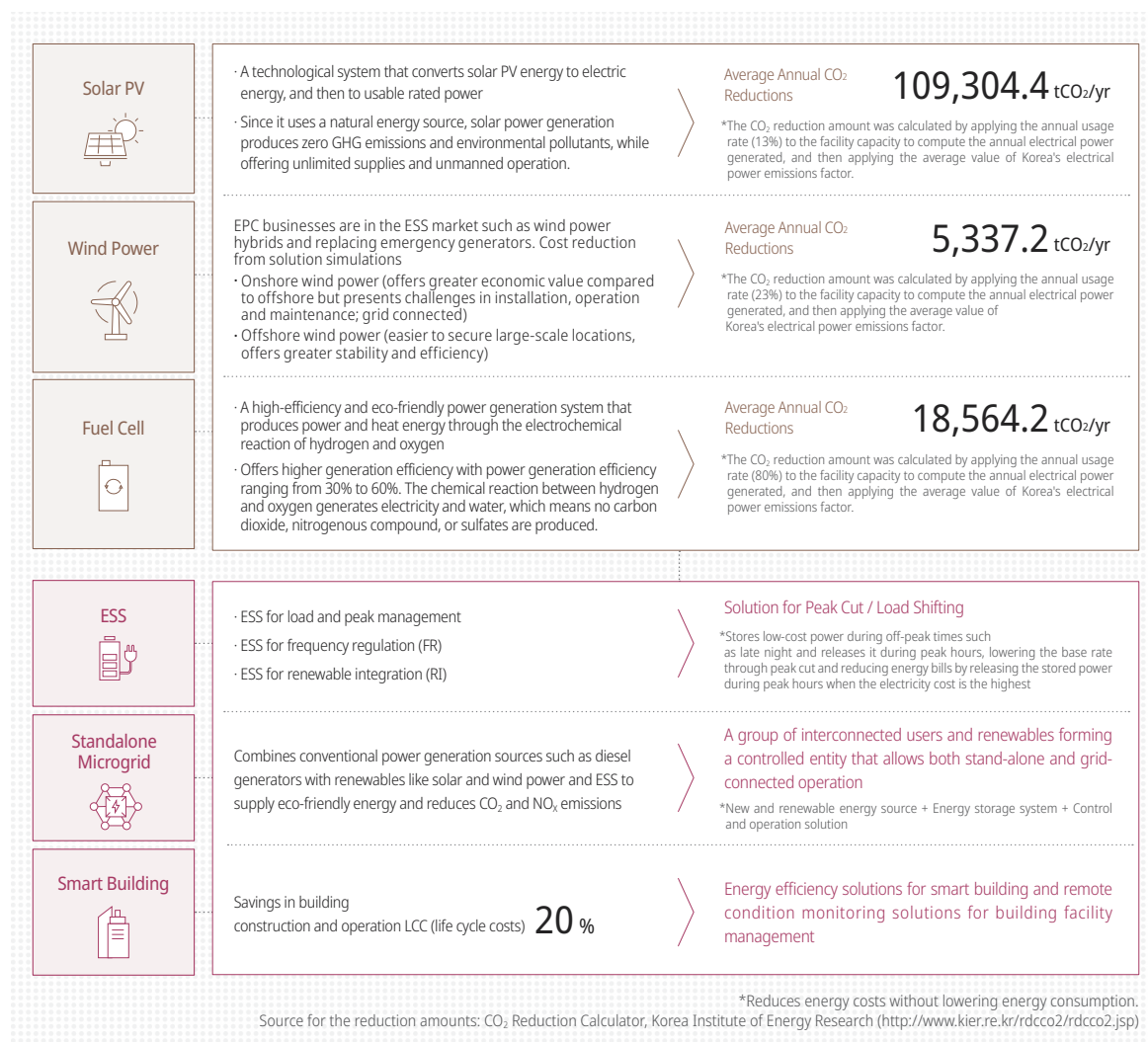
Pursuant to the Framework Act on Low Carbon, Green Growth, the Korean government introduced the GHG and Energy Target Management System (TMS), under which the government allocates GHG emissions allowance to a business and encourages businesses to achieve their reduction targets through voluntary reduction efforts and emissions trading. Our Sangam Data Center was designated as a controlled entity for the TMS in 2015. In order to effectively respond to energy related regulations, LG CNS developed and implemented the GHG Inventory System, which automatically measures the amount of energy used at the data center and calculates the amount of GHG emissions generated in real-time. We also participate in the CDP (Carbon Disclosure Project), a global project that enables companies, cities, states and regions to measure and manage their environmental impacts, as part of our active response to external demand for environmentally-minded business management and practices.

Climate Change Mitigation Activities

IT solutions that help deploy clean energy with higher efficiency

All LG CNS energy services help our clients reduce unnecessary electricity consumption, deploy clean energy sources, and reduce carbon emissions. Our IT solutions that apply to renewable energy sites cover all segments of the energy value chain, from generation and storage to demand management. With our multi-purpose EMS (Energy-Management System), we design and implement the most efficient energy operational pattern, adopting peak shifting by battery storage, demand-side management, and real-time monitoring. Our track records prove that LG CNS is a committed player in helping our planet fight climate change.

Review submitted reports



Environment-friendly, Green Data Centers

As part of our efforts to reduce the power consumption of our data centers, one of the most power-intensive facilities in all of industry, LG CNS continuously develops energy efficiency solutions and implements them in our data center operations. We are also continuously improving our building energy consumption by introducing renewable energy sources and retrofitting our facilities with energy efficiency equipment. LG CNS also continuously develops and implements GHG emissions reduction solutions to make our data centers greener. For instance, we developed the Smart Green Solution (SGS) to facilitate the integrated operation of data center infrastructure. The SGS enables the integrated monitoring of facility infrastructure (electricity, mechanical, temperature / humidity, lighting, etc.) and security facilities, which allows the effective management of server room energy efficiency based on failure detection, analysis and control and thereby contributing to the reduction of GHG emissions. In addition, LG CNS developed the world's

first and eco-friendly "built-up exterior air conditioning system," a proprietary patented technology that utilizes natural exterior air, and implemented this system to all of our data centers, while developing a dedicated HVAC system for cooling the heat from data center servers and introduced high-efficiency UPS and LED lighting to all of our data centers as part of our efforts to further reduce GHG emissions.

Energy Saving Performance from the Environment-Friendly IT System (Sangam IT Center)

Detail	Reduction (tCO ₂ eq)					
	2014	2015	2016	2017	2018	Total
LED Lighting Replacement (FL: All)	223	446	446	466	466	2,007
Mechanical Room External AC (FL: B3-4)	150	404	404	404	404	1,766
Computer Room External AC (FL: 2-9)	-	-	560	1,366	1,366	3,292
High-Efficiency UPS Replacement (FL: 2-9)	-	69	278	278	278	903
Total	373	919	1,688	2,494	2,494	7,968

3

Governance

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Corporate Governance

● Composition and Roles of the Board of Directors

Board of Directors

Category	Name	Position	Date of Appointment	Remarks
Inside Director	Young Shub Kim	CEO & President	March 2019	Chairman of the BoD
Inside Director	Dong Un Lee	CFO	March 2017	
Non-executive Director	Jae Won Lee	LG Corp. Vice President	March 2019	

Roles of the Board

Our Board of Directors plays a key role in decision-making and management oversight as a top-level management body. The directors oversee and guide our business and affairs providing input for the execution of management tasks and processes.

● Operation & Activities of the Board of Directors

Operation of the Board

The Board of Directors meeting is held on a regular basis and whenever necessary to review and resolve important business matters in accordance with the Articles of Incorporation and legal and regulatory requirements for business operation and oversight. Board resolutions are passed by a majority vote of attending directors.

Activities of the Board

In 2018, we held nine board meetings and resolved 31 agenda items including approval of the 2018 Business Plan and issuing corporate bonds with an attendance rate of 96.7%.

Shareholding Status

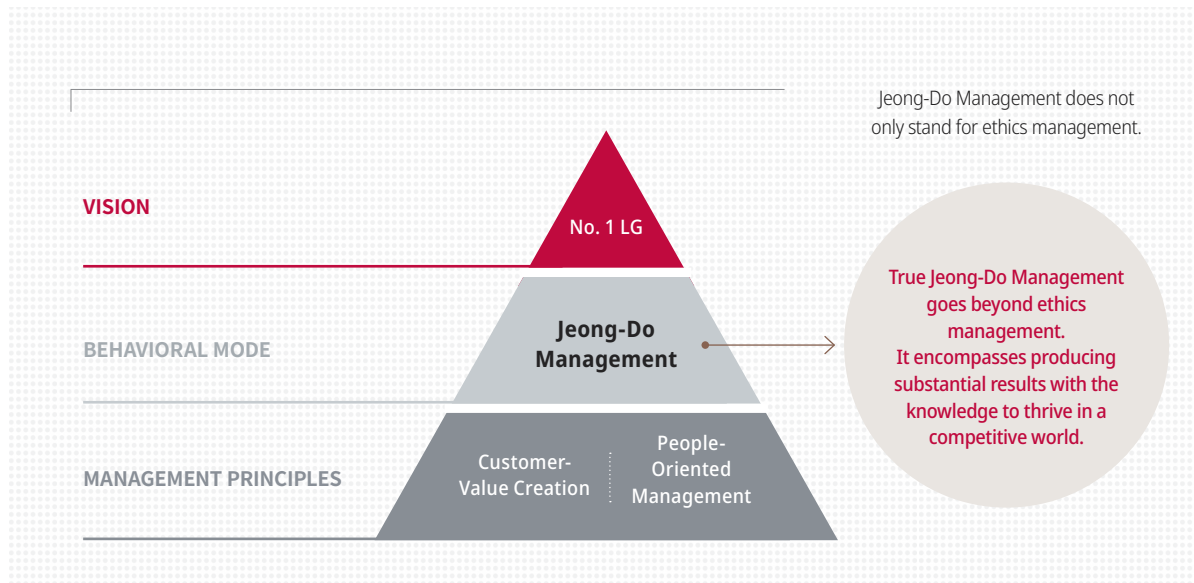
As of December 2018, we have issued a total of 87,197,353 shares with major shareholders holding 84.95% of the total. The employee's stock ownership association and minority shareholders represent 1.93% and 13.12% of the stock respectively.

Year	No. of Meetings	Attendance Rate	No. of Agenda items	Major Resolutions
2018	10	96.7%	31	<ul style="list-style-type: none"> Approval of 2018 Business Plan Approval of issuing corporate bonds
2017	9	96.3%	30	<ul style="list-style-type: none"> Approval of 2017 Business Plan Approval of split agreement for finance automation Approval of issuing corporate bonds
2016	15	97.8%	52	<ul style="list-style-type: none"> Approval of 2016 Business Plan Approval of split of Ucess Partners Appointment of CEO

Jeong-Do Management

LG Way & Jeong-Do Management

Representing LG's unique corporate culture, the LG Way articulates our belief in attaining the vision of becoming "No. 1 LG" through "Customer- Value Creation" and "People-Oriented Management" as we stay true to the principles of "Jeong-Do Management" in our everyday practice. Jeong-Do Management expresses our commitment for building up fundamentals continuously and competing fairly as we base our practices on ethical management, through which we can ultimately achieve the LG Way.



Code of Ethics

LG CNS established the Code of Ethics as the guiding principle for all of our employees in their conduct and value judgement, and we apply these principles to our everyday practice. Produced in Korean, English and Chinese, the Code of Ethics Handbook was distributed to employees who speak the respective languages, and made available to all of our stakeholders on the Jeong-Do Management section of our corporate website and the Jeong-Do Management board on our intranet.

Jeong-Do Management Organization

In order to ensure systematic implementation of Jeong-Do Management, LG CNS established the Ethics Bureau within the Corporate Auditing Unit, and tasked the organization with establishing and operating the policies and systems concerning Jeong-Do Management. The Ethics Bureau also implements a broad range of activities that help our employees practice Jeong-Do management, such as handling related reports and inquiries received through internal and external channels.



LG Jeong-Do Management Website (<http://ethics.lg.co.kr>)

Jeong-Do Management Initiatives

Integrated Operation of Jeong-Do Management

To help our employees better access Jeong-Do Management and systematically practice its principles, we are operating an integrated in-house Jeong-Do management system dubbed 'Jeong-Do Management Guide'. This allows us to share relevant announcements on LG's Code of Ethics and assist our employees in dealing with any difficulties they may face in advancing Jeong-Do Management through self-initiated reviews and real-time counseling.

Jeong-Do Management Guide

Each and every LG employee vows to abide by the LG Code of Ethics.

Jeong-Do Management announcements

These announcements illustrate the details that employees should know to establish a culture of Jeong-Do Management.

FAQ

Simple and clear answers are provided to the questions frequently asked in relation to Jeong-Do Management.

Q&A

Any questions can be raised freely on any issues that are related to Jeong-Do Management. (Anonymity is strictly protected.)

Self-initiated Jeong-Do Management

Details are provided to assist employees in practicing Jeong-Do Management on their own.

LG Code of Ethics

The LG Code of Ethics presents the objective and detailed criteria that will guide employees in making the right value judgment and the right decision.

Guidelines & Forms

Relevant regulations, guidelines, reports, and forms are provided.

Employee/Supplier Training and Cultural Dissemination

To embed the behavioral principles of Jeong-Do Management into our employees' daily business conduct, we provide regular Jeong-Do Management training and endeavor to disseminate the culture of Jeong-Do Management. In 2018, nearly 20 sessions of group training were offered to more than 1,200 employees, and we continue with such training with a focus on field operations and job categories. Through the workshops attended by supplier CEOs, we introduced LG's Jeong-Do Management and called for their co-operation. Furthermore, the Jeong-Do Management Letters were sent to employees and the violations of Jeong-Do principles were posted publicly as part of our regular and consistent endeavors to disseminate the culture of Jeong-Do Management and raise employee awareness.

Jeong-Do Management Pledge

LG CNS requires all of our employees to sign and submit an online pledge for "Jeong-Do Management" and renew their pledge on an annual basis. We also require our suppliers to do the same by submitting a pledge for Jeong-Do Management as part of the Master Purchase Agreement. Our pledge for Jeong-Do Management is an expression of our commitment towards our customers, suppliers, shareholders, employees and community as well as of our intention to become a market-leading company respected for its integrity.

Gift-Exchange Reporting System

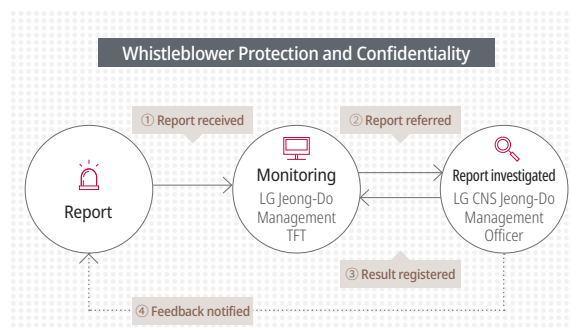
LG CNS strictly prohibits our employees from receiving any gifts (cash and/or valuables) from interested parties. Employees who have received such gifts in unavoidable circumstances must report such incidents and return the items. If returning the gift is impossible, employees must report the incident and forward the item to the Ethics Bureau, which either donates the item to charity or auctions it off internally and uses the entirety of the proceedings to purchase and donate supplies needed at welfare facilities.

Jeong-Do Management Survey

LG CNS participates in the LG Group-wide Jeong-Do Management Survey conducted on an annual basis to assess our employee compliance with the principle and their awareness levels, as well as to identify improvement points. We also conduct the survey on our suppliers to identify risks associated with unfair business practices and use the results in enhancing our partnerships with our suppliers.

Whistleblower System Hotline for Reporting Irregularities and Unethical Conducts

LG CNS has in place a whistleblower system to receive reports concerning any conduct in violation of the Employee Code of Ethics and Jeong-Do Management, such as exploiting one's position of power to impose unfair terms and accepting gifts from interested parties. We follow up on all reports of misconduct and launch an internal investigation. If our investigation produces evidence of misconduct, we implement appropriate measures such as disciplinary action, business process improvement and Jeong-Do Management training to promote transparent and accountable business practices across the organization. We also receive reports through other channels including phone, facsimile, postal mail or visit, and have strong measures in place to thoroughly protect the identity of whistleblowers.

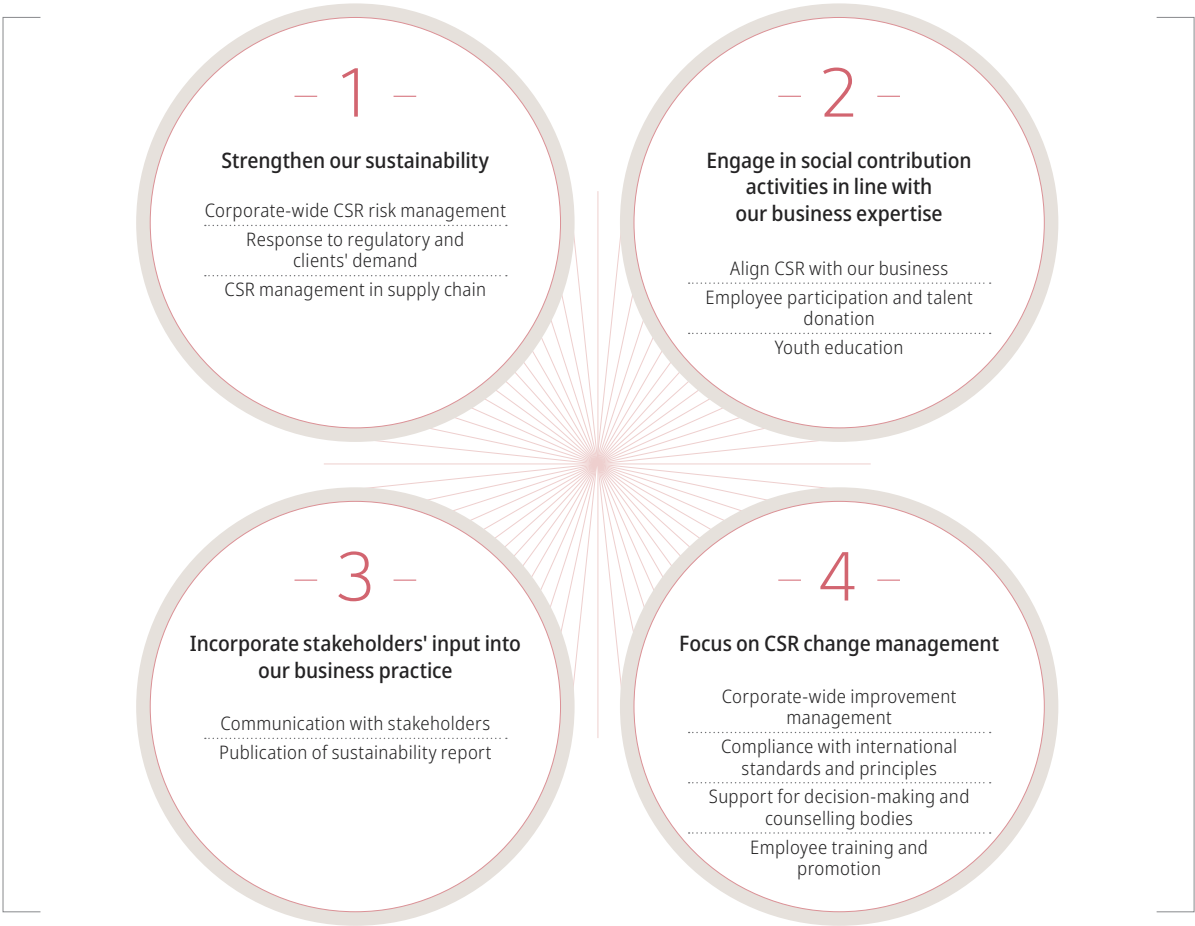


Whistleblower Reward Program

LG CNS operates a reward program for whistleblowers to promote transparency and accountability in our business practice and eliminate irregularities and corruptions that undermine customer values. The reward review board is convened if a report of misconduct has been deemed qualified for a reward, and officially approves a reward to the whistleblower.

Directions in CSR

LG CNS takes a proactive approach in our CSR programs to achieve sustainable growth in the IT industry. To this end, we are strengthening our CSR initiatives with a focus on sustainability, strategic social contribution, stakeholder engagement and CSR change management while forming a consensus with our stakeholders and building collaborative relationships.



CSR Committee



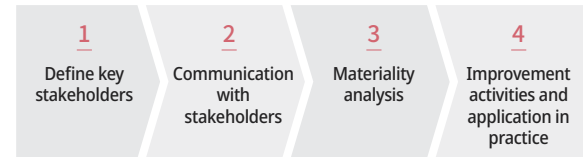
Stakeholder Communication

In advancing sustainability management, we at LG CNS are clearly aware of the importance of collecting and reflecting feedback from wide ranging stakeholders. As such, we operate communication channels with respective stakeholders to practice sustainability management in conjunction with stakeholders.

Definition of Stakeholder

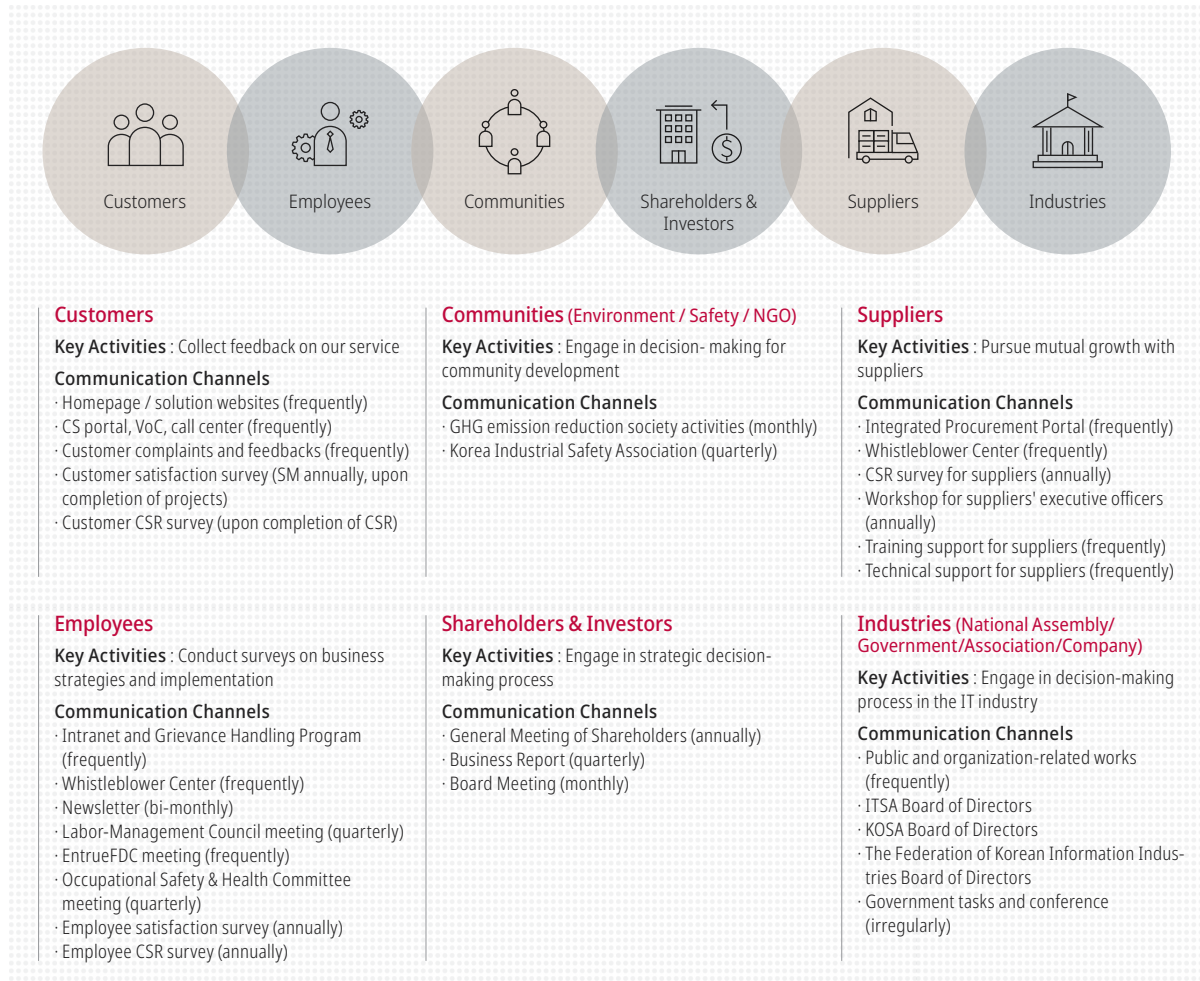
We categorized our stakeholders into six main groups: customers, employees, shareholders / investors, suppliers, communities, and industries. We identify the areas of their interest and reflect their input in our business strategies.

Stakeholder Engagement Process



Stakeholder Communication Channels

LG CNS maintains close communications with our stakeholders through two-way channels. As part of materiality assessment process, we collect input from our stakeholders through various communication channels including external and internal surveys and apply it in our practice for mutual growth and development.



Materiality Analysis

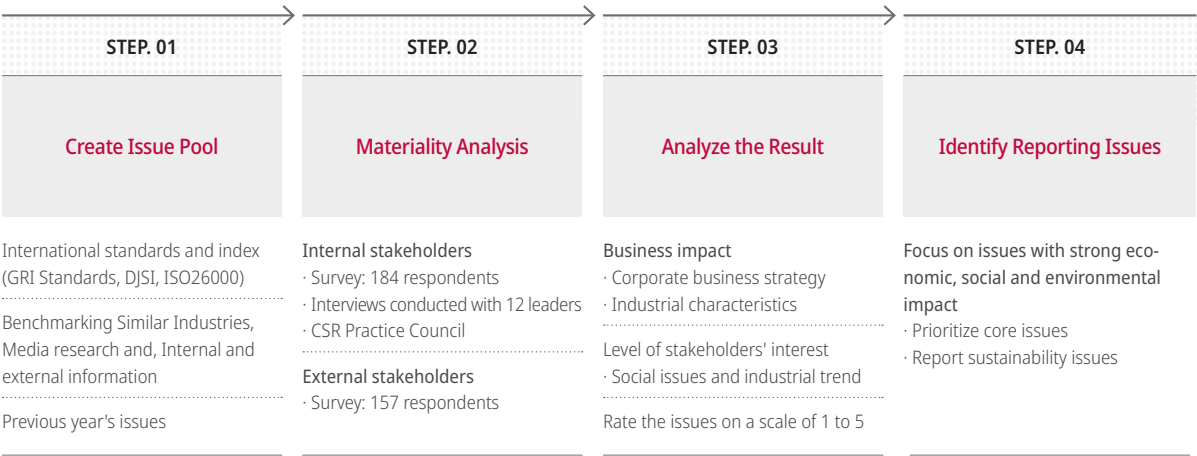
LG CNS conducts materiality analyses and assessments of sustainability issues in terms of their alignment with our business and impacts on our stakeholders to make sure we report them using the proper level of attention

Materiality Analysis Process

Our materiality analysis was conducted with reference to the Five-Part Test of Account Ability, a globally-renowned research institute in the sustainability management sector. First, we chose 24 issues based on the GRI Standards Series 100-400, ISO26000, DJSI, and other sustainability-related international standards and indicators such as media articles, relevant practices of other businesses, and the topics addressed in our previous year's sustainability report. This was followed by online surveys conducted to gather wide-ranging views from internal/external stakeholders and by interviews with in-house departments and major stakeholders. Leveraging the data gathered

through this process, we assessed both internal and external factors related to our sustainability management in order to identify key issues. Finally, our executives, responsible departments, and major stakeholders were interviewed to review the validity of those key issues and to finalize reporting issues.

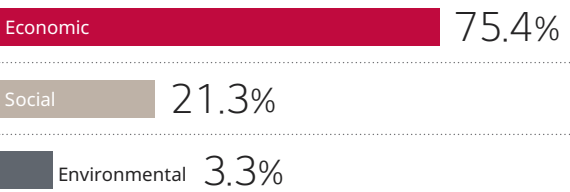
To effectively communicate our management approach and project experiences concerning the identified material issues, we categorized them into two issues. 1) Digital Innovation Issues that will drive our future growth and thus draw the most attention from our stakeholders and 2) Sustainability Issues that require our sustained management.



Media Analysis

As a result of analyzing our media exposure between January 1st of 2018 and December 31st of 2018, 75.4% of the total concerned our management issues, including reinforcing business areas and launching solutions with a focus on future growth. In addition, 21.3% of our media exposure was about social issues – the revision of fair trade regulations and governance change. Our renewable energy business and social contribution programs were also covered by numerous media articles.

2018 Media Exposure Analysis Results



Stakeholder Survey

We conducted stakeholder surveys with 1,696 Employees, Customers, Suppliers, and Associations. “Growth-focused portfolio development” is at the top of the list as in last year while “quality and service management for customer satisfaction” is ranked high on the list this year.

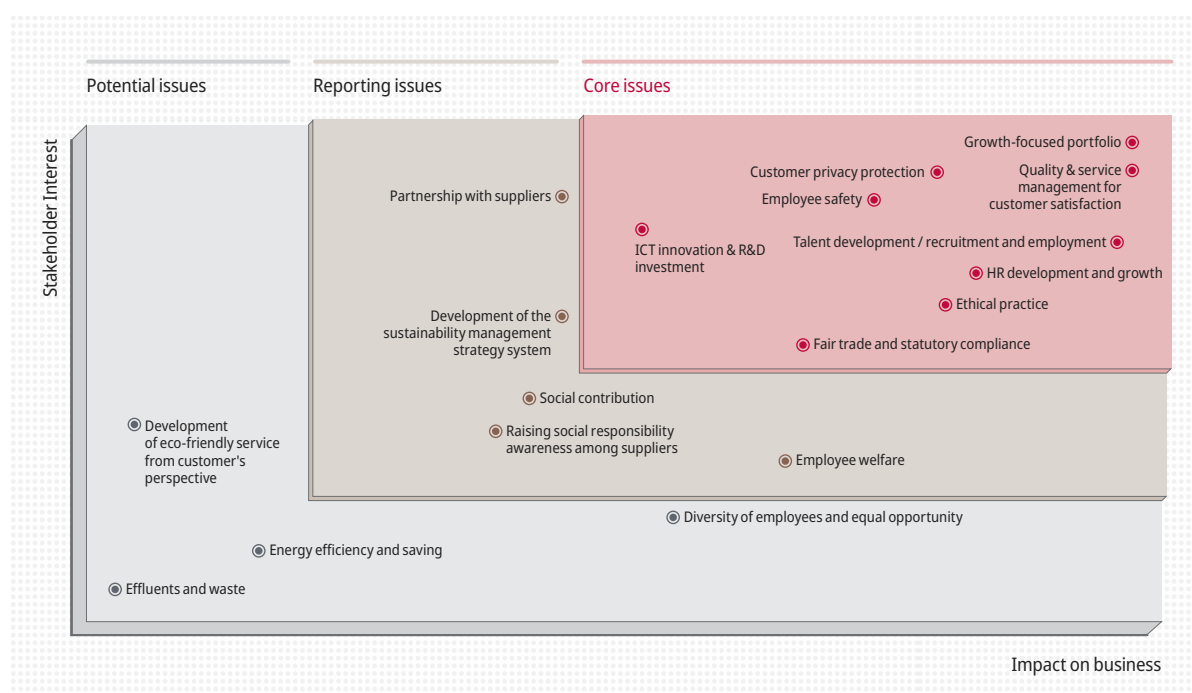
Purpose of survey Identify the areas of interest and expectations of stakeholders

Period April 11 – 18, 2018 (8 days)

Method email and written survey form

External Stakeholders		Internal Stakeholders	
1	Quality and service management for customer satisfaction	1	Growth-focused portfolio development
2	Customer privacy protection	2	HR development and growth (employee performance development support)
3	Reinforcement of the customer data protection management and system	3	Employee welfare (work-life balance, workplace environment)
4	Fair trade and statutory compliance (prevention of corruption / monopoly / collusion)	4	Talent development / recruitment and employment stability
5	Employee (employees of LG CNS and suppliers, dispatched employees) safety enhancement (safety training)	5	Quality and service management for customer satisfaction
6	Ethical practice (strengthening ethics management)	6	Ethical practice (strengthening ethics management)
7	Economic performance (sales, operating profit, financial stability)	7	Fair trade and statutory compliance (prevention of corruption / monopoly / collusion)
8	Talent development and nurturing (support for employee capacity-building)	8	Employee (employees of LG CNS and suppliers, dispatched employees) safety enhancement (safety training)
9	Partnership and communication with partners	9	Economic performance (sales, increase operating profit, financial stability)
10	Development and reinforcement of the sustainability management strategy system	10	Diversity of employees and equal opportunities (no discrimination based on age, gender or region)

Results of Materiality Analysis



4

Appendix

77	ECONOMIC PERFORMANCE
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84	UN SDGs (SUSTAINABLE DEVELOPMENT GOALS)
85	HUMAN RIGHTS POLICY

Economic Performance

Consolidated Income Statement

(Unit: KRW M)

Item	2016	2017	2018
Sales	2,947,689	3,003,212	3,117,656
Cost of Sales	2,544,137	2,577,928	2,703,042
Gross Profit	403,551	425,284	414,614
Selling & Marketing Expenses	234,943	209,635	227,555
Operating Income	168,609	215,650	187,059
Financial Income	8,452	6,494	10,090
Financial Expenses	22,064	23,670	17,124
Gain (or Loss) from Investment in associates	5,690	3,782	(441)
Other Operating Income	44,291	34,073	21,068
Other Operating Expenses	45,118	42,735	39,091
Profit before Income Tax Expense	159,858	193,594	161,562
Income Tax Expense	51,426	74,720	51,053
Profit from Continuing Operations	108,432	118,875	110,508
Profit from Discontinued Operations	(19,050)	(18,769)	0
Profit for the Year	89,382	100,106	110,508

Consolidated Balance Sheet

(Unit: KRW M)

Item	2016	2017	2018
1. Current Assets	1,495,346	1,466,670	1,585,859
Trade Receivables, net	764,892	770,349	818,015
Inventories, net	63,643	48,398	51,941
Other Current Assets	666,811	647,923	715,903
2. Non-Current Assets	859,618	893,040	889,462
Affiliate and Joint Investments	64,959	65,424	56,794
Property, Plant and Equipment, net	615,463	668,171	664,832
Intangible Assets	55,781	51,128	53,275
Other Non-Current Assets	123,416	108,316	114,561
Total Assets	2,354,963	2,359,710	2,475,321
1. Current Liabilities	1,036,389	999,421	815,042
2. Non-Current Liabilities	380,290	339,907	563,906
Total Liabilities	1,416,679	1,339,328	1,378,948
1. Controlling Company Shareholder's Equity	936,381	1,020,290	1,099,326
Issued Capital	47,198	47,198	47
Capital Surplus	39,329	39,520	39,516
Other Reserves Accumulated Other Comprehensive Loss	(1,467)	(3,396)	(17,944)
Retained Earnings	851,321	936,968	1,030,556
2. Non-Controlling Interests	1,903	92	(2,953)
Total Shareholders' Equity	938,284	1,020,382	1,096,373
Total Liabilities and Shareholders' Equity	2,354,963	2,359,710	2,475,321

* For more detailed information, please refer to our Business Report (<http://dart.fss.or.kr>)

Social Performance

Government Subsidy

(Unit: KRW M)

Project Name	Lead Division	Amount	Remarks
Smart City National Strategy Project R&D	Korea Research Institute for Human Settlements	15	

* Subject to the new government subsidy in 2018

Economic Performance Distribution

(Unit: KRW 100M)

Item	Stakeholder	Item	Amount	Remarks
Korea	Employee	Salary & Bonus	4,792	
		Benefits	738	
		Severance Compensation	365	
		Training Budget	108	
	Supplier	Product Purchases	9,335	
		Outsourcing Expenses	6,127	
		Repair Expenses	2,220	
		Advertisement Expenses	47	
	Central and Local	Corporate Taxes	325	
		Donations	10	
		Membership Dues	8	
	Shareholders & Bondholders	Dividend	419	Dividend Payout Ratio 40.0%

Employee

1. By Region

(Unit: Number of Employees)

Category	No. of Employees	Percentage
Korea	5,832	89.4%
China	339	5.2%
USA	92	1.4%
Brazil	56	0.9%
Colombia	40	0.6%
Europe	32	0.5%
Vietnam	27	0.4%
Greece	24	0.4%
Malaysia	22	0.3%
Indonesia	20	0.3%
India	19	0.3%
Japan	12	0.2%
Other*	8	0.1%
Total	6,523	100%

*Other: Thailand, Laos, Uzbekistan, Qatar, Bahrain

2. By Job

(Unit: Number of Employees)

Category	By Job	Total
Korea	Office Staff	5,803
	Executives	29
	Total	5,832
Overseas	Office Staff	691
	Executives	-
	Total	691
Overall	Office Staff	6,494
	Executives	29
	Total	6,523

3. Female Employees

(Unit: Number of Employees)

Category	2016	2017	2018
Korea	1,428	1,351	1,405
Percentage(%)	24.2	25.0	24.1

4. By Age Group

(Unit: Number of Employees)

Age Group	Korea	Percentage
20s and under	580	9.9%
30s	1,920	32.9%
40s	2,655	45.5%
50 or older	677	11.6%
Total	5,832	100.0%

5. Percentage of Irregular Employees

(Unit: %)

2016	2017	2018
0.42	0.81	1.77

* Domestic Data

6. Employees with Disabilities

(Unit: Number of Employees)

Category	2018
Foreigners (Domestic: Full Time + Part Time)	9
With Disabilities	119

*For workplaces subject to disability employment fund report
(LG CNS: 39 employees, Haengbokmaru: 80 employees)**7. Job Creation**

(Unit: Number of Employees)

Category	2016	2017	2018
Male	100	170	391
Female	32	62	155
Total	132	232	546

* Domestic Data

8. Average years of employment

(Unit: Year)

Category	2016	2017	2018
Male	11.4	12.7	11.9
Female	9.9	10.7	10.4
Total	11.0	12.2	11.5

* Domestic Data

9. Employee Education & Training

Category	2016	2017	2018
Attendance at group training (No. of persons)	12,054	19,748	17,296
Attendance at online training (No. of persons)	26,661	34,505	51,577
Training hours per capita (No. of hours)	42.2	64.5	68.8

10. Industrial Accident

Category	2016	2017	2018
No. of Cases(Case)	1	1	3
Accident Rate(%)	0.01	0.01	0.05

11. Parental Leave

(Unit: Number of Employees)

Category	2016	2017	2018
Parental Leave Beneficiaries	147	109	162

Memberships & Associations (58in Total)

Korea IT Service Industry Association	Korea Industrial Technology Association	The Information Communication Professional Engineers Association	Korea Photovoltaic Industry Association
Korea Software Industry Association	Korea Electrical Contractors Association	Korea Engineering & Consulting Association	Korea New & Renewable Energy Association
The Federation of Korea Information Industries	Korea Industrial Safety Association	Korea Defense Industry Association Seoul	Korea International Trade Association
Korea Chamber of Commerce and Industry	DMC Tenant Association	Korea Fintech Industry Association	Fair Competition Federation
ITS Korea	Association for Blockchain Business	Telecommunications Technology Association	Smart City Association

* As of February 2019

Management System Certifications

Certification Title	Certification (Y. M.)	Validity (Y. M.)	Certification Range	Remarks
ISO14001	2010.09	2019.09	HQ: IT service and maintenance service, including software and system integration consulting, analytics, design, and development, in the areas of energy, transportation, manufacturing, healthcare, financing, public sector, national defense, telecommunication media, ICBMA (IoT, Cloud, Big Data, Mobile, and AI), and business commerce & convergence Greece Branch Office: Training, preventive management of equipment and software, technical support, and maintenance service for users from OASA's A.F.C.S (Automatic Fare Collection System) project	
ISO45001	2018.09	2020.08	HQ: IT service and maintenance service, including software and system integration consulting, analytics, design, and development, in the areas of energy, transportation, manufacturing, healthcare, financing, public sector, national defense, telecommunication media, ICBMA (IoT, Cloud, Big Data, Mobile, and AI), and business commerce & convergence	
ISO27001	2016.04	2022.04	Busan Data Center, Sangam IT Center, Gasan Center, and Incheon Center	
ISMS	2017.11	2020.11	Corporate-wide external service and IDC operation	
ISO9001	1994.07	2020.07	HQ: IT service and maintenance service, including software and system integration consulting, analytics, design, and development, in the areas of energy, transportation, manufacturing, healthcare, financing, public sector, national defense, telecommunication media, ICBMA (IoT, Cloud, Big Data, Mobile, and AI), and business commerce & convergence Greece Branch Office: training, software prevention management, and maintenance service for A.F.C.S. (Automatic Fare Collection System) project users for OASA ¹⁾	

1) OASA: ATENS URBAN TRANSPORT ORGANISATION

Environmental Performance

Key Environmental Index

Item	Criteria	Unit	2016	2017	2018
Energy	Consumption	TJ	585	444	523
Greenhouse Gas	Emissions	tCO ₂ eq	26,610	20,319	23,753
Water (water and sewage usage volume)	Consumption	Ton	13	15	12
Waste Water	Consumption	Ton	16	19	16
COD	Amount	Ton	0	0	0
Waste	Amount	Ton	8	10	12

* The data presented here is based solely on the environmental performance of the Sangam IT Center (pursuant to the "Environmental Information Disclosure Policy" from the "Enforcement Decree of the Support for Environmental Technology and Environmental Industry Act").

* Included in the emissions calculation for the Greenhouse Gas Emission Trade Scheme are: electricity, cold / hot water, diesel fuel (power generator) usage volume

* Not included in the emissions calculation for the Greenhouse Gas Emission Trade Scheme are: water consumption and waste discharge volume

VERIFICATION

Certificate No. GHGV-2019-06101

The Emission of Greenhouse Gas reported by LG CNS Sangam IT Center

424, Worldcupbuk-ro, Mapo-gu, Seoul, Korea

Verification Institute

DAEIL E&C Verified the Greenhouse gas & Energy STATEMENTS of 2018 reported by LG CNS Sangam IT Center

Verification criteria

The Comprehensive Standards and Guidelines on the Operation of Greenhouse Gas and Energy Target Management Scheme (Notification No. 2018-73, Korea Ministry of Environment).

Reasonable Assurance

This assurance was performed in accordance with the procedures stipulated in the guidelines. And it provides reasonable assurance in conformity with relevant assurance principles.

Verification Conclusion

We, DAEIL E&C, Verify the Greenhouse Gas Emission and Energy STATEMENTS 2018 of LG CNS Sangam IT Center are based on a Reasonable Level of Assurance.

- Energy consumption: 523 TJ
- GHG Emission: 23,753 CO₂eq. ton

June 10, 2019
DAEIL E&C CO.,LTD

2018 GRI Standards Index (Core Option)

General Standards

Topic	Index	Description	Page	More Info.	Self-Assurance
Organizational Profile	102-1	Name of the organization	5		●
	102-2	Activities, brands, products, and services	4		●
	102-3	Location of headquarters	4		●
	102-4	Location of operations	4		●
	102-5	Ownership and legal form	69		●
	102-6	Markets served	4		●
	102-7	Scale of the organization (employees, sales, capital)	4, 5, 78		●
	102-8	Information on employees and other workers	4, 78-79		●
	102-9	Supply chain	53-56		●
	102-10	Significant changes to the organization and its supply chain	No significant change		●
	102-11	Precautionary principle or approach	45, 62, 71		●
	102-12	Voluntary economic, environmental and social principles or external initiatives	70, 85		●
	102-13	Membership of associations	80		●
Strategy	102-14	Statement from senior decision-maker	2		●
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	70		●
Governance	102-18	Governance structure	69		●
Stakeholder Engagement	102-40	List of stakeholder groups	73		●
	102-41	Collective bargaining agreements	51, 78-79		●
	102-42	Identifying and selecting stakeholders	73		●
	102-43	Approach to stakeholder engagement	73		●
	102-44	Key topics and concerns raised	75		●
Reporting Practice	102-45	Entities (subsidiaries, joint venture companies) included in the consolidated financial statements	Business Report		●
	102-46	Defining report content and topic boundaries	74, 75		●
	102-47	List of material topics	75		●
	102-48	Restatements of information	About this Report		●
	102-49	Changes in reporting	N/A		●
	102-50	Reporting period	About this Report		●
	102-51	Date of most recent report	June 2018		●
	102-52	Reporting cycle	1Year		●
	102-53	Contact point for questions regarding the report	About this Report		●
	102-54	Claims of reporting in accordance with the GRI Standards	82-83		●
	102-55	GRI content index	82-83		●
	102-56	External assurance	N/A	Self-assured	●

Topic-Specific Standards

Topic	Index	Description	Page	More Info.	Self-Assurance
Economic Performance	201-1	Direct economic value generated and distributed	3,5, 77-78		●
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	57-60		●
	203-2	Significant indirect economic impacts	3, 78		●
Energy	302-1	Energy consumption within the organization	67, 80	Environmental data only applies to Sangam IT Center ("Environmental Data Disclosure" Business Sites)	●
	302-2	Energy consumption outside of the organization	75		●
	302-3	Energy intensity	67, 80		●
	302-4	Reduction of energy consumption	66, 67		●
Water	303-1	Water withdrawal by source	80		●
Emissions	305-4	GHG emissions intensity	80		●
	305-5	Reduction of GHG emissions	66, 67		●
Effluents and Waste	306-1	Water discharge by quality and destination	80		●
	306-2	Waste by type and disposal method	80		●
Employment	401-1	New employee hires and employee turnover	79		●
	401-2	Benefits provided to full-time employees	49, 51-52		●
	401-3	Parental leave	79		●
Occupational Health and Safety	403-1	Workers' representation in formal joint management-worker health and safety committees and ratio represented by the health committee	51, 65		●
	403-2	Types of injury and rates of injury, occupational diseases, lost days, absenteeism, and number of work-related fatalities	79		●
	403-4	Health and safety topics covered in formal agreements with trade unions	63-65		●
Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	42-43		●

Other Standards

Topic	Index	Description	Page	More Info.	Self-Assurance
Strategy	102-15	Key impacts, risks, and opportunities	2		●
Ethics and Integrity	102-17	Mechanisms for advice and concerns about ethics	51		●
Governance	102-29	Identifying and managing economic, environmental, and social impacts	63		●
	102-34	Nature and total number of critical concerns and grievance handling mechanisms	51		●
	102-35	Remuneration policies	Business Report		●
	102-36	Process for determining remuneration	Business Report		●
Economic Performance	201-4	Financial assistance received from government	78		●
Procurement Practices	204-1	Proportion of spending on local suppliers		Not applicable	●
Anti-corruption	205-2	Communication and training about anti-corruption policies and procedures	61-62, 71		●
	205-3	Confirmed incidents of corruption and actions taken	71		●
Effluents and Waste	306-3	Significant spills		No significant spills	●
Environmental Compliance	307-1	Non-compliance with environmental laws and regulations		No significant violations	●
Supplier Environmental Assessment	308-2	Negative environmental impacts in the supply chain and actions taken	56		●
Labor / Management Relations	402-1	Minimum notice periods regarding operational changes		Not applicable	●
Training and Education	404-1	Average hours of training per year per employee	3, 79		●
	404-2	Programs for upgrading employee skills and transition assistance programs	47-49		●
	404-3	Percentage of employees receiving regular performance and career development reviews	49		●
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	49		●
	405-2	Ratio of basic salary and remuneration of women to men		No difference in base salary	●
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken		No such incidents	●
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	57-60		●
	413-2	Operations with significant actual and potential negative impacts on local communities		Not applicable	●
Customer Health and Safety	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services		No significant violations	●
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data		No significant violations	●

UN SDGs (Sustainable Development Goals)

In September 2015, at the United Nations, 193 world leaders officially adopted the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) as a new global commitment for sustainable development. Expected to serve as a roadmap for sustainable development from 2016 through 2030, this future development framework comprises seventeen goals and 169 targets covering a broad range of economic, social and environmental issues, and places a particular emphasis on the role of civil society by highlighting the importance of the investments, solution development and business activities carried out by private corporations across the world. Through these initiatives for sustainable growth, the U.N.'s new development framework aims to reduce the negative impact of business on the sustainable development agenda and encourages corporations to make positive contributions. After carefully reviewing the seventeen Sustainable Development Goals and associated targets, and assessing their relevance to our own goals and businesses, LG CNS set a strategy that incorporates the SDGs with high relevance to our businesses into our sustainability management efforts, disclosing to our stakeholders our progress and performance in this area.

	Ensure healthy lives and promote well-being for all at all ages	51-52
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	47-49, 52
	Achieve gender equality and empower all women and girls	79
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	47-52
	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	8-40
	Make cities and human settlements inclusive, safe, resilient and sustainable	63-67

Human Rights Policy

At LG CNS, employees are fully respected for their human dignity and values. They are entitled to pursue their happiness in relation to the provision of their labor, and their rights are duly protected in accordance with LG's management philosophy of 'Respecting Human Dignity'. We at LG CNS are in full compliance with the standards and regulations of international organizations and associations working in the fields of labor and human rights, including but not limited to the UN Universal Declaration of Human Rights, ILO (International Labor Organization)'s Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy, and the OECD Guidelines for Multinational Enterprises.

LG CNS Global Labor Policy

As part of our commitment for our management principle, "Human-oriented Management," LG CNS established and implemented the Global Labor Policy to ensure that all of our stakeholders—our employees, customers and suppliers—are respected as human beings and have their dignity valued. LG CNS fully complies with the labor laws and regulations of the countries where we operate, and strives to ensure employment stability and provide our employees with the prevailing wage to fulfill our social and economic responsibility. As a responsible corporate citizen, LG CNS strongly supports the principles prescribed by the United Nations Universal Declaration of Human Rights and the United Nations Commission on Human Rights Guiding Principles on Business and Human Rights.

Article 1. (Respect for Human Dignity)

All employees shall be respected, and they shall not be treated in any severe and inhumane way including sexual harassment and abuse, corporal punishment, mental and physical coercion, verbal abuse, and irrational restriction at work.

Article 2. (Prohibition of Discrimination)

The operation of our human resource system including employment, promotion, compensation, and training opportunities, and the provision of products and services, all stakeholders shall not be discriminated on the grounds of nationality, race, age, gender, sexual orientation, disability, pregnancy, religion, membership of political organization and/or labor union, and marital status.

Article 3. (Avoidance of Forced Labor)

All employees shall not be forced to work against their free will with their mental and/or physical freedom restricted by means of assault, threat, and confinement. All labor shall be based on free will, and all employees shall not be required to hand over their identification card, passport, and/or work permission card issued by the government on condition of employment.

Article 4. (Women and Child Labor)

Children shall not be employed for any kind of job position. "Children" signifies those aged under a certain minimum age standard, and the minimum age for work is determined by the regulations of each country and region. Underage and/or pregnant employees are excluded from dangerous tasks. In accordance with ILO agreements ratified by each country, working conditions including age regulations shall be observed.

Article 5. (Working Hours)

Working hours and days shall be determined in accordance with the regulations of each country and region concerning regular and overtime working hours and holidays.

Article 6. (Wage and Welfare)

All employees shall be paid in accordance with the labor-related regulations of each country and region concerning minimum wage, overtime working hours, and legal welfare.

Article 7. (Freedom of Association)

In accordance with the labor-related regulations of each country and region, the freedom of association and the right to bargain collectively shall be secured. All employees should be guaranteed an environment where they can communicate with the management with no fear for discrimination, retaliation, threat, and harassment.

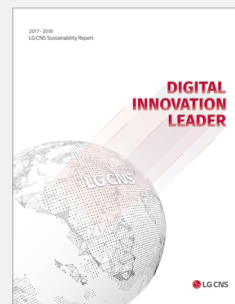
Article 8. (Protection of Personal Information)

The personal information of all stakeholders shall be strictly protected, and shall not be leaked or utilized for any other use without prior approval of the relevant stakeholder. The company shall deliver only true information, avoid any false information, and shall fulfill this promise.

Publication History



2016 - 2017



2017 - 2018



2018 - 2019

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