# DIGITAL GROWTH PARTNER LG CNS

2022-2023 LG CNS Sustainability Report





**Appendix** 

#### **About this Report**

LG CNS has been publishing sustainability reports every year since 2017 to communicate with stakeholders. 2022-2023 LG CNS Sustainability Report is the seventh report.

Overview

LG CNS conducted a double materiality assessment that considered both financial and socioenvironmental impacts. Based on the assessment result, LG CNS' sustainability activities are categorized into environmental, social, and governance, and the main goals and achievements of each category are disclosed. LG CNS' sustainable support solutions and the ESG value of each solution are introduced in the 2022-2023 Sustainability Report.

#### Reporting Standards

This report was prepared based on the GRI Standards 2021, an international sustainability report guideline. Financial performance reporting was prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS).

#### Reporting Scope

The scope of reporting includes all domestic business sites operated by LG CNS, and some financial statements include overseas business sites.

#### **Reporting Period**

This report includes ESG activities and performance of the fiscal year from January 1, 2022 to December 31, 2022. Quantitative data includes the most recent three years of performance to show year-on-year trends, and figures for 2020 and 2021 have been revised due to changes in data collection criteria following the LG ESG Platform. Some qualitative data includes information through the first half of 2023.

#### **Report Verification**

This report has been assured by an independent third-party to ensure the reliability of the report.

#### **Contact Information**

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#### Cover Story



It expresses that LG CNS is pursuing a sustainable future by leading clients' DX in various fields and continuously strengthening its information technologies and business capabilities.

Overview



38 **Special Report** Carbon Footprint Management System

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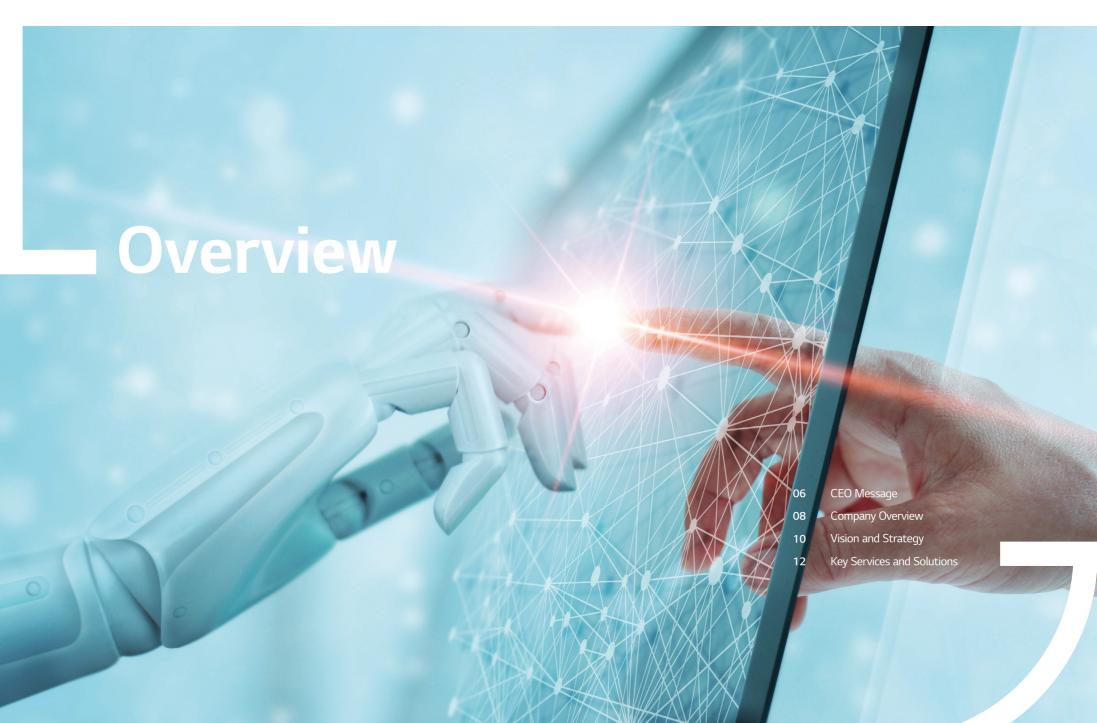
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# **CEO Message**

Digital transformation (DX) through new information technologies is becoming an essential means of business survival. LG CNS helps clients' business succeed and grows with them through DX professional services based on leading technologies.



We are leading the way in customer experience innovation by empowering business consultancy ability to analyze clients' pain points and propose business value to clients that they didn't even know existed.

#### Dear Stakeholders,

I am Shin Gyoon Hyun, CEO of LG CNS.

We would like to express our deepest gratitude to our stakeholders for contributing to LG CNS' growth. LG CNS has continued its solid growth, breaking sales records for the fifth consecutive year, turning challenges into opportunities, including the pandemic and the global economic downturn. This was possible because we have been able to lay the foundation for growth based on the interest and support of our stakeholders.

Digital transformation (DX), utilizing new information technology, is not only a way for companies to become more competitive, but also a means of survival. LG CNS has been focusing on developing expertise to help our clients' businesses succeed with DX professional services based on our leadership in new information technologies. We are investing a lot of time in defining who our clients are and thinking about what value we can provide to them. We are also taking the lead in clients' experience innovation by strengthening our business consulting capabilities to analyze clients' pain points and propose business value to clients that they didn't even know about.

Recently, we have been actively pursuing partnerships with global technology companies, such as the ChatGPT business cooperation with Microsoft and the ERP business alliance with SAP. As a result, we have been growing with clients in various industries such as cloud, AI and big data, smart factory, financial digital transformation, logistics optimization, and smart city, and have been recognized by clients and the market as a true DX specialist.

LG CNS is attracting and developing the best talent to deliver greater value to our clients and solidify our growth foundation.

LG CNS is committed to attracting and developing the best talent to deliver greater value to our clients and solidify our growth foundation. This year, we redefined our concept of talent, which includes the competencies, mindsets, and behaviors that we expect our employees to possess, including Insightful Expert, Game Changer, Empowered Achiever, Self-Motivated Learner, Synergy Builder, and Open-Minded Listener.

In addition, we recognize that talented employees at business sites, who provide customer value on the front lines, are the face and owners of the company, and focus on creating an environment where they can work comfortably. We regularly visit the sites to listen to the voices of employees and strive to improve the sites. In addition, we operate a dedicated safety environment organization to ensure that employees work in a safe environment and conduct activities such as workplace inspections and safety training.

As the environment and climate change issues become increasingly important, the environmental capabilities of companies are being emphasized. LG CNS is also implementing activities to streamline its data center operations, which use a large share of electricity, to reduce carbon emissions. In addition, we will support our clients' ESG management by applying DX technology to ESG, including building a management platform to collect, analyze, and report data related to ESG indicators.

We aim to transparently disclose our corporate direction and performance, including environment, safety, human resources, and financial indicators, to our stakeholders through the sustainability report. Through this, we will further enhance our corporate social responsibility and build trust with our stakeholders. We will not neglect Jeong-Do Management, which is our unique way of cultivating competence based on ethical business management to compete fairly. We ask for your support for LG CNS' innovation and growth. Thank you.

July 2023

Shin Gyoon Hyun Chief Executive Officer, LG CNS

Shun loyan



LG CNS CEO Shin Gyoon Hyun (right) and MS Senior Vice President and CCO LG CNS CEO Shin Gyoon Hyun (right) and SAP CEO Christian Klein pose for a Judson Althoff pose for a photo at the TMM (Top Management Meeting).



photo after signing a strategic partnership.

## **Company Overview**

#### LG CNS Overview

Since our foundation in 1987, LG CNS has been operating overseas subsidiaries in the United States, Europe, and China. About 6,600 employees are constantly striving to lead clients' business innovation with the best digital transformation (DX) technology capabilities.

Company Name	LG CNS Co., Ltd.
Address	Buildings E13 and E14,
	LG Science Park, 71,
	Magokjungang 8-ro, Gangseo-gu
	Seoul, Republic of Korea
Date of Establishment	January 1987
CEO	Shin Gyoon Hyun
Number of	6,634 persons
Employees	(as of late 2022)
Business Fields	AI, Big data, Cloud, Smart logistics,
	Smart city, Smart factory,
	Blockchain technology, SaaS1)
	subscription service, Security
Subsidiaries	Biztech i, Biztech On, Rightbrain,
	Open Source Consulting,
	Haengbokmaru

<sup>1)</sup> SaaS (Software as a Service): A method of software delivery in which software is accessed online via a subscription so that user can access cloud and pay for only what they use, rather than bought on individual computers

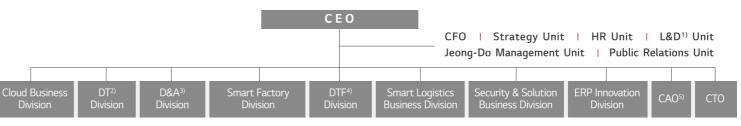
#### **Financial Status**

Total Assets	Total Equity	Sales	Operating Profit	Credit Rating
			+ *	
KRW <b>3,</b> 865.1 billion	KRW <b>1,630.8</b> billion	KRW 4,969.7 billion	KRW 385.4 billion	Corporate bonds

#### **Milestones**

1987-2001 2002-2015 2016-present Foundation and Growth Leap and Development Leading Digital Innovation **1987** Founded STM with EDS (US) 2002 Changed company name to 'LG CNS' 2018 Relocated the LG CNS HQ to the LG Science Park in Magok **1995** Changed company name to 2007 Opened Sangam IT Center 'LG-EDS Systems' 2019 Announced the 'public cloud first' strategy 2013 Opened Busan Global Data Center **1997** Ranked 1st among Korean SI companies 2021 Korean Air cloud migration completed (according to Gartner Survey (US)) 2022 Launched SaaS integration platform SINGLEX

#### **Organization Chart**



Date of

# **Company Overview**

#### **Global Network**

LG CNS operates 11 overseas operations in the U.S., Europe, China, and more.



**Domestic Operations** 

Magok LG Science Park (Seoul HQ)

Sangam IT Center Gasan Data Center Busan Global Cloud Data Center

Incheon Data Center

**Global Operations** 

Establishment China (LG CNS China Inc.) 2001.05 Europe (LG CNS Europe B.V.) 2003.01 The U.S. (LG CNS America Inc.) 2003.07 India (LG CNS India Pvt. Ltd.) 2004.07 2006.01 Indonesia (PT. LG CNS Indonesia) Brazil (LG CNS Brasil Servicos de T.I. Ltda.) 2006.01 Colombia (LG CNS Colombia SAS) 2011.12 Malaysia (LG CNS Malaysia SDN BHD) 2013.02 Japan (LG CNS Japan Co., Ltd.) 2013.12 Greece (LG CNS Greek Branch) 2015.01 Vietnam (LG CNS Vietnam Co., Ltd.) 2017.01

(Enterprise SW, etc.)

# Vision and Strategy

#### Vision and 2023 Management Policy

LG CNS is a DX-specialized company that provides digital transformation (DX) services with AI, big data, and cloud by creating an open ecosystem with technology-specialized companies. By driving 'new innovations centered on the essence of the industry, 'enhanced competitiveness centered on the field', and 'a mindset to find growth opportunities and raise the status of LG CNS', we aim to establish ourselves as a Digital Growth Partner that achieves 'Innovate Together · Grow Together · Share Together.'



Innovate Together · Grow Together · Share Together

#### **Enhancing Business Capabilities to Increase Customer Value**

In addition to securing competitiveness in the main business, we are committed to 'enhancing customer value' by continuously securing the latest information technology leadership and domain knowledge to contribute to the actual competitiveness of our clients.



#### Securing the Foundation for Sustainable Growth through Selective Focus by Portfolio

technology capabilities

#### Organize Business Full-Fledged Raise DX Actively Engage in External Business Growth Service Levels Execution Lead LG Group DX Secure BP by expanding Increase the proportion Innovate execution of external businesses centering on smart business inside and system using low-(cloud, finance, smart cost GDC and Coding Al factory and outside the LG Group logistics, etc.) digital marketing technology · Lead global-level DX by · Establish a global · Accelerate growth by actively applying BP to · Expand assetization of business foundation industry, client, and expanding cloud-centric core clients

open business

# Vision and Strategy

#### **Technological Strategy**

#### : Enhancing Technological Agility through an Open Ecosystem

LG CNS is leading clients' business innovation with great agility by combining promising domestic and foreign DX technology such as AI, big data, and cloud with IT service expertise accumulated over 30 years in software development, architecture, and infrastructure.

Enhancing Technology Agility					
Improving the Core Strength for	System-based competency innovation	Responding agilely and flexibly to changes in software development, architecture, infrastructure, and solutions			
Technological Competitiveness	Ecosystem-based growth	Participating in the global digital platform ecosystem of AI, big data, cloud, and IoT to establish advanced IT strategies and implement customized applications			
Procuring Technologies for Business Differentiation	Service intelligence	Pursuing service intelligence by combining expertise in clients' businesses with LG CNS' algorithm			
	Industry-specialized solutions based on digital platform	Providing industry-specific solutions based on global digital platforms as the digital innovation partner of clients			

#### Intellectual Property (IP) Management

As part of intellectual property management, LG CNS has a total of 1,744 IPs, including 423 domestic and foreign patents and 1,321 software copyrights, for various strategic technologies and innovative business models combined with the core technologies of the Fourth Industrial Revolution such as AI and big data. Through intellectual property management for technology protection, LG CNS enables stable, technology-oriented business operations as well as digital innovation for clients.



#### Research Fields

LG CNS is continuously conducting research on new digital technologies, which are the core of the Fourth Industrial Revolution, such as AI, big data, cloud, IoT, blockchain technology, and digital twin. We are achieving outstanding research performances. We have obtained AI technology and platform, and cloudnative<sup>1)</sup> application development technology. We also developed blockchain technology platform and industry-specialized solutions that combine IT.

Category	Research Field	Research Activities
Al, Big Data	Algorithms for recognition of image, video, language, sound/	Procuring basic AI technologies commonly required for AI service development (deep learning <sup>2</sup> , STT <sup>3</sup> , NLU <sup>9</sup> , image recognition, etc.)
Dig Data	vibration, etc.  • Al, big data platform	<ul> <li>Procuring big data and Al management/analysis environment (machine learning<sup>5)</sup>, deep learning-based analysis environment, Al engine, analysis library, etc.)</li> </ul>
		<ul> <li>Procuring a standardized service platform for each area by using the underlying Al technology (dialogue, object recognition, behavior recognition, vision inspection, predictive maintenance, manufacturing quality, etc.)</li> </ul>
Cloud	Cloud-native application     Cloud management platform	- Procuring cloud-optimized application development technology through microservices, packaging, and dynamic scheduling $^{\!0}$
	SaaS platform	• Integrated operation and management for hybrid and multi-cloud environments
		<ul> <li>Developing a platform that integrates and provides global SaaS services in all field of businesses such as sales, manufacturing, purchasing, HR, and quality</li> </ul>
loT	Common platform for IoT devices and IoT servers	Procuring global standard certification, large-capacity processing, real- time event processing, edge computing technology, etc.
	Smart city platform	<ul> <li>Developing an advanced city platform that collects data and analyzes it with Al for smart city services such as mobility, autonomous driving, healthcare, and smart home</li> </ul>
Blockchain	Blockchain core platform	Developing Hyperledger <sup>7)</sup> -based commercial blockchain platform
Technology	Blockchain service platform	$\bullet$ Developing a blockchain service platform for local currencies, document authentication, gift certificates, and vouchers
Digital Twin	3D visualization, real-time	Procuring technologies such as 3D visualization engine, object recognition, and indoor map
3	monitoring, simulation, and virtualization	Applied to smart logistics, autonomous vehicle monitoring, etc.
Combination of Industry and IT	Industry-specialized solutions that combine the latest information technologies with	Research and development of industrial solutions that combine project experience in various industries and information technologies such as AI, big data, cloud, and blockchain technology
	industries such as manufacturing, logistics, and finance	Smart factory, smart logistics management solutions, digital finance, autonomous driving solutions, etc.

- 1) Cloud Native: An approach to build and run applications for cloud environments
- 2) Deep learning: A branch of machine learning that trains by creating hierarchical networks to understand data in depth
- 3) STT (Speech to Text): Processing that converts spoken language into text data
- 4) NLU (Natural Language Understanding): Technology by which Al imitates humans' understanding of language to understand the vocabulary, sentences, and context of natural language, which is human language
- 5) Machine learning: Training a computer using data to find complex regularities hidden in it
- 6) Dynamic scheduling : The sequencing of tasks that change according to the demands made by the system rather than according to a predetermined method
- 7) Hyperledger: An open-source-based blockchain project hosted by the Linux Foundation and participated by several companies

# **Key Services and Solutions**

#### Leading Innovation with Digital Transformation(DX) and Digital Technologies & Solutions

LG CNS is leading innovation in various industries, including financial information systems for the next generation, logistics center optimization, manufacturing informatization, intelligence, virtualization, and intelligent governance. We are expanding the basis for providing new customer value. We are actively developing talents for new digital technologies such as AI, big data, cloud, IoT, and blockchain technology, and creating an open ecosystem with major domestic and foreign technology companies. Furthermore, through industry-specific solutions including smart logistics, smart city, and smart factory, the chain of concentration of industrial knowledge and digital technology capabilities, and new technology-specific solutions such as AI, big data, and cloud, we are positioning ourselves as a DX pioneer that leads digital innovation of clients.

#### **Digital Growth Partner**

#### LG CNS innovating and growing together with clients through innovative technology

Digital	Transformation	Digital Technology		Digital Solution	
competi	ncing business tiveness of clients each industry	New digital information technology competency	IT service-based competency	Industry-specific solutions	New technology- specific solutions
	Industry and economy Finance, smart logistics, smart factory, retail	Al, Big data	Consulting	Cityhub(Smart city)	DAP(Al, Big data)
	City and transportation Smart city, smart transportation	Cloud	Development framework	Factova(Smart factory)	CloudXper(Cloud)
		Tol Ioi	Automation tool	Smart logistics	INFioT(IoT)
	Public and safety E-government, smart healthcare, security/ environment/others				
		Blockchain technology	Data center	Digital finance	Monachain(Blockchain)
	Culture and	RPA	Security	Retail	SecuXper(Security)
	communications Communication, education, broadcasting/media, etc			<u> </u>	(S)

Low Code

Smart transportation

SINGLEX

Metaverse

#### Digital **Transformation**



#### Improvement in business competitiveness of clients in each industry

ICT (Information and Communication Technology) is technology that is required across various field of businesses while everything in society is becoming smarter. LG CNS is creating market-pioneering cases such as next-generation systems in the financial sector and optimization of logistics centers. We are committed to improving business competitiveness of clients through various forms of digital transformation (DX) across industries such as cloud migration, cloud-native system development, and smart factory.

#### **Digital** Technology



#### New digital information technology competency

LG CNS provides differentiated services based on new digital technologies such as AI, big data, cloud, IoT, and blockchain technology. clients can preemptively respond to the rapidly changing market and gain a competitive edge in their industries.

#### IT service-based competency

Over the past 30 years, LG CNS has accumulated IT service-based capabilities such as IT consulting, software development, architecture, and infrastructure. Based on these capabilities, we support companies in improving their business competitiveness and achieving new business value in a rapidly changing market environment.

#### Digital Solution



#### Industry and new technology-specific solutions

LG CNS provides customized services to clients through our project experience accumulated across various industries and the latest DX technology. We are supporting the creation of new growth engines in clients' businesses. We provide specialized solutions for each industry segment such as smart logistics, smart city, and smart factory, and solutions for new digital technologies such as big data and cloud.





#### LG CNS Cloud Service

CloudXper is a cloud service brand that provides integrated professional cloud services (consulting-migration-native deployment-operation management) offered by LG CNS, the top DX company in Korea. CloudXper is a compound word of 'Cloud' and 'Xper,' which stands for 'expert'



#### **Cloud Service**

LG CNS is providing our clients with 'CloudXper ProOps', a specialized cloud operation service. Through CloudXper ProOps, which integrates infrastructure, application system security, and expert services, we are promoting 'The New MSP' business, which operates an optimal cloud. Unlike the prior 'Managed Service Provider (MSP)' companies that only provide management services centered on cloud infrastructure, The New MSP' is LG CNS' new business model that operates an optimal cloud from a DX perspective based on our expertise in the clients' business and system.

#### Service Area



#### **Major Clients**

#### Aviation/Retail/Automotive

KOREAN AIR (Korean Air Lines Co., Ltd.)













#### Finance

★ KB국민은행 (KB Kookmin Bank)

★ KB국민카드 (KB Kookmin Card)













#### Public











(Ministry of National Defense)



#### Manufacturing/Chemical/Telecommunications

















#### **CloudXper ProOps Service Offerings**

#### Professional Enterprise Operation/Monitoring

#### Operation

· Providing hybrid/multi-cloud operation optimized for client needs

#### Monitoring

 Providing integrated monitoring and optimization service for next-generation infrastructure, application, and database

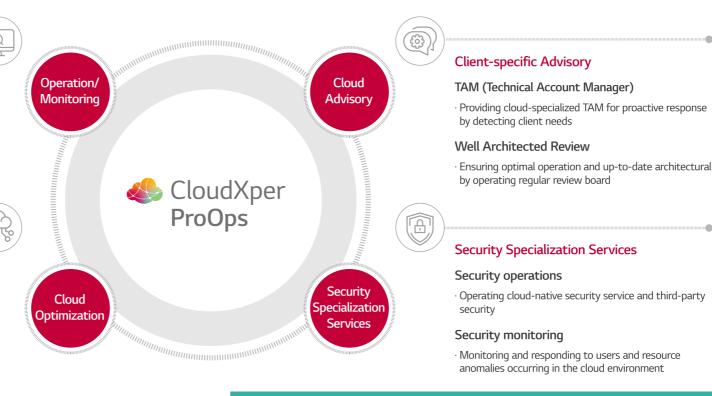
#### **Cloud Optimization**

#### System optimization

- · Providing technical support for app development in database and middleware areas
- Providing service performance improvement and providing extended services in the cloud-native area

#### Cost optimization

· Customized billing through connection with a service recommended by CSP (Cloud Service Provider) for cost optimization



#### ESG Value Creation with CloudXper

#### Financial Value



- Gain visibility and efficient tracking of cloud resources to reduce IT investments, improving clients' financial efficiency
- Enhance corporate competitiveness through cloud-based digital transformation

# Environmental Value

 Reduce enterprise resources and energy usage with always-on cloud resource optimization services

#### Social Value



 Accelerate user adoption of cloud by lowering technology barriers with flexible multi-cloud management services

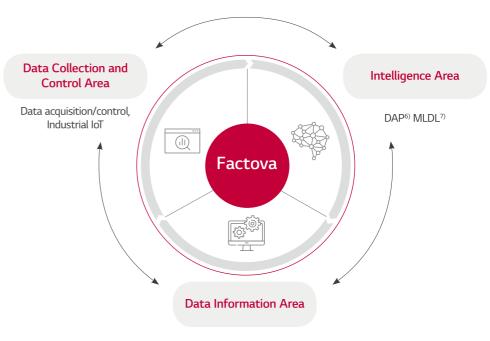


#### **LG CNS Smart Factory Platform**

Factova<sup>1)</sup> is an integrated manufacturing ICT platform that is compiled with the manufacturing field expertise of LG Group affiliates. LG CNS has led the smart factory construction projects for more than 60 domestic and foreign companies. LG CNS has applied and advanced new information technology to smart factory technology, which had been focused on factory automation, and upgraded it to factory intelligence.



LG CNS has implemented factory intelligence by applying technologies such as AI, big data, and IoT throughout the entire product manufacturing process. Through this, we standardize business processes in the same industry and spread them quickly and systematically, maximizing the competitiveness of manufacturing companies. Factova consists of three areas; data collection and control, the data information and the intelligence. Through data collection and control, it is able to collect data from various facilities and sensors to enable control. The data information area manages the entire life cycle information of manufacturing from planning to management. The intelligence area applies the latest technologies such as Al and big data to the collected data to make optimization decisions.

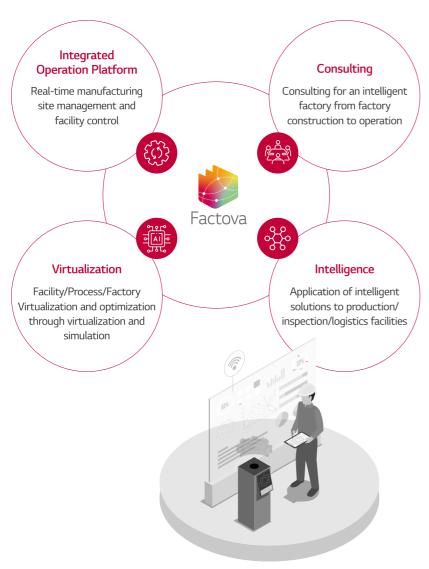


MES<sup>2)</sup> Plus, iPharmMES, View, SPC<sup>3)</sup> Plus, FDC<sup>4)</sup>, RMS<sup>5)</sup> Plus



- 1) Factova: A compound word combining the words 'factory' and 'value', Factova is a strategic brand that aims to provide differentiated customer value through the realization of a data-based, real-time autonomously operating factory
- 2) MES: Manufacturing Execution System
- 3) SPC: Statistical Process Control
- 4) FDC: Fault Detection and Classification
- 5) RMS: Recipe Managements System
- 6) DAP(Data Analytics & Al Platform): A strategic brand for Al, big data analysis platform
- 7) MLDL: Abbreviation for Machine Learning and Deep Learning

#### Service Area



#### **Key Businesses**

#### **Integrated Operation Platform**

- Next-generation MES construction for LG Electronics
- · Ultium Cells MES, SPC, and RMS for LG Energy
- · Inspection information monitoring system for LG **Energy Solution**
- Introduction of LG Innotek facility management SaaS
- MES construction for Hanmi Pharm Pyeongtaek Bio Plant
- · MES construction for Daewoong Pharmaceutical Osong Plant

#### Virtualization

- · OLED line digital twin construction for LG Display
- Petrochemical PVC reactor digital twin construction for LG Chem

#### Consulting

- · Process operation scenario consulting for LG Energy Solution Poland Pack factory
- Dream Fab NTO (No Touch Operation) improvement consulting for LG Energy Solution

#### Intelligence

- FDC construction for LG Energy Solution Poland and Nanjing plants
- FDC construction for LG Chem cathode material 1 and 2 plants
- FDC construction for LG Innotek electronics plant

#### ESG Value Creation with Factova

#### Financial

Value



- Increase productivity by improving process efficiency and minimizing defects
- Reduce labor costs through process automation

#### Environmental Walue Value

- Support clients' Life Cycle Assessment (LCA) with manufacturing life cycle management
- · Manage energy usage efficiently with visible energy data

#### Social Value



- · Improve quality by improving product inspection accuracy
- Improve the workplace by increasing job safety

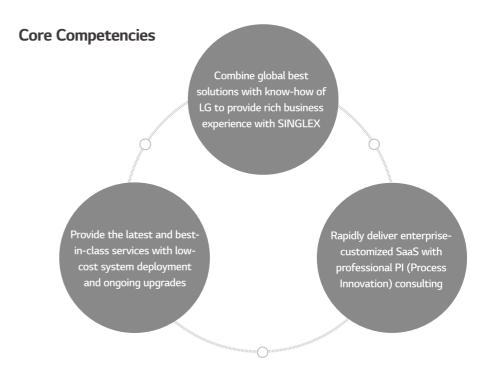
# SINGLEX

#### LG CNS' SaaS Platform

SINGLEX<sup>1)</sup> is a SaaS<sup>2)</sup> platform that integrates LG CNS' know-how and rich business experience and the best global solutions across to provide services across all business areas, including sales, purchasing, manufacturing, and human resources. We analyze our clients' IT environment and business, introduce appropriate new technologies, and provide optimal combined solutions. It is a subscription-based service that allows clients to access the cloud, select the solutions they want, and pay only for what they use.



- 1) SINGLEX: A compound word combining the words 'single' and 'complex', SINGLEX carries the meaning of providing various and complex business solutions through a single integrated platform
- 2) SaaS(Software as a Service): A method of software delivery in which software is accessed online via a subscription so that user can access cloud and pay for only what they use, rather than bought on individual computers



#### **ESG Value Creation with SINGLEX**

**Financial** Value



- Reduce upfront investment costs with no hardware or infrastructure required
- Allow clients to manage cost efficiently with a pay-as-you-go subscription service

Environmental Value



- Reduce resource waste by using public cloud to eliminate the need to build and dismantle individual infrastructures
- Save energy by integrating large-scale systems and performing optimization

Social Value





- Improve customer satisfaction by providing services tailored to clients'
- Secure IT operation stability by providing services optimized for clients' IT environments

We combine the global top solutions across all areas of business and deliver them as SaaS services customized for companies.



We provide reliable SaaS-type services with a SINGLEX platform that efficiently and reliably integrates and connects various SaaS, solutions, and legacy environments.



We offer the best of SaaS across the corporate value chain with SINGLEX.

**Sustainable Support Solutions** 

Overview

	Product Planning	Marketing /Sales	Purchase	Manufacturing / Logistics	R&D / Quality	Services	HR	Business Management	Security & IT Management	AI / Blockchain
	WIN Product Planning	Marketing Automation	Procurement Management	EMS	PMS	Future Contact Center	HR for Global	UAS	Visit Reservation Portal	Chatbot Platform
9	Sopheon  LG CNS	©RACLE'	SAP Ariba //	TEM. © LG CNS	SIEMENS © LG CNS	salesforce  LG CNS	SAP SuccessFactors  LG CNS	<b>©</b> LG CNS	<b>(b</b> LG CNS	Dialogflow
	WIN Survey	Sales Pipeline Management	Partner Reputation Management	MES	QMS	Field Service Management	HR for Korea	MDM	Physical Access Control Platform (SecuXper)	DID (DDIDID)
	qualtrics;**  LG CNS	salesforce  LG CNS	(h) LG CNS	C LG CNS Factova	SIEMENS © LG CNS	salesforce  LG CNS	(the Ligiding CNS)	ToBeWAY © LG CNS	<b>♠ LG CNS</b> <b>⊗</b> SecuXper	<b>(b) LG CNS (c)</b> Monachain
	ntegrated Product nning Service	Profit and Risk Analysis	Integrated Procurement Service	RaaS (Robot as a Service)	FMEA	СРРМ	Employee Attendance and Benefits	ESG	IT Service Management	TaaS (Token as a Service)
	Pick & ntegration	<b>6</b> LG CNS	Pick & Integration	<b>⊕</b> LG CNS	SIEMENS © LG CNS	<b>(b)</b> LG CNS	Management  (b) LG CNS	<b>6</b> LG CNS	servicenow.	<b>⑥ LG CNS</b> <b>⑥</b> Monachain
		B2B Customer DB Management			ALM		Payroll Management	RMS		
		salesforce  LG CNS			SIEMENS		SAP SuccessFactors  LG CNS	<b>tg</b> CNS		
		Integrated B2B Order Management Service			Standard Process Management		Edu-platform			
		Pick & Integration			■ methodpark		<b>(b)</b> LG CNS			
					Integrated Quality Service		Integrated HR Services			
					Pick & Integration		Pick & Integration			

# Digital Finance

## LG CNS' Digital Finance Solutions Combined with Finance **Industry Expertise and the Latest DX Technology**

LG CNS provides digital services for financial services companies that accelerate the digital transformation of clients in financial services industry based on its business expertise over entire sectors of financial services with IT system consulting/design/ implementation/operation experiences.



Consulting

- Provide optimal solutions for clients' digital transformation based on our expertise in all areas of finance and DX technologies
- Provide business innovation consulting, IT consulting, and digital curation consulting services

Design/ **Implementation** 

- Design and implement agile and flexible systems for cloud transformation and application modernization of financial services companies
- --- Apply coding automation solutions to increase development productivity
- Secured DX solutions (Cloud/AI/Blockchain/Security)

Operation/ Management

- Provide customized operational services optimized for financial services business processes
- --- Agile organization with an ability to quickly respond to changes in market and technology trends

Digital Customer Experience (DCX1))

- Build and deliver a variety of financial channels that are highly related to clients' financial needs
- Provide personalized services and automate simple tasks through AI data analysis

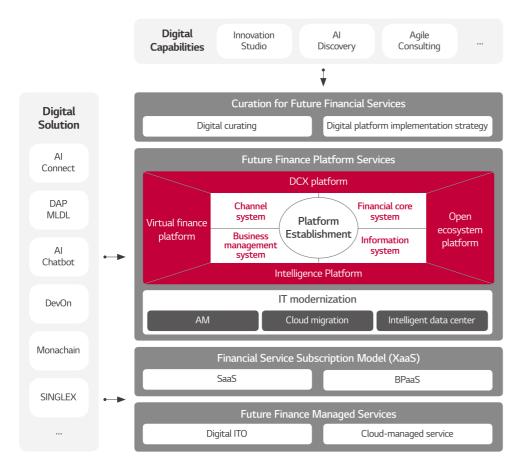
1) DCX (Digital Customer Experience): Integrated management and utilization of all actions, knowledge, memories, and emotions accumulated at all digital touch points that customers encounter with a company





#### Future Financial Service Model, FinXper

FinXper, LG CNS' digital finance brand, is a combination of the words 'Finance' and 'Expert' that supports rapid digital transformation of financial services companies. FinXper provides a variety of services ranging from 'Future Financial Curation' to 'Future Financial Platform', 'Financial Services Subscription', and 'Managed Services for Future Financial Services' that comprehensively analyze customer needs and proactively propose specialized services. FinXper aims to design a new type of platform that is not limited to financial services, but also linked to lifestyle.



#### **Major Clients**

#### Bank

★ KB 국민은행 (KB Kookmin Bank)

**(S)** 신한은행 (Shinhan Bank)

★KEB 하나온해 (KEB Hana Bank

びNH 농협은행

**으**우리은행

▼전북은행

(Jeju Bank)

수협은행

**(S)** 제주은행

♂광주은행

DGB대구은행

B kakaobank (KakaoBank Corp.) toss bank

(toss bank) 한국은행 (Bank of Korea) standard chartered scমাঞ্জন্ম

(Standard Chartered Bank Korea Limited.)

#### Insurance

★ KB 손해보험 (KB Kookmin Insurance) ★ KB라이프 (KB Life Insurance)

KYOBO 교보생명 (Kyobo Life Insurance Co., Ltd.)

😙 하나손해보험 Shinhan Life (Shinhan Life Insurance Co.,Ltd.)

🖊 현대해상화재보험 (Hyundai Marine & Fire Insurance Co., Ltd.)



(HANWHA LIFE Corp.)



#### Card/Capital

♠ 신한카드 (Shinhan Card)

★ KB 국민카드 (KB Kookmin Card)

**★** KB캐피탈 (KB Capital)

우리카드

🤷 비씨카드 (BC Card Co., Ltd.)

 롯데캐피탈 (Lotte Capital)

() LOTTECARD (Lotte Card)

하나카드 (Hana Card)

Hyundai Capital (Hyundai Capital Inc.) Huundai Card (Hyundai Card Co., Ltd.)

ÖNH농협카드

びNH능협캐피탈

(Nonghyup Capital)

(Nonghyup Card)

▼JB우리캐피탈

#### Securities

♠ 신한투자증권

KYOBO 교보증권 (Shinhan Securities Co., Ltd.) (Kyobo Securities Co., Ltd.) **℧NH**투자증권

😙 하나중권 SECURITIES CO.LTD. **GBEST** 

(eBEST Investment & Securities Co., Ltd.)

KSD 한국예탁결제원 (Korea Securities Depository)

#### ESG Value Creation with Digital Finance

**Financial** 

Value



- Increase productivity with banking process automation
- Save time and money for clients from services by expanding contactless

Value



- · Reduce carbon emissions with digitalization of paper documents
- Reduce energy use for brick-and-mortar operations due to increased online transactions for financial services

Social Value

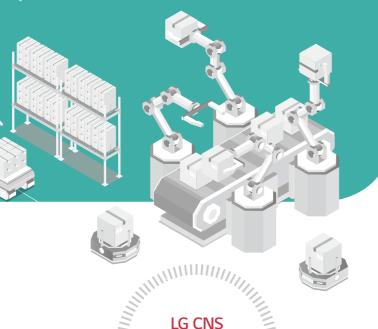


- Prevent financial fraud and crime by building systems that leverage AI and
- Improve customer satisfaction and convenience through hyper-personalized marketing and extension of service hours for customers

# **Smart Logistics**

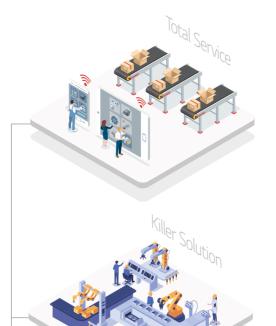
## **Total Logistics Solution Provider, LG CNS Smart Logistics Solution**

LG CNS provides smart logistics solutions that go beyond responding to environmental changes to innovate distribution centers based on logistics DX know-how accumulated by leading the IT industry.



Smart

Logistics





#### 1. Providing total services of consulting, design, construction, and operation

- Consulting: Establishment of N/W (base) strategy, operation strategy
- · Center design: Layout design based on optimal facility selection
- Center construction: HW, SW construction for center automation, operation/maintenance, etc.

#### 2. Line-up of advanced domestic and international solutions

- Optimized, intelligent facilities in urban spaces
- Differentiated, cutting-edge solutions Auto Store, AGV/AMR, Picking Robot, Sorting Robot,
- Robotics integrated operations platform

#### 3. Highest level of digitalization technology competency

- Incorporating the latest information technologies such as AI, optimization, and digital twin
- · Minimizing upfront investment, increasing operational efficiency, and contributing to cost savings

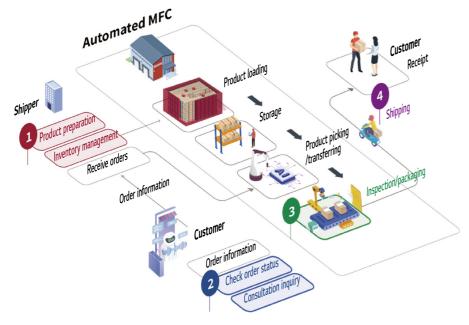
**Sustainable Support Solutions** 

#### **Key Services**

#### 1. MFC (Micro Fulfillment Center)<sup>1)</sup>

We provide intelligent services with AI across the entire end-to-end process, from demand forecasting to ordering, MFC operation, reception, and delivery route optimization.

Overview



1	Product Preparation / Inventory Management	Optimal Inventory Management based on Demand Forecasting
2	Check Order Status / Consultation Inquiry	Responding to Contactless Consultations with Al Chatbots
3	Inspection / Packaging	Automated Inspection based on Al Product Recognition
4	Shipping	Fast Shipping based on Best Path Algorithms

- 1) MFC (Micro Fulfillment Center): Intra-city small distribution centers
- 2) RaaS(Robot as a Service): Logistics Robot Subscription Service

#### 2. RaaS (Robot as a Service)<sup>2)</sup>

ESG Fact Book

LG CNS' 'Logistics Robot Subscription Service' is a service model that allows clients to subscribe and use logistics robots when they need them. LG CNS' RaaS reduces the cost burden on clients for the initial introduction of logistics services. In addition, we continue to lead the intelligent logistics automation market by implementing Robotic Hyper Automation with the optimal combination of advanced digital technologies such as AI, big data, and RPA and the latest robotic equipment to redefine automation and achieve business growth, profitability, and stability together.

#### Robot as a Service



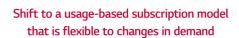
Equipment





DX Solution

RaaS-based services are available not only for the introduction and installation of robots and automation facilities, but also for peripheral services such as SW systems and DX solutions required for operation.



Flexible changes and ramp-ups for changing volumes

Minimize risk of center-wide robotics adoption

Usage-based billing for HW and SW solutions

#### ESG Value Creation with Smart Logistics Solution

Financial Value





- Reduce labor costs and increase worker productivity with automated facilities
- Minimize initial investment through robot subscription services and streamline operating costs through on-demand use
- Overcome space constraints through efficient design



- Reduce carbon emissions with short-distance delivery via MFC and the introduction of best route algorithms
- Minimize power usage through the use of reusable totes and high-efficiency motors

Social Value





• Reduce worker labor intensity and improve workplace conditions through logistics automation

• Provide fast delivery through MFCs to meet end-user needs

· Improve service quality and increase customer satisfaction by utilizing AI sorting and inspection



#### AI/Big Data Solution

DAP is a strategic brand of LG CNS as a multi-cloud 1)-based Al-combined big data analytics platform. DAP supports all areas from deployment to operation with data lake. Anyone can easily collect data to develop and operate machine learning and deep learning models. Through DAP, clients can quickly and easily achieve digital transformation.

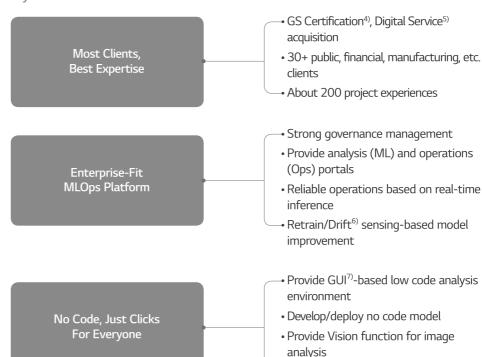


- 1) Multi Cloud: A model consisting of two or more public clouds
- 2) MLDL: Abbreviation for 'Machine Learning' and 'Deep Learning'
- 3) MLOps(Machine Learning Operations): Technology that assists optimization to make development easier and more convenient in each stage of the entire development process of machine learning
- 4) GS Certification(Good Software Certification): Software quality certification
- 5) Digital Service: A specialized digital service system certified by the National Information Society Agency and the Ministry of Science and ICT
- 6) Drift: Changes in data that cause models to degrade in performance
- 7) GUI(Graphical User Interface): An environment in which users can work through graphics when exchanging information with a computer

#### DAP MLDL<sup>2)</sup>

DAP MLDL is an enterprise fit Al analytics platform based on MLOps<sup>3)</sup> that supports the Al lifecycle to realize successful digital transformation (DX). With DAP MLDL, you can easily and quickly develop machine learning and deep learning models, and advance your intelligent services through training, deployment, operation, and retraining models. The Vision feature provided by DAP MLDL automates the training process, so that makes it easy for anyone to develop AI models based on image data. The developed AI models can be quickly applied to various industrial sites, such as defect determination in manufacturing plant lines and automatic cargo sorting for logistics, and improving the productivity of clients' businesses.

**Key Features of DAP MLDL** 

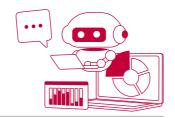


Provide reusable models that can be

deployed immediately

#### **DAP Talk**

With DAP Talk solution anyone can easily and quickly create their own chatbot. It consists of natural language understanding, text recognition, conversation flow engine, and operation management tools. Based on multi-tenant<sup>1)</sup> to meet industry-specific client needs and performance, implementing secure AI services based on a hybrid platform that supports on-premise<sup>2</sup>, private cloud, and public cloud is possible. Workflow-based GUI tools enable guick and easy creation and management of conversation flows, and convenient operation/monitoring features help maintain and improve chatbot performance.



#### **Major Clients**

#### LG affiliates







**Public** 











#### **Finance**













**그**우리은행

(Nonghyup Bank)

**℧NH**농협은행

meritz मार्गे क्रिया

**(I)** LOTTECARD

#### Others



(Shinhan Card)





#### ESG Value Creation with DAP MLDL

#### **Financial** Value



- Reduce working hours and development costs by providing an environment to efficiently perform machine learning/deep learning
- Improve business performance by establishing data-driven business strategies through improved data analysis and prediction

#### Environmental Value

- Reduce unnecessary data utilization by increasing model reusability
- Minimize energy consumption by automating data analysis processes

#### Social Value



- · Protect client's data by ensuring data quality and improve fair and transparent data processing for companies
- Enhance data reliability by ensuring the quality of data analysis for national organizations such as Incheon International Airport, National Tax Service, and Supreme Court

#### ESG Value Creation with DAP Talk

#### **Financial** Value



- Increase work efficiency and productivity with chatbots
- Increase business competitiveness by creating internal and external business synergies with chatbot channels

#### Environmental Value



• Reduce the use of unnecessary resources by leveraging digital channels to

#### Social Value



- Bridge the digital divide with easy, intuitive, conversational services
- Increase access to digital information by providing conversation-based services
- 1) Multi-Tenant: Structure in which one system can be used by multiple user groups
- 2) On-Premise: A server system that is physically located in the computer room of a company or institution and leveraged to suit the needs of the organization





(Supreme Court of Korea)



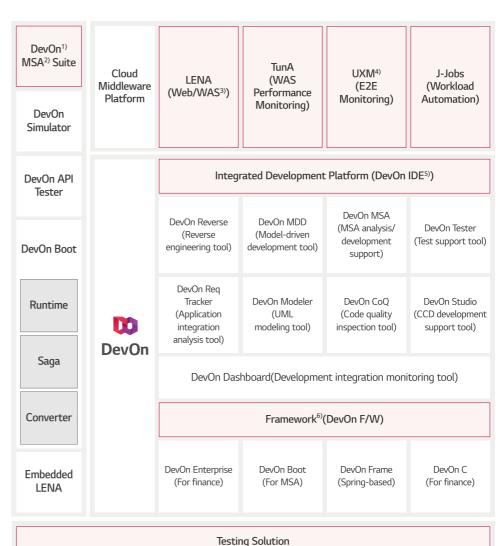
# **DX Solutions**

#### LG CNS DX Solutions that Effectively Support Clients' DX

LG CNS effectively supports digital transformation (DX) of clients with self-developed solutions such as PerfecTwin, LENA, and DevOn. In doing so, we are taking the lead in transforming the existing business ecosystem with digital technologies.



- 1) DevOn: A compound word created from 'develop' and 'on' meaning the on-going nature of development activities. LG CNS' development platform that automates all processes such as analysis, design, and implementation.
- 2) MSA (Micro Service Architecture): A method of designing and operating an IT system by dividing it into several micro units
- 3) WAS: Web application server
- 4) UXM (User eXperience Management): Infrastructure performance management tool
- 5) IDE: Integrated development environment
- 6) Framework: A tool that provides software development tools in an integrated way



PerfecTwin(Real transaction-based verification automation solution)

Overview

#### Services

#### 1. PerfecTwin

#### The world's first transaction automatic verification solution that validates system functionality and performance in innovative ways

PerfecTwin is a real transaction automatic verification solution that verifies the completeness and performance of developed function by automatically reproducing a large scale of actual transactions occurring in the current system in the new system and comparing the results. By verifying with real transactions rather than artificial test cases and data, the solution can identify and eliminate even latent defects that humans cannot find. This dramatically improves the quality of the system and reduces the cost of testing that would otherwise require large amounts of human and material resources.

PerfecTwin Core	PerfecTwin Load	PerfecTwin Flowmap
Automatic verification of real transaction data	Verification of real transaction data performance load	Creation of real transaction data test cases
Automatic comparison/verification of function and response time based on actual transaction	Verification of performance and overload stability according to actual work patterns	Visualization of workflow based on actual transaction and automatic creation of scenarios/cases
	Solution consulting services	

- Establishing optimal verification method through analysis of as-is and to-be system environment and transaction<sup>1)</sup> messages
- · Checking system quality and completeness by implementing a verification method based on PerfecTwin and performing automatic verification of real transactions

#### 2. Cloud Middleware Platform

#### LENA | Next-generation cloud-based WAS for advanced fault diagnostics and proactive response

LENA is a WAS (Web Application Server) solution optimized for cloud environments. It is used in various industries because it has featured that system operators need, such as large-scale transaction processing and failure diagnosis/preemptive response. It also provides high operational efficiency by supporting cloud architecture and convenient integrated management/control functions.

- 1) Transaction: A unit of work performed to change the state of a database
- 2) APM (Application Performance Management): Application performance management service
- 3) Auto Scaling: A process that increases the number of servers by automatically replicating/adding servers when the service becomes unavailable due to overload or failure

#### **LENA**

#### **Cloud Optimization**

- Supporting various cloud migration architectures including CSP
- · Providing public and private cloud scalability
- · Responding to VM/container-based server life cycle

Cloud Oriented

#### Fault Tolerance

- · Responding proactively to each type of failure that occurs frequently during operation
- Preventing the spread of failures in specific services through real-time diagnosis and automatic response for each major failure type

Early Failure Diagnosis and Response

#### Fast Performance and Minimal Memory Usage

- Minimizing downtime and improving operational productivity by improving maneuverability and deployment performance
- Reducing hardware costs and improving system capacity by improving memory usage

#### Speedy

#### Centralized Operation

- · Offering central management and control of multiple servers
- Improving productivity and visibility through integrated management
- Improving operational quality through verification and standardization of operational tasks

 $Specifications-oriented \rightarrow Operation-oriented \\$ 

#### **TunA** | APM solution for integrated monitoring from the user's point of view

TunA is an APM<sup>2)</sup> solution that provides integrated monitoring of various IT components. With TunA, users can identify real-time performance issues and service status to improve system reliability, minimize IT operating costs, and maximize system user satisfaction through end-user monitoring capabilities.

#### **UXM** | Diagnostics solution to proactively monitor and manage all areas

UXM is a service diagnostic solution that provides visibility into service guality by monitoring service status across all IT service components. Based on network packet analysis technology, it monitors user inflow and outflow times and response delays in real time. This helps manage service quality from the end-user perspective and contributes to business continuity by identifying failure-causing segments.

#### J-Jobs | Workload automation solution that manages the scheduling of multiple tasks

J-Jobs is a workload automation solution that schedules and manages business processes in real time. It reduces unnecessary work by integrating and managing complex company-wide deployment tasks, and prevents overload caused by simultaneous tasks by supporting various types of job scheduling, ensuring operational stability with its Auto Scaling<sup>3)</sup> feature.

A Framework for Enterprise IT System Development

#### 3. DevOn MSA Suite

#### A solution for every step of the way to successful AM

With many companies planning application modernization (AM) to quickly respond to market changes and client needs, DevOn MSA Suite is a solution that supports all phases of successful AM. DevOn MSA Suite supports all phases of AM, including the identification, development, testing, and operation of microsystems, enabling clients to respond to rapidly changing markets. It also minimizes the frustration of complex AM transitions.

#### DevOn MSA Suite

#### Design (Simulation)

- · Assessing the independence and dependency of services derived based on simulation results
- · Deriving optimal services through collaboration with service analysts and stakeholders

#### Development (F/W and Legacy Interlocking)

· Automatic registration and integrated management

· Recording events that occur on the server so that they can be tracked even after they are destroyed

of embedded servers that are created and

- · Open-source-based differentiated functionality (framework)
- · Support for reward transactions between distributed systems (SAGAs)
- Anti-corruption-based legacy interworking

**DevOn MSA Suite** 

- Automating REST API development and testing without interruption
- Testing tool that applies the strengths of both Swagger and Postman

Test (API Tester)

- · Automated creation of JUnit
- Test mock support and result management

## Operation (Operation-oriented Embedded WAS)

· Server instance management

destroyed from time to time

4. DevOn F/W

DevOn is a framework for developing enterprise IT systems and is used in various industries, including the financial sector. DevOn Enterprise, with its proven ability to handle large amounts of data, is widely used in the financial sector, and DevOn Boot is a lightweight framework that supports system deployment in the cloud or container environment. DevOn Frame is an open-source-based framework that enables developers to build systems optimized for client businesses. This can improve development productivity for enterprise

#### 5. DevOn IDE

systems.

#### An integrated development platform that automates software development process

Reflecting LG CNS' development approach, DevOn IDE is a software integrated development platform that automates the entire software development process. It supports automation/intelligence of tasks in each development stage such as analysis, design, development, and unit testing, and provides real-time progress confirmation and quality control.

#### **ESG Value Creation with DX Solutions**

**Financial** Value



- Increase productivity and reduce human resource costs with business process automation
- Support clients increase business agility and improve business performance with successful AM support

Environmental Value



- Improve IT infrastructure operational efficiency and reduce power consumption by optimizing cloud environment
- Reduce server count and increase energy efficiency by optimizing server utilization and transitioning to an MSA environment





- · Ensure reliability by processing large transactions and diagnosing failures and improve customer experience with web applications
- Avoid failures, service interruptions, data loss, and rework by improving system reliability

Security

Consulting

Security

mplementation

SecuXper

#### A Security Solution for Secure DX

SecuXper is a customized integrated security service which provides a secure digital environment, covering everything from security consulting to implementation, operation, and MDR (Managed Detection and Response) of security.



### MSSP<sup>1)</sup> Provider of Industry-specific Customized Security Solutions

As an MSSP providing security services to the various industrial sector including finance, public, telecommunications, LG CNS provides customized security consulting. Whether it is IT security for office environments, OT<sup>2)</sup> security for manufacturing sites, IoT security for smart cities, or convergence security that combines them all, SecuXper identifies the latest security threats and provides optimized solutions for clients. We also operate an integrated security system that is responsible for the security of our clients 24 hours a day, 365 days a year.

- · Information security
- Personal information
- Information security
- · Cloud security consulting
- Factory security consulting
- Physical security consulting
- and mock hacking
- Establishment of public/ financial/corporate security system
- city security system
- Establishment of physical security system

- master plan consulting
- protection consulting
- certification consulting

- · Vulnerability diagnosis
- Establishment of smart factory security system
- Establishment of smart

- · Cloud security management solution (SecuXper CAT)
- · Information security portal (SecuXper SRP)
- · IoT security solution (SecuXper
- Access control (SecuXper IDP)
- · Video surveillance (SecuXper Intelli-VMS)

Security

Solution

Managed

Security

Service

- Physical security integrated monitoring (SecuXper PSIM)
- AI-based anomaly detection solution (SecuXper AI)
- · AI video analysis convergence solution (SecuXper Al Safety)
- · Managed security service
- · Security management shared service

#### **Core Competencies**

#### LG CNS SecuXper with Top Security Experts and Advanced AI Technology, **Ensuring Customer Safety**

Secured 200 security experts including the Red Team composed of white hat hackers Provide innovative security services using DX technology, such as AI security solution that detects signs of information leakage in advance

Synergy through collaboration with external partners such as Microsoft, Palo Alto Networks.

- 1) MSSP(Managed Security Service Provider): A company that comprehensively performs security system operation and management
- 2) OT(Operational Technology): Hardware and software that directly control or change industrial equipment, assets, processes and

#### Services

#### 1. SecuXper Security Consulting

Three-dimensional, customized security consulting and diagnostic services

#### Customized and optimized security consulting

With over 20 years of security consulting experience and know-how, LG CNS identifies the root causes of security vulnerabilities and presents a customized integrated information security model to clients. Through this, we help our clients build a global-level information security system.

#### Vulnerability diagnosis and penetration test

LG CNS' security organization Red Team<sup>1)</sup> is composed of white hackers. They diagnose security vulnerabilities and provide penetration test services, and provide diagnostic services in various security areas such as web, app, privacy, cloud, IoT, and industrial control facilities based on checklists and scenarios.

#### 2. SecuXper Security Management

Close security expert support and 24/7 managed security service to ensure business stability

#### Managed security service

The managed security service guides the latest security trends and ensure client businesses stability by detecting and responding to security threats. It is a 24/7 all year-round service on-premise<sup>2)</sup> and in cloud environment

#### Security management shared service

This is a service in which LG CNS' security experts perform essential security management tasks for companies that lack security experts. It consists of 13 service types and is closely supported by LG CNS' top security experts, including simulation hacking experts. The service covers a wide range of security management tasks from a PDCA (Plan-Do-Check-Act) point of view.

#### 3. SecuXper Security System Implementation

Comprehensive security services backed by proven design experience

#### Development of smart factory (OT) security system

LG CNS, which has pioneered OT process security within the LG Group, has a Solution Suite for OT security. The Solution Suite consists of 16 modules and 26 solutions categorized into the areas of hacking and malware response, core technology protection, and integrated security management, and provides comprehensive security solutions tailored to the OT environment and needs of companies.

#### Establishment of security systems tailored to industry and business size

LG CNS provides a security system based on proven design experience and development procedures applicable to various industries and business sizes. This enables clients to use safe and reliable security systems that also consider operational efficiency.

#### Establishment of cloud security services

LG CNS takes full advantage of the native security services of cloud service providers such as AWS, Azure, and GCP to protect data and systems in the cloud environment while enabling flexible and efficient use of cloud services.

#### ESG Value Creation with SecuXper

**Financial** Value



- Prevent financial losses from security incidents, including confidential information leaks, system paralysis, and service disruptions
- Focus on core businesses and improve clients' work efficiency by meeting their security needs

Environmental Value



- Reduce unnecessary energy consumption such as space, power, and cooling by eliminating on-premise security equipment and facilities
- Reduce the risk of environmental destruction from large fires by preventing safety incidents in industrial facilities and data centers

Social Value





- Prevent social issues like privacy breaches by protecting clients' data • Enhance corporate system security through services such as security
- monitoring, simulation hacking, and vulnerability diagnosis • Encourage corporate social responsibility and maintain customer and public trust by maintaining corporate stability

<sup>1)</sup> Red Team: An elite group of in-house white hat hackers. This is an expression derived from referring to allies as the blue team and the enemy as the red team during military training.

<sup>2)</sup> On-Premise: A server system that is physically located in the computer room of a company or institution and leveraged to suit the needs of the organization



#### A Smart City Integrated Platform

Cityhub is a smart city platform for sustainable development. As the 'brain' of a smart city, Cityhub collects various data from the city and analyzes them with Al. The results are then applied to various smart city services such as mobility, autonomous driving, healthcare, and smart home. Citizens can enjoy a safe and pleasant city life through smart city services.



## Verification through national certification and various references of building smart cities

**Features** 

Pioneering

#### Customized

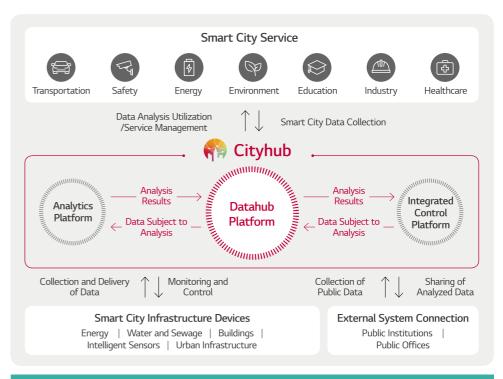
- · Reflection of diverse customer needs with a modular design
- Support for everything from data collection to sharing

#### Scalability

 Compliance with international standards facilitates interconnection between other standard platforms/data and connection with various city devices/systems

#### Continuous Innovation

- · Responding quickly to the latest technology changes
- Continuous advancement through an expert organization



#### ESG Value Creation with Cityhub

#### **Financial** Value



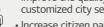
- Reduce costs by optimizing city operations based on events/real-time/Al
- Prevent duplication of investment in city operations by securing scalability through compliance with international standards

#### Environmental Value

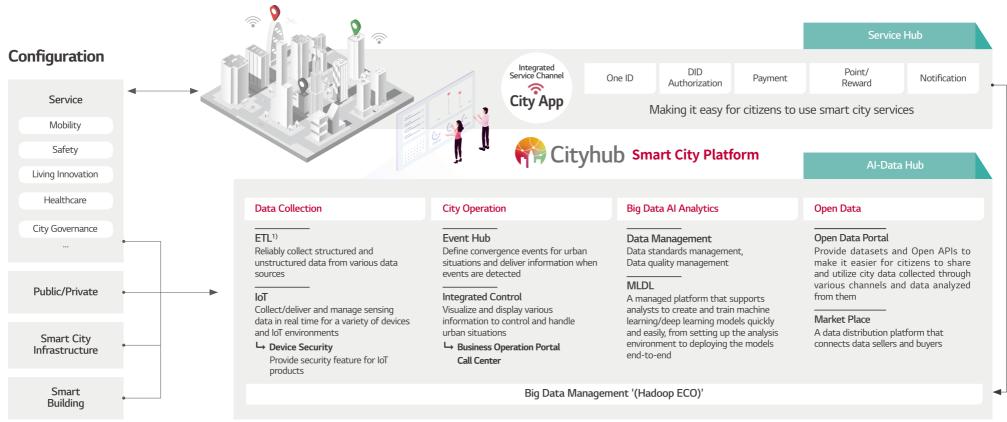
- Reduce unnecessary energy consumption with AI/Big Data-enabled facility
- Reduce air pollution and carbon through intelligent transportation systems

#### Social Value





- Improve the quality of public services and the lives of citizens by providing customized city services
- · Increase citizen participation in policymaking and strengthen digital sovereignty by opening up data



\* International standards adopted by Cityhub NGSI LD OF CITYGML DCAT



#### **Key Businesses**







# Monachain

#### A Blockchain Solution Optimized for Enterprises

LG CNS is creating customer value with practical services such as digital identity authentication and digital asset trading through blockchain. By doing so, we are leading a safer and more reliable digital ecosystem.

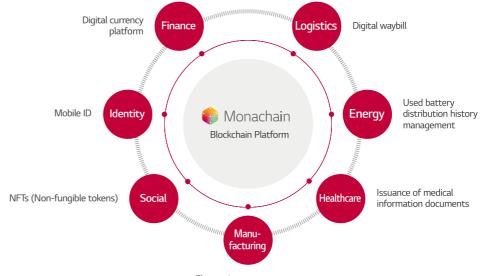


#### An Enterprise Blockchain Platform Applicable to Various Industries

Monachain, developed by LG CNS, is an enterprise blockchain platform applicable to all industries including finance, public, telecommunications, and manufacturing. We provide optimal services that our clients need, such as blockchain-based business and token securities issuance and distribution platforms, and have established a pilot digital currency platform with commercial banks to prepare for the technological changes expected when CBDC1, a central bank digital currency, is issued. We have also developed a platform to lead the NFT<sup>2)</sup> business.

#### **Monachain Platform Configuration**

#### Base Technology Area Core Area **Business Service Area** Development Service expansion Service provision area Service expansion features productivity features features Payment Application Interoperability · Blockchain automatic distribution development module · History management · Blockchain setting management framework<sup>4)</sup> Token model • Participant consensus Identity authentication Inter-company management Token<sup>3)</sup> connection module · Inquiry/verification monitoring



Electronic contract system

- 1) CBDC(Central Bank Digital Currency): A digital currency issued by a country's central bank, as opposed to private cryptocurrencies such as Bitcoin
- 2) NFT: Non-Fungible Token
- 3) Tokens: Payment method for using services on the blockchain
- 4) Framework: A software environment that provides the design and implementation of specific functions in a collaborative form so that can be reused

#### Services

#### 1. Monachain TaaS

#### Blockchain Token API<sup>1)</sup> Service created by LG CNS

Monachain Token as a Service (TaaS) is a blockchain token API developed by LG CNS that allows companies to easily and quickly issue and utilize tokens in their Web3 business. Monachain Taas acts as a passport and a gate to go anywhere in the Web3 world that operates based on wallets and tokens.



#### 2. DDIDID

#### LG CNS' DID<sup>2)</sup> based subscription service for identity verification

DDIDID is a mobile subscription-based identity verification service developed by LG CNS that applies blockchain DID technology. It allows users to own their identity information directly on their smartphones, and when needed, they can verify their identity by providing only the required information. With the DDIDID mobile employee ID, users can enter the office building, pay at in-house merchants such as cafeterias and cafes, and use in-house services such as multifunction printers and fitness centers. We are expanding the scope of use to include verification service for online work system.



#### 3. Blockchain Consulting Methodology

#### Provide customized solutions with blockchain consulting

LG CNS has developed a blockchain consulting methodology to innovate clients work and apply new business models. The methodology provides optimal solutions for clients business and IT environment characteristics, from establishment of blockchain technology strategy to implementation, operation management, and platform-type service in various industries such as finance, public sector, communication, and manufacturing.

· Professional consulting Discovering use case

Supplying Monachain Establishing infrastructure/ network environment Developing and operating systems based on blockchain téchnology

#### **Core Competencies**

Expertise in blockchain technology from consulting to development and operation

Numerous experience in building blockchain-based systems in Korea

Digital asset issuance/ distribution/storage service

#### **Key Businesses**

Tokenization		Decentralized ID	Track & T	Track & Traceablity		
<ul><li>Plateer</li><li>NH Bank</li><li>Woori Bank</li><li>Bank of Korea</li></ul>	<ul> <li>bithumb META</li> <li>KB</li> <li>Shinhan Bank</li> <li>Korea Minting Corporation</li> </ul>	Woori Bank     Ministry of the Interior and Safety     Sejong City	· Ministry of Food and Drug Safety · LG U+ · LX Pantos	<ul> <li>Jeju Island</li> <li>KB</li> <li>Ministry of Land, Infrastructure and Transport</li> </ul>		

#### ESG Value Creation with Monachain

**Financial** Value



- Facilitate fast and secure transactions with digital currency platforms and reduce bank fees with CBDC issuance
- Reduce unnecessary costs with blockchain services specialized for business environments such as NFTs

Environmental Pos Value

- Reduce unnecessary paper usage with electronic signatures/contracts
- Reduce plastic use with blockchain-based mobile employee cards
- Reduce carbon emissions by building a decentralized energy system and implementing smart contracts through blockchain technology

Social Value



- Enhance transparency of transactions and promote fair transaction based on crypto technology
- Enhance transparency of carbon assets and increase efficiency of trading operations by utilizing NFTs
- 1) API(Application Programming Interface): Providing services to access the functions of other systems, data, etc.
- 2) DID(Decentralized Identity): Mobile identity authentication technology that protects individual privacy by implementing the concept of 'Self-Sovereign Identity' with blockchain and encryption technology



# Special Report LG ESG Intelligence



#### Supporting Data-driven ESG Management

#### Supporting ESG management through proper management of non-financial data and early detection of ESG risks

In the past, 'financial' quantitative indicators centered on 'return on investment' have been the standard for evaluating companies, but in recent years, as the impact of climate change and other issues increase, 'non-financial' indicators are also recognized as important for company valuation, and quantitative data on various non-financial indicators are required.

Since data in the environmental and social domains have not been subject to disclosure except for a few items, many companies are struggling to promote management activities based on ESG data. Various ESG disclosure standards and the expansion of ESG rating agencies are further emphasizing the importance of ESG data management.

LG CNS promoted the establishment of the ESG-DX platform with major affiliates to resolve difficulties in ESG data management, provide support for decision-making on ESG management, and manage risks. Starting with the standardization of LG Group's non-financial data measurement in 2021, we completed the process of developing data standards, establishing operational policies and governance, and developing system functions that considers the convenience of users' work, resulting in the official opening of the LG ESG IT platform 'LG ESG Intelligence' in June 2023.

LG CNS will actively identify clients' requirements for the introduction of IT systems to promote ESG management and enhance the value of social contribution through IT services by combining LG CNS' DX capabilities.

#### Expanding ESG Management and the Need for an IT Platform

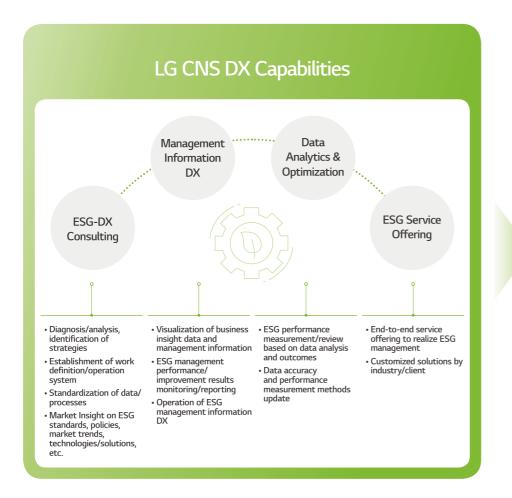
#### ESG Management System based on ESG Data



# Special Report LG ESG Intelligence

Overview

LG CNS utilized its DX capabilities to build the LG ESG Intelligence system, an LG Group ESG platform that supports the establishment of a data integration foundation and operating system for sustainable management. ESG Intelligence is an integrated management system for ESG management information that starts with managing ESG core indicators, entering, collecting, and managing ESG data, and utilizing and disclosing non-financial management information. LG CNS will continue to promote the realization of ESG management intelligence based on the ESG Data Warehouse through the LG ESG Intelligence system.



Establishment of Data-Driven CEO / CFO / CSO / CRO / CTO / CIO **ESG Strategies** LG Group ESG IT Platform LG ESG Intelligence **ESG Data ESG Risk** Evaluation/ Disclosure Management Management Management Gain visibility into Monitorina & Early Warning non-financial performance Efficient reporting and communication Integration/Reproduction Non-financial management information Providing data templates 000 **ESG Organization** Common Area/Specialized Area Unit function modules Trend/Risk Dashboard Workspace Footprint Providing key management /Archiving /Estimation Input/Mgt. /Monitoring Sensing functions by area

# Special Report Carbon Footprint Management System



## **Carbon Footprint Management System Development**

Governments are introducing greenhouse gas target management systems and carbon emissions trading markets are expanding in response to the global ESG issue of climate change. Investors are demanding disclosure of climate related information, including GHG emission, and customers are demanding GHG emission data for each product, increasing the complexity of GHG data that companies need to manage. In particular, clients' demand for information on the carbon footprint of each product is directly related to responding to risks and strengthening business competitiveness through a carbon footprint management system

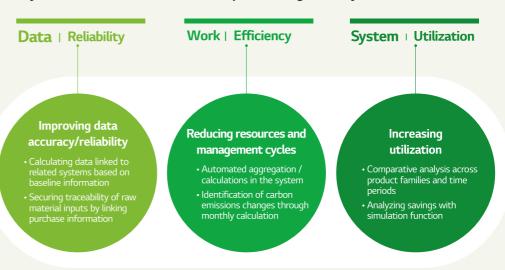
LG CNS contributes to enhancing the carbon emission management capabilities of our clients by developing an information system that aggregates the GHG emissions of the entire process of 'raw materials  $\rightarrow$ production  $\rightarrow$  use  $\rightarrow$  disposal' of products by source and manages emissions, reduction targets, and emission credits. The carbon footprint management system will be able to satisfy clients' needs for carbonneutral product production and market expectations for eco-friendly product preference, and can be utilized as a management tool for clients' scope 3 management and achievement of Net Zero.

LG CNS will contribute to the achievement of clients' ESG strategic goals by promoting the development of various IT systems that can actively respond to market demands for carbon management.

### Demand for Carbon Management and Carbon Footprint Management System

#### Investor Customer Government Demand public disclosure of Demand GHG data calculation Strengthen environmental climate information regulations on GHG emissions by product and value chain Accuracy and efficiency in data collection and Carbon Footprint calculation Management Supporting investment System decisions Creating market Managing risks opportunities

## Key Features of LG CNS Carbon Footprint Management System



# Special Report Carbon Footprint Management System

LG CNS successfully completed the development of the LG Chem's Carbon Footprint Management System in 2022. We reviewed the LG Chem's carbon footprint calculation method and extracted necessary data from existing information systems such as ERP, and designed the system to calculate monthly performance on carbon emissions. Together with LG Chem, LG CNS is expanding the system to calculate carbon emissions for all processes/products at LG Chem's

**LG Chem Carbon Footprint Management Platform** 

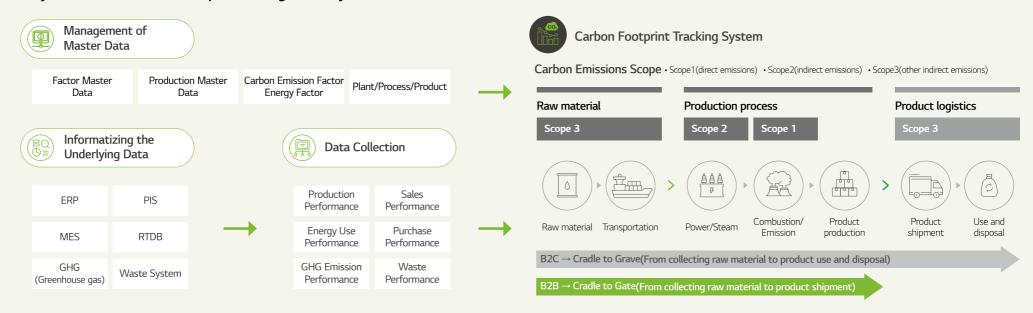




\* Track carbon emissions by category

## Key Features of Carbon Footprint Management System

domestic sites, and plans to expand it to overseas sites in the future.



<sup>\*</sup> Analyze carbon footprint by scope

# LG CNS ESG Focus Areas

#### Strategic action for Sustainability Management

LG CNS is engaged in practical activities such as getting International Organization for Standardization (ISO) certification, DX Social Contribution, and Jeong-Do Management for ESG management, and we continuously communicate with various stakeholders such as clients, suppliers, shareholders, and employees. LG CNS will continue to be a DX specialist that creates customer value with DX solutions in all businesses and creates a sustainable future by fulfilling its social responsibilities.

	DX Specialist Creating a Sustainable Future					
Action Plan	Environmental Responsibility	Social Responsibility	Governance			
Key Activities	<ul> <li>Manage carbon emissions by business site (based on scope 1 and 2)</li> <li>Develop eco-friendly IT systems</li> <li>Implement energy-saving activities</li> </ul>	<ul> <li>Operate a competency-based HR system and employee-customized welfare system</li> <li>Provide free AI education to students with fewer opportunities</li> <li>Establish company-wide safety and health management system/ resolve harmful and risk factors in the project site</li> </ul>	Operate fair trade portal/pledge to prevent cartel Operate Jeong-Do Management guidance board/post Jeong-Do Management violation cases Operate irregularities reporting channels and reward system for reporting			

#### 2022 ESG Key Figures

LG CNS' key achievements in each ESG area in 2022 are as follows.







**Environment 43** Environmental Management Social

Safety & Health Management 50 Social Contribution

> 52 Human Resources

Diversity & Inclusion 55 58 Information Security

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# **Environment**



Governance

# **Environmental Management**

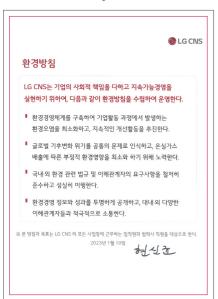
# **Policy**

#### **Environmental Management Policy**

LG CNS revised its FEnvironmental Management Policy, in 2023 based on strategies to respond to environmental risks. LG CNS recognizes that the environment is the foundation of sustainable management as a 'non-negotiable management priority,' and we are continuously improving our environmental performance based on clear goals and strong execution.

Data centers are a major source of carbon emissions for LG CNS, accounting for the majority of its greenhouse gas emissions. In response, LG CNS is identifying factors that can contribute to reducing GHG emissions, such as replacing with high-efficiency machinery and equipment and managing energy usage, and exploring future goals.

#### **Environmental Policy**



#### **Environmental Management System**

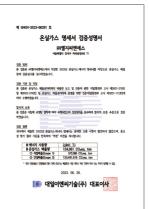
ESG management is becoming increasingly important for sustainable growth of companies, and the government's greenhouse gas regulations and the environmental policies of global clients are expected to be further strengthened. LG CNS recognizes its corporate responsibility to respond to climate change and practices environmental management. Performance on environmental management is periodically reported to management and stakeholders through the EHS Committee, BOD, and Compliance Committee

Based on ISO 14001 (Environmental Management System), an international environmental standard established by the International Organization for Standardization (ISO), we revised our environmental policy in 2023 to implement environmental management and conduct quarterly on-site inspections at our operating sites to detect potential environmental risks in advance.

#### ISO 14001 Certification



#### **GHG Emissions Certification**



#### **Environmental Management Organization**

LG CNS established the 'Safety and Health Environment Bureau' a dedicated organization reporting directly to the CEO, to oversee and manage overall company-wide environmental affairs. The department functions as a control tower to manage our obligations to comply with environmental laws and regulations.

As a company committed to the greenhouse gas emissions trading scheme<sup>1)</sup>, LG CNS has established an environmental management organization under the Safety and Health Environment Bureau to manage its greenhouse gas emissions. We calculate and report direct and indirect emissions, and to monitor GHG emissions in real time, we have established a GHG emission management system to manage GHG emissions from major facilities, including our four data centers and the head office.

We also listen to and reflect employees' opinions and conduct continuous improvement activities such as environmental education.

1) Emissions trading scheme: A system in which the government allocates annual greenhouse gas emission allowances to businesses that emit greenhouse gases, and allows businesses to trade among themselves for any surplus or shortage of allowances.

#### **Environmental Management Organization**



- Establish and manage climate change
- Respond to greenhouse gas emission trading system
- · Manage energy use in buildings, water, and waste

Governance

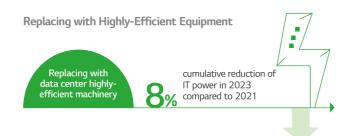
# **Environmental Management**

#### Goal

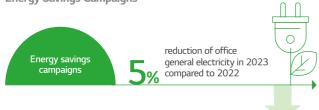
#### **Environmental Management Goal and Tasks**

The digital transformation (DX) of companies has led to an increase in data production and the need for high-performance servers, storage, and other equipment to process this data, resulting in high power consumption in data centers.

LG CNS has set the task of streamlining data center operations and aims to cumulatively reduce IT power by 8% from 2021 to 2023 by replacing machinery and equipment. We also aim to reduce general office power such as lighting/cooling and elevators by 5% from 2022 to 2023 through energy-saving campaigns. Furthermore, we are considering expanding the application of solar power generation and LED lighting.



#### **Energy Savings Campaigns**



# **Activity | Performance**

#### **Development of Eco-friendly IT System**

LG CNS has developed an eco-friendly IT system for integrated management of infrastructure (electricity, temperature, humidity, lighting, security facilities, etc.) of data centers in Busan, Sangam, Gasan, and Incheon. By establishing DCIM<sup>1)</sup>, PSM<sup>2)</sup>, and greenhouse gas management systems, we monitor data centers in real time to detect, analyze, and control failures and efficiently manage server room energy usage.

We are also reducing power usage by replacing chillers that cool the heat generated in server rooms with high-efficiency equipment. We have been replacing them since 2021, saving 4% of our IT power in 2022. We are also reducing greenhouse gas emissions by installing LED lighting, highly-efficient UPS<sup>3)</sup>, highly-efficient thermostat<sup>4)</sup>, and highly-efficient transformers in our data centers.

- 1) DCIM: Data Center Infrastructure Management System
- 2) PSM: Power Status Monitoring
- 3) UPS: Uninterruptible Power Supply
- 4) Thermostat: A device that automatically maintains the internal temperature

C I.E	
Saved Energy	Unit : kWh

691,505 5,701,020
001,640 1,169,634
638,040 1,638,040
331,185 8,508,694

#### **Reduced Carbon Emissions**

Unit: tCO2eq

Reduced Carbon Emissions	2021	2022	2023 (predicted)	Total
Sangam	417	966	1,237	2,620
Busan	-	77	460	537
Gasan	-	-	753	753
Total	417	1,043	2,450	3,910

- \* Some historical data is not available due to the sequential replacement of equipment with expired service life
- \*\* Incheon center is scheduled to end service in 2024, so there are no activities such as replacement with highly-efficient equipment.

## Improving Data Center PUE<sup>1)</sup>

LG CNS is continuously improving its PUE by applying 'built-up outdoor air cooling system,' an eco-friendly system that uses natural outdoor air to cool the heat generated in the data center server room, an 'intensive server cooling system' which cools only the necessary areas without cooling the entire data center server room, and solar power facilities.

 PUE(Power Usage Effectiveness): The most widely used indicator at home and abroad to measure the power usage efficiency of a data center, which is the total amount of power used by the data center divided by the amount of power used by the data center IT equipment.

Governance

# **Environmental Management**

#### **Energy Savings Campaigns**

LG CNS is conducting campaigns to reduce the energy usage of office space in the data center. We plan to reduce energy usage through continuous publicity and employee participation.

#### Campaign



#### Energy savings through power saving operation of lighting

Control office lights

- 50% lights out during lunch breaks and after 18:00 on weekdays
- All lights out after 20:00
- \* Request to keep lights on to center management office when working overtime



#### Energy savings through cooling and heating operation

Set office cooling/heating temperature

• 18°C in winter / 28°C in summer \* Standards for public institutions



#### Energy savings by controlling hot water

Adjust the hot water temperature in toilets 50°C → 40°C



### Energy savings by reducing the operation of elevators

Adjust the number of elevators in operation

- Previously 100% → operate 50%
- \* Normal operation during commuting time and lunch



Raising ESG Awareness

concepts and best practices.

### Energy-saving activities by employees

- · Power off PCs and monitors at the end of the day
- · Energy saving campaign promotion
- Turn off lights when meeting rooms are not in use

LG CNS conducts annual ESG environmental education programs for the whole employees. The training aims to spread awareness of ESG management and the environment among employees by introducing ESG

· Collect interesting ideas from employees



	과정 및 수강 안내
I 과정목표	ESG에 대한 개념 및 우수 실천 사례 소개를 통해 임직원들의 ESG경영 및 환경에 대한 인식 확산을 목표로 함.
l 수강대상	전사 양직원(휴직자 제외)
수강방법	OfficePlus To-Do를 통한 수강 표 전속 자부와 영지를 위해 11/22(회) ~ 11/24(혹) 동안 순위적으로 To-Do 영영
▮교육기간	2022.11.22(%) ~ 12.09(g)
┃이수조건	진도율 100%(별도 Test 및 Survey 없음)
	문 의
┃시스템 문의	Help Desk(#1644-3888)
교육과정 문역	의 안전보건기획팀 이원섭 선임

I 2022 ESG Education

#### Managing Water Usage

LG CNS compares the amount of water it uses each month to the same month of the previous year and identifies the reasons for the increase or decrease to establish management plans. In addition, it regularly cleans water tanks and conducts regular water quality inspections to manage water.

Despite the increase in water usage due to the increase in IT load at the Busan center, LG CNS data centers have maintained the same level of water usage year on year by conducting energy-saving activities through the replacement of old chillers. In the case of the Gasan Data Center, the efficiency of the cooling tower's heat exchanger finned coils<sup>1)</sup> has been improved, reducing the amount of water evaporated, and the amount of general water used is also being reduced through the implementation of water-saving campaigns.

Water Usage

Unit: ton

Center	2021	2022	2023 (predicted)
Sangam	20,564	14,774	14,956
Busan	74,568	89,996	96,296
Gasan	70,567	60,235	55,416
Incheon	3,975	3,491	3,004
Total Usage	169,674	168,496	169,672

1) Finned coil: A metal device made of copper or aluminum that guickly dissipates heat from the cooling water to increase cooling efficiency.

2022-2023 LG CNS Sustainability Report

Overview

Sustainable Support Solutions

ESG Highlights

**ESG Fact Book** 

Appendix











# Social

- Safety & Health Management
- Social Contribution
- Diversity & Inclusion 55
- Supply Chain Management
- Quality Management

Governance

# Safety & Health Management

# **Policy**

#### Safety and Health Management Policy

Through the revision of safety and health management policy in 2023, LG CNS expressed its management's intention to place safety and health as a top priority in management, adding contents on identification and removal of hazards and risk factors and strengthening crisis response capabilities, and emphasizing the active participation of employees.

## Safety and Health Management System

LG CNS is a workplace subject to the safety and health management system (Safety and Health Officer, Occupational Safety and Health Committee, Safety and Health Management Regulations). Based on ISO 45001, we have established a safety and health system at all of our business sites to practice company-wide safety and health management. LG CNS is establishing a safety culture that extends to business sites, data centers, projects, and suppliers. This prevents accidents and disasters to promote sustainable growth and development.

LG CNS operates the Safety and Health Environment Bureau, a dedicated organization that oversees and manages companywide safety and health affairs. We respond thoroughly to industrial accidents through the Safety and Health Office, which establishes and implements the company-wide safety management system, manages safety and health managers for construction projects, and serves as the company-wide control tower for safety accidents.

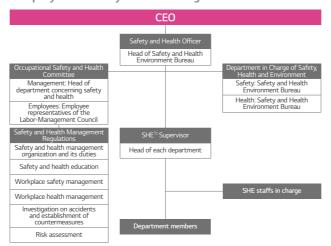
#### Safety and Health **Management Policy**



#### ISO 45001 Certification



#### Company-Wide Safety and Health Organization Chart



#### 1) SHE: Safety Health and Environment

#### Safety and Health Management by Business Site

Business Site	Safety and Health Management System		
Data Center	Manager: Appoint the head of the cloud data center business unit (more than 300 full-time workers)     Safety and health officer: Designate person in charge within the data center operation team     Management supervisor: PL by center, head of supplier     Council: Occupational Safety and Health Committee, Safety and Health Council		
Construction Project	Manager: Appoint PM with construction amount of KRW 2 billion or more     Safety Manager: Appoint a safety manager with construction amount of KRW 5 billion or more     Health manager: Appoint a health manager with construction amount of KRW 80 billion or more     Management supervisor: PL by process, head of supplier     Council: Safety and Health Council, Labor-Management Council (construction amount over KRW 12 billion)		

## Safety and Health Risk Management System

For construction projects with a high risk of major disasters, LC CNS operates a step-by-step safety inspection system, Order → Initiation → High-risk → Regular/Special inspection, and selects high-risk C/P<sup>1)</sup> through the risk level checklist at the beginning of the project, and conducts preliminary hazardous risk. checks and measures.



- 1) C/P(Critical Path): Select and manage seven tasks as high-risk tasks with a high risk of major disasters
- \* Work at height, hot work, work operating construction equipment, architecture/civil engineering, work in electricity, work in confined space, trial run

Governance

# Safety & Health Management

#### Goal

#### Safety and Health Goals

In accordance with the enforcement of the Serious Accidents Punishment Act in 2022, LG CNS has established company-wide safety and health goals to achieve zero occupational accidents. Each business site, including headquarters, data centers, and construction projects, sets safety and health goals that are linked to companywide goals, and operates a goal management evaluation system to assess the achievement of these goals.

#### **Key Management Goals**

#### Management Roles

The management establishes targets for safety and health activities, regularly inspects the business sites, and operates procedures to listen to and improve the opinions of site members.

#### Member's Responsibilities

The members proactively participate in and execute prescribed safety and health activities.

#### Securing a Budget

We prepare and execute the health and safety budget for the prevention of occupational accidents in accordance with legal standards.

#### Risk Management

We proactively identify and take measures against harmful and dangerous factors, and thoroughly implement follow-up measures to prevent accidents from recurring.

#### Transparent Information Disclosure

We disclose information in a timely and transparent manner and report to the management team to proactively respond and minimize damage.

#### Zero Occupational Accidents

#### Data Center Goal Management(Example)

Safety and Health Goals	Inspection Checklist	Guide to Goal Management Activities in 2023	Output
The management	<ul> <li>Each data center manages safety-related issues when direct contract construction is in progress and shares high-risk work with the Safety and Health Environment Planning Team in advance.</li> <li>The project manager manages the status of direct contract construction and high-risk work at each data center.</li> </ul>		· Construction status management list
establishes goals for safety and health activities, regularly inspects the workplace, and operates procedures to listen to and improve the opinions of employees	2. Are you regularly conducting data center inspections (workplace patrol inspection, joint labormanagement inspections, etc.) and take action on improvements identified?	• The project manager periodically conducts on-site inspections of data centers (workplace patrol inspection, joint labor-management inspections, etc.) and takes measures to improve the results. • In particular, when there is high-risk work, timely inspection activities such as on-site visits are conducted.	· Onsite inspection results report · Improvement action plan and action results
on site.	Are you listening to the data center members and making improvements?	The project manager directly listens to opinions related to the safety and health of data center members (such as the Data Center Safety and Health Council) and conducts activities to improve them.	· Minutes of safety and health council meetings, etc. · Results of improvement actions
The safety and health budget for the prevention of occupational accidents	Are you complying with legal standards when accounting for safety management costs of direct contract construction in your data center?	· When accounting for safety management expenses for direct contract construction, it shall be accounted for in accordance with the Occupational Safety and Health Act and reflect the review opinions of the Safety and Health Environment Bureau.	· Basis for calculating safety management expenses
shall be prepared and executed in accordance with legal standards.	5. Are you executing the safety management expenses for direct contract construction in your data center for the right reasons?	When executing the safety management expenses for direct contract construction, they shall be used in accordance with the plan and purpose, and shall be executed in reference to the consensus opinion of the Safety and Health Environment Bureau.	· Justification for executing safety management expenses
Information is disclosed in a timely and transparent manner and reported to	6. Are you complying with the 'Code of Conduct and Reporting System for Emergencies' in the event of an industrial accident?	In the event of an industrial accident, the team manager/leader will immediately share with the Safety and Health Environment Planning Team.  The project manager shall report and follow up on accidents in accordance with the Safety and Health Environment Planning Team's accident classification and guidelines.	· Incident reports
the management team to ensure proactive response and minimize damage.	7. In the event of an industrial accident, do you have recurrence prevention measures in place and are they being followed?	In the event of an industrial accident, an accident report including measures to prevent recurrence shall be submitted to the safety and health planning team within 2 days.  The implementation and outcomes of recurrence prevention measures shall be reported.	· Results of recurrence prevention measures and implementation checks

Governance

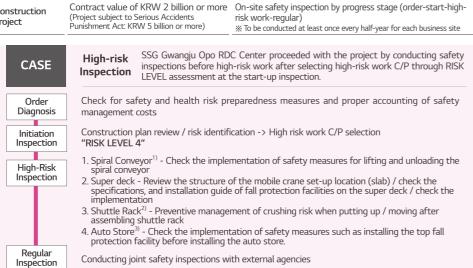
# Safety & Health Management

# Activity | Performance

#### **Identifying Workplace Hazards**

LG CNS conducted regular risk assessments at its headquarters & Sangam DDMC and data centers (Sangam, Gasan, Incheon, and Busan) through joint inspections with external agencies to identify improvement measures and best practices for non-conformities. In 2023, we will improve the system of regular risk assessment under the leadership of the Safety and Health Environment Bureau and Data Center Operation Team. This will reflect measures to prevent recurrence of accidents in the workplace and expand the participation of workers in all stages. For construction projects, we activate TBM (ToolBox Meeting) to ensure that the results of risk assessments are always communicated and shared with workers on site.

Category	Target	Measures to Identify Hazardous Risk Factors	
Headquarters & Sangam DDMC	E13, E14, Sangam DDMC	Annual risk assessment Semi-annual inspection for compliance with safety and health related laws and regulations % Risk assessment and on-site support are scheduled for high-risk work. On-site safety inspection by progress stage (order-start-high- risk work-regular) % To be conducted at least once every half-year for each business site	
Data centers	Sangam, Gasan, Incheon, and Busan		
Construction project	Contract value of KRW 2 billion or more (Project subject to Serious Accidents Punishment Act: KRW 5 billion or more)		



- 1) Spiral Conveyor: Automated equipment that elevates or lowers products vertically using the principle of a spiral.
- 2) Shuttle Rack: Automated equipment that allows the shuttle to move pallets and load them into the rack structure.
- 3) Auto Store: An automated warehouse system that utilizes warehouse robots for handling within a cube-shaped layout.

#### Listening and Improvement of Safety and Health Opinions

LG CNS operates various communication channels for its employees and those of its suppliers. LG CNS holds a quarterly Occupational Safety and Health Committee comprised of the management and employee representatives. The committee discusses major matters to be decided to promote safety and health in the workplace and faithfully implements improvement needs after listening to employee opinions through employee representatives. For employees of suppliers, we seek and take action on improvements through various channels, including safety and health council, surveys for major suppliers, and offline meetings. In particular, for construction projects, we hold safety and health councils (monthly) and labor-management councils (bimonthly), and we strive to reflect the practical opinions of workers on site by encouraging suggestions for safety improvement and establishing a system for listening to opinions.

#### Improving Emergency Response Capabilities

LG CNS has been implementing CPR training by assigning nurses within the safety and health organization since 2020 to minimize the loss of life by improving the capabilities of employees' initial response to emergencies. The CPR training, which was only held for each team's safety and health officers, is being expanded to leaders and PMs in stages. Since 2022, we have been offering on-site training courses at data centers, construction projects, and we are also including employees of suppliers in the training to enhance the emergency response capabilities of all employees.

## **Enhancing Healthcare Services**

LG CNS supports company-wide healthcare services for employees who are exposed to various occupational health hazards and risk factors. In particular, we provide customized healthcare services, including nurse-led counseling, for employees who are predisposed to cardiovascular diseases<sup>1)</sup> and continue to strengthen these services.

In 2023, we improved health checkup items related to cardiovascular diseases in consultation with medical health checkup organizations. In particular, we provide screening items that can detect diseases at an early stage to high-risk groups<sup>2)</sup> so that they can receive customized medical checkups.



- 1) Predisposing conditions for cardiovascular disease: High blood pressure, diabetes, dyslipidemia, liver disease
- 2) High-risk group: Those at risk for 2 consecutive years or those at risk for 2 or more conditions

Governance

# Social Contribution

## Policy

#### **Social Contribution Policy**

LG CNS takes responsibility as a corporate citizen and conducts various digital transformation (DX) social contribution activities based on its IT. By selecting and focusing on the targets of our support, we provide customized programs for each recipient and maximize their effectiveness through partnerships with the government and professional organizations. In addition, we are moving away from onetime monetary donations and focusing on three long-term directions: youth education activities, that leverage the characteristics of the IT industry, and directly involve LG CNS employees.

By doing so, LG CNS is fulfilling its corporate social responsibility to create a better world by focusing on solving fundamental social problems with its unique DX capabilities and contributing to the fostering of future DX talents.

#### Three Direction of Social Contribution



#### Goal

#### **Key Objectives of Social Contribution**

LG CNS is running the AI Genius and AI Genius Academy programs to help young people grow into future IT talents by leveraging its DX technology capabilities, and plans to expand the scope of the programs every year.

2023 Goal of Key Programs

Category		Unit	2021	2022	2023 Goal
	Number of beneficiary schools	EA	27	35	38
Al Genius	Number of beneficiary students	Person	2,983	3,153	3,100
	Employees participated	Person	0	52	60
Al Genius	Number of beneficiary schools	EA	5	30	30
Academy	Number of beneficiary students	Person	83	348	400

<sup>\*</sup> No employee engagement in 2021 due to the COVID-19 pandemic.



Al Genius

# **Activity** | Performance

#### Al Genius

LG CNS developed the DX Social Contribution program 'Al Genius' to foster IT dreamers. Since 2017, we have been providing free education so that students can develop their idea and problemsolving skills through basic learning of software and AI.

We are conducting face to face trainings in schools from 2022 onwards, which were previously conducted virtually due to COVID-19. We signed an agreement with the Seoul and Gyeonggi Offices of Education and provided IT education to over 16,000 students in 150 schools by December 2022.

#### LG CNS DX Experts' Volunteering

LG CNS employees participate in volunteering teaching and mentoring program to help students explore their career paths and plan for the future.

LG CNS experts who are working at the forefront of DX business such as AI, big data, and cloud play role as AI Genius program instructors to provide high-quality education to students. In addition, we have introduced a paid vacation system to support employees' volunteer activities.



LG CNS employees participate as Al Genius instructors

Governance

# Social Contribution

#### **Education for Special Schools for Students with Disabilities**

LG CNS runs programs for students with disabilities who are marginalized from mainstream software education. We provide handson educational programs, such as Software and AI in Metaverse, Experiencing AI Art, and AI Autonomous Vehicles. LG CNS is continuously working to bridge the software education gap between students who have opportunity to learn and those who don't have.



| Education for Special Schools for Students with Disabilities

#### **Education for Schools in Rural Areas**

In order to provide more students with IT education opportunities, LG CNS conducts AI education programs for schools on islands and in rural areas. In 2022, we visited Nohwa-eup in Wando-gun, Jeollanam-do, which takes more than five hours by bus and ship from Seoul, as well as Mungyeong of Gyeongsangbuk-do, Muan of Jeollanam-do, Yeongwol and Cheorwon of Gangwon-do to provide education. In 2023, we plan to expand the areas of education, including Yeongcheon, Yeongdeok in Gyeongsangbuk-do and Yesan, Boryeong in Chungcheongnam-do.



I Education for Schools in Rural Areas

#### Al Genius Academy

Al Genius Academy is an educational program for high school students to support future software and AI talents.

Since 2021, LG CNS have selected students with vision and talents in software and AI fields to provide differentiated new information technology education and mentoring and have directly assisted them design their careers through AI robot creating projects that incorporate new DX technology.

#### AI Open Class

This is the first course in the Al Genius Academy, where students are introduced to the fundamental principles and concepts of AI as they solve 12 AI missions. The online content is free to high school students across the country who want to learn about AI, with mentors providing feedback as students solve the mission using videos and learning materials.

#### **Boot Camp**

This is the preparatory stage for the Advanced Al Project. Students gather together at LG Science Park, the headquarters of LG CNS, to decide on a team project topic and set goals and plans. Through programs such as special lectures by LG CNS members and AI career tours, students can have the opportunity to share their career concerns and learn together.

## **Advanced AI Projects**

During the Advanced Al Project, students carry out various activities to complete their project. At this stage, students have the opportunity to learn by experiencing a variety of problem situations. To help students complete their projects, LG CNS provides software and AI training, support for creating project result and materials, experts' mentoring, etc.

#### AI Challenge Day

Al Challenge Day is an event to share the final project results of the Al Genius Academy. This provides opportunities for students to learn from failure and feel a sense of accomplishment through the process. Through AI Challenge Day, LG CNS strives to help students grow into talents who prepare for the future.



Al Challenge Day

#### 2023 Information Culture Month Awards

LG CNS was awarded the Prime Minister's Commendation at the '2023 Information Culture Government Award', which was held by the Ministry of Science and ICT for the 36th Information Culture Month to recognize individuals and organizations that have contributed to fostering future SW talents and bridging the digital information gap by region, and officially recognized LG CNS' social contribution activities based on DX capabilities.



2023 Information Culture Month Awards

Governance

# **Human Resources**

# Policy

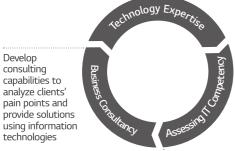
#### **Talent Development Policy**

LG CNS fosters technical and business consulting capabilities so that our employees can be recognized as top experts in their fields and work with pride.

LG CNS recruits top-notch talent to lead digital transformation (DX). To create an internal culture centered on technical competence, we are strengthening the technical competence of our employees by providing personalized learning experiences, moving away from onesize-fits-all training, and striving to infuse a learning culture into individuals and organizational units.

In addition, we have been running 'TCT (Technology Certification Test)' for all employees to objectively and fairly measure the level of technical competency of employees, and provide direction and motivation for individual competency development.

> Support on-site technical training to ensure a culture of learning permeates everyone from new hires to technical experts.



Objectively and fairly measure the level of technical competency of employees by reflecting the technical/iob/role characteristics of the field

#### Goal

#### Strategy and Goals of Talent Development

LG CNS aims to strengthen the technical capabilities of its employees through personalized training according to their jobs and roles. We have established a training system for AI, Data, Cloud, Agile, and Application Modernization<sup>1)</sup> to secure expertise in DX technologies and operate various training courses to foster experts. We also implement programs for all employees to quickly learn new technology trends so that they can respond agilely to rapidly changing technologies. In 2023, we aim to reduce training blind spots by diversifying our training methods, including on-site training, and to ensure that at least 75% of our employees receive training at least once, and we will develop 220 IT consultants with not only IT skills but also consultancy capabilities to provide solutions to clients' concerns. In addition, we will provide training to over 1,000 employees of subsidiaries and suppliers to improve their technical capabilities. We are also enhancing the technical certification test for each job category. We are further refining the tests considering that employees work in a variety of technical environments. At the same time, we are refining the system so that technical areas that are utilized by only a few people can be evaluated fairly. We are actively expanding the remote/non-face-to-face examination system to reflect changes in the working environment to ensure equal opportunities and convenience.







1) AM(Application Modernization): A technology that breaks down complex programs into smaller units and integrates and reorganizes them for business agility

# **Activity** | Performance

#### **LG CNS Concept of Talent**

The concept of talent of LG CNS is the core competencies and ways of thinking and attitude that employees must possess in order to achieve the company's mission/vision/strategy. To define the talent, LG CNS gathered idea from leaders and employees through various channels, and came up with six values unique to LG CNS.





[Empowered Achiever]



[Synergy Builder]



[Game Changer]



[Self-Motivated Leamer]



[Open-Minded Listener]



Governance

# **Human Resources**

#### **Recruiting Outstanding IT Specialists**

LG CNS operates a recruitment program optimized for the DX business to secure the best elite experts to lead digital transformation. The IT Leadership Academy is a recruitment program of LG CNS for talented people who would grow into elite DX experts. LG CNS is recruiting talents in various fields such as AI, big data, cloud, smart logistics, and conducting coding tests to evaluate applicants' IT competency. For successful candidates, we provide IT career training and job-specific training opportunities.

#### 'Code Monster' to Hire based on Coding Skill

LG CNS has been operating 'Code Monster' since 2016 to discover talented people with technical expertise. 'Code Monster' is a program to hire new employees based solely on their coding skills, regardless of their academic background, major, or credits. Anyone who can join the company within two years of the final selection is eligible to apply, and the timing of joining and the department they wish to work in can be negotiated. LG CNS has a 'competency-oriented' organizational culture that recognizes and gives specialized treatment to those with excellent DX technology skills. This is how we were able to implement the 'Code Monster' program, which hires based on programming skills alone.

#### My Career Up, a Self-career Development Program

LG CNS supports its employees to experience various jobs and develop their careers on their own through 'My Career Up' program, a self-directed career development program where employees find and apply for the job and the team they want. Applicants check job opening on the internal My Career Up noticeboard, apply to the job, and become to join the organization within two months after passing the final stage. This creates a virtuous cycle in which employees strive to develop their competence and careers, while the organization evolves into one that its employees wish to work for.

#### **DX Expert Training System**

LG CNS aims to be an organization made up of technical experts and is continuously expanding its DX technology training activities. In line with the DX technology classification, we provide training according to each employee's skills and level. The best technical experts inside and outside the company share practical know-hows and knowledge to the employees. In 2022, we defined and intensively nurtured a group of DX technologists in Al, Data, Cloud and Agile, and provided extensive training to strengthen DX implementation capabilities fostering a total of 4,839 DX technologists/skilled workers.

#### **DX Expert Training System**

Technology						
	Digital	technology	competency t	raining		
Al	Al Big data Cloud					
AM		Smart factory		New technology pla and solutions	ew technology platforms and solutions	
	Basic	technology	competency tr	aining		
Data scientist  • Data engineering • Big data analysis • Big data analysis						
Convergence expert			Security exp	ert • Security		
User experience expert • User experience		Quality expe	Methodology     Quality			
Application     architect     Framework     Middleware <sup>2)</sup> Testing     User experience		Infrastructu architect	Operating syste Database Network Cloud	ems		
Analysis designer	Modelling	]	Project mana	ger • Project manage	ement	
Development language (programming)						
	Techr	nical training	g for new empl	oyees		

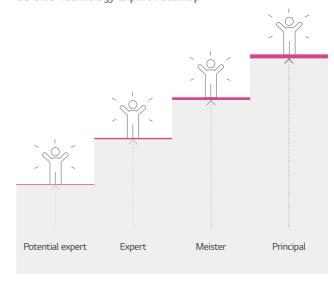
- 1) ERP (Enterprise Resource Planning): An integrated information system that strengthens corporate competitiveness in the sense of enterprise-wide resource management
- 2) Middleware: Software that enables smooth communication when different types of hardware or communication environments are connected

#### **Technology Competency Evaluation System**

LG CNS supports its employees to become technical experts in their fields. Accordingly, LG CNS has been running 'TCT' since 2016 to nurture and evaluate the practical technical capabilities of employees. In 2021, the certification evaluation system was reorganized in line with changes in technology, business type, and strategic goal. In 2022, the multi-skill evaluation has been expanded to encourage employees to acquire a wide range of technical competencies.

The result of the technical certification test is linked with the evaluation result of each employee's job competency. Particularly, in the case of developers, we select potential experts, experts, meisters, and senior researchers/professionals through an in-depth evaluation process for employees with high technical competency levels. We also provide differentiated compensation.

#### LG CNS Technology Expert Roadmap



Governance

# **Human Resources**

#### AI Consultant Training Program

Since 2021, LG CNS has been running an AI consultant training program with Korea University Graduate School of Artificial Intelligence. The AI consultant training program is an in-depth AI training consisting of 10 subjects including AI mathematics, language/visual/ enhanced/data AI, AI business application cases, and personal projects. Participants, who were selected through nominations from business units and verification by HR, participate in training every Friday for 20 weeks. We fostered 30 AI consultants with AI technology, consultancy capabilities, and industry expertise in 2022, and the cumulative number of trainees was 74 at the end of the 3rd term in February 2023, and the 4th term started in May 2023.



| 3<sup>rd</sup> Term of AI Consultant Training Program

## **Support for Acquiring Technical Certification**

LG CNS provides support for its employees to develop their technical skills and obtain certifications acknowledged by global IT leaders. We have talents with more than 1,500 certifications from three global cloud service providers (CSPs) such as AWS, Microsoft, and Google, and TensorFlow Developer Certificate (TDC), which is Google's certified AI developer certification. We also support financially for various expenses such as test fee and congratulation prizes.

## Strengthening Leadership and Global Competency

LG CNS provides various competency enhancement programs for its employees so that they can continuously develop leadership and global competencies. CNS Leadership Week for leaders is attended by the CEO, executives, and team leaders and offers external lectures on various topics such as global business cases, humanities, and recent major trends. Also, through discussion among leaders, insights are derived, and consensus is formed on company policies.

LG CNS is conducting businesses in overseas markets such as China, the United States, and Europe. Subsequently, we are strengthening our competencies so that our employees can understand the cultures and customs of various countries and meet the needs of overseas clients. We also provide manager training, basic training, and job training for overseas subsidiaries. LG CNS is implementing the Global-CAMP (G-CAMP) language program to foster global talent. As in-house experts, who have conducted overseas business, develop training courses and share LG CNS' unique global business cases, this language program is truly unique and differentiated from those of other companies. In addition, we have Global Business Communication (GBC) course where native-speaking coaches provide one-on-one coaching for employees conducting overseas business. Through training specialized for each individual and his or her communication level, it consists of contents that can be used in practical situation. It covers business manners, general communication skills, and communication skills used in meetings with overseas partners.



I G-CAMP

#### **Organization-Customized Program**

LG CNS implements organization-customized programs that are tailored to various situations for each team and project. Through the 'Strengths Workshop,' we measure the strengths and weaknesses of individual employees and use their strengths to the fullest to find ways for individuals and organizations to achieve outstanding performance. In addition, we are running various customized programs for organizations. There are 'Customized Team Building' and 'Communication Reinforcement Program' that help team members understand each other through communication, supporting the development of individual and teamwork capabilities of our employees.

#### Industry-Academia Cooperation Program

LG CNS operates partnership programs with leading universities in Korea such as Seoul National University, Korea University, and Chung-Ang University. We offer recruitment-linked internships in summer and winter to nurture and secure talented IT professionals, and specialized courses for each specialized area such as security, AI, big data, and consulting. In addition to educational courses, we also conduct collaborative activities with universities in various fields such as technology development, software competitions, and textbook publication, and we are expanding internships for local universities to secure local talent.



| LG CNS - Chung-Ang University Industry-Academia Cooperation Agreement Ceremony

# **Diversity & Inclusion**

## Policy

#### System for Diversity and Inclusion

LG CNS respects the employees' diversity, including age, gender, country, race, faith, and physical or mental disabilities. We also respect the characteristics and values of various individuals, such as marital or pregnancy status, sexual orientation, and social class, and do not discriminate against them. As part of our policy to actively support maternity protection, we actively ensure the use of various legal systems such as pre- and post-natal leave, spousal parental leave, and parental leave, and actively employ people with disabilities through 'Haengbokmaru (Place of Happiness),' a standard workplace for people with disabilities. To embrace generational diversity, we operate individualized 'People Care' based on the life cycle of individuals and provide unique and differentiated positive experiences for all employees. In terms of work environment, we conduct customer abuse prevention activities and work environment improvement activities to ensure that employees work in a stable and comfortable environment. We are changing the way we work to make it more flexible and autonomous by implementing an outputbased work system that enables full-time and autonomous work and telecommuting, and gradually expanding smart offices for a better work-life balance. In order to fulfill our social responsibilities not only internally but also externally, we conduct programs such as the 'Digital Coding Camp' to contribute to the community by using our IT expertise as a DX company, and conduct various activities to make our employees feel responsible and proud of the company and society.

#### Goal

#### **Key Goals for Diversity and Inclusion**

LG CNS aims for its employees to not only feel supported by the company, but also to be proud to grow together. To this end, we plan to establish a new People Care program and add 'familyfriendly' programs that allow employees and their families to participate together. We also plan to improve employee satisfaction by expanding and continuously improving the number of specialized programs for each generation. In terms of improving the working environment, we plan to create an environment where employees who work off-site can immerse themselves in a more comfortable environment and produce results by establishing a 'Guide to Building Standard Work Facilities' and conducting periodic on-site inspections on work environment. In particular, we plan to flexibly reflect changes in the way employees work to HR policies in response to recent trends. In 2023, we will further strengthen our support for employees working in the field. We will listen to their opinions through a site visit program to identify and respond to proactive issues at each site, strengthening the satisfaction of employees working at all sites.

#### Key Directions of People Care in 2023

- 1) Strengthen HR system and People Care for employees at project sites outside of headquarters
- 2) Operate employee committees and conducting site visit programs to improve employees' trust and satisfaction with the company
- 3) Improve vacation utilization by creating a culture of flexible vacation use
- 4) Establish a culture of fair evaluation with a continuous performance management campaign
- 5) Zero labor issues by proactively checking and responding to labor
- 6) Operate a diversity program and address employee concerns

# **Activity** | Performance

Governance

#### **People Care Program**

LG CNS provides a positive experience for its employees through the 'People Care' program, which respects individual diversity and offers customized welfare benefits to meet their needs. Programs were designed for groups classified by age, workplace, job position, and length of employment, and new programs were monitored to determine whether they should be continued.

The 20 thematic programs have led to high satisfaction levels and improved efficiency by inducing positive experiences for employees and contributing to a decrease in turnover. In addition, we are leading the innovation in communication by changing the existing top-down approval process to a storytelling style of announcement.



Nongdowon Ranch



Acrylic Painting Class



Runnina Crew

Governance

# **Diversity & Inclusion**

#### New People Care Program in 2022

Туре	Target	Participants
Refreshment (hotel, resort, camping)	All employees	1,315 people
Family Day	Married employees	206 people
For Me Day	Unmarried employees	65 people
Organization Activation Program	All employees Team building Employees working outside the headquarters Married employees Associates, specialists New hires	1,172 people
Project Site Care	Employees working at project sites	596 people

## **Diversity and Inclusion Program**

#### Female Leaders Forum

We hold the Female Leaders Forum to encourage female leaders' next career development and networking, and to help them develop leadership capabilities in line with the company's changing direction. The forum consists of special lectures by female executives, group mentoring/discussions, and CEO meetings to support the continuous growth of female leaders and provide opportunities for communication between seniors and juniors.

#### Support for Employees with Disabilities

In 2016, LG CNS established Haengbokmaru Co., Ltd., a subsidiary of LG CNS. Haengbonkmaru is a standard workplace designed to facilitate the employment of people with disabilities and promote employee welfare. Haengbokmaru runs in-house cafes at the LG Science Park Headquarters in Magok, and in Sangam DDMC and Sangam IT Center. There are 92 employees (including employees who are on leave) in total. Among them, 82 are people with disabilities, of which 76 are with severe disabilities. There are seven managers (including three managers with disabilities) providing work guidance and career development support for the employees. Professional counselors provide emotional and psychological counseling for them. Haengbokmaru provides convenience facilities, exclusive lounges, and group insurance for employees with disabilities. Also, in order to contribute to the expansion of the foundation of the cultural arts for the disabled, LG CNS has signed a business agreement with the Korea Disabilities Art Association and have been hosting an exhibition of artworks by artists with disabilities. We also participates in social contribution activities with the Korea Employment Agency for Persons with Disabilities. In 2022, LG CNS received a commendation from the Minister of Employment and Labor at the Competition of Promoting Employment for People with Disabilities in recognition of its contribution to active promotion of employment of people with disabilities and improvement of working conditions.



Awards at the Competition of Promoting Employment for People

## **Customer Abuse and Difficulty Handling**

LG CNS strives to protect its employees from client bullying by visiting sites to listen to their voices and sending client bullying prevention materials to clients. By conducting employee surveys, creating promotional videos to eradicate bullying, and distributing them to our clients, we are helping our employees to focus on their work without being stressed.

LG CNS listens to employees' difficulties and handles them objectively to ensure human rights, enhance work life satisfaction, and create a healthy working environment. We always operate a difficulty handling program, and employees can report difficulties at any time through the internal online board.

#### **Labor-Management Council**

LG CNS operates the 'Labor-Management Council' as a representative body that delivers the voices of its employees to the management and discusses important issues. The Labor-Management Council consists of eight employee representatives and eight management representatives. Regular meetings are held quarterly and, if necessary, ad hoc meetings are held frequently on major issues. The Labor-Management Council discusses a variety of agendas, from handling employee's difficulties to checking working conditions and managing business strategies. Also, we carry out activities for our employees, such as adjusting salary, operating an employee financial aid association, and introducing a maternity care program.



| Labor-Management Council

## **Customized Support for Project Sites**

At the start of the project, LG CNS supports the project site with 'Move-in Welcome Decoration' and delivers gifts such as 'Exotic Desserts To Go' and 'Rejuvenating Red Ginseng Gifts' to the homes of those who are unable to participate in the on-site program. In addition, for mental and physical care, LG CNS supports massage chairs at the site and provides on-site psychological counseling.

Environment Social Governance

# **Diversity & Inclusion**

#### **Educational Financial Support for Employees with Children**

LG CNS provides scholarships to support employees with children and reduce educational expenses. The program covers admission fees, tuition, and school operating expenses within KRW 2 million per year for middle school students, KRW 4 million per year for high school students, and KRW 10 million per year for university students. This is guaranteed regardless of the length or type of employment, and stems from our policy to reduce the burden of educational expenses for our employees without discrimination.

#### Support for Special Education Expenses for Employees' Children with Disabilities

LG CNS provides special education expenses for children with disabilities to support employees with children with disabilities. For employees with children over the age of 7, LG CNS provides actual expenses such as admission fees, tuition, and school operating expenses, regardless of public or private education, up to a monthly limit of KRW 1 million. This stems from our policy of understanding and embracing not only employees with disabilities, but also employees who have children with disabilities.

#### **Parental Leave**

At LG CNS, employees can apply for one year of out-of-statutory parental leave in addition to the one year of statutory parental leave. This allows employees with young children to spend more time with their children. This stems from LG CNS' policy to respect and embrace our employees with children, and employees can feel free to take parental leave in an organizational culture that actively supports parental leave.

#### **Maternity Care and Female Employees Support Programs**

To protect and respect pregnant and parenting employees, LG CNS ensures that they have access to various programs such as pre- and postnatal leave, spousal maternity leave, reduced working hours during pregnancy, reduced working hours during childcare, and time off for prenatal care. In addition, we guarantee menstrual leave for female employees to understand and consider the challenges of physical differences between men and women.

#### **Employee Welfare Program**

LG CNS supports a wide range of welfare programs to enhance the quality of life and well-being of the employees.

Program	Description			
	· KRW 2.5 million and congratulatory wreaths for first marriage after joining the company for a year	· For retired employees, KRW 3 million worth of retirement programs and travel vouchers		
Lifecycle Benefits	<ul> <li>Student loan interest support, electric car rental on weekends, gifts for promotion to specialist, and rent support for freshman employees</li> <li>'Digital Coding Camp' for employees in their second year of employment</li> </ul>	<ul> <li>In the event of an employee's death, an in-house bereavement committee to support the bereaved family, as well as support for funeral expenses and provision of funeral goods</li> </ul>		
Family-Friendly	· Operate in-house daycare centers at Magok Headquarters and Sangam IT Center	Provide holiday gift delivery and support for seventieth birthday celebration		
Programs	$\cdot$ Provide psychological tests for children and gifts for elementary school entrance, SAT entrance, etc.	<ul> <li>Operate 'Family Day' program for employees and their children: coding school, farming experience, psychological art club, etc.</li> </ul>		
Output-Based Work System	• Flexible work hours and locations based on individual schedules and life patterns • Operate more smart offices and base offices • Implement remote working and work-from-home: companies from-home every Friday (as of 2022, 38% of employees whome - 25% on weekdays, 52% on Fridays)			
Overtime Restrictions	• Turn off the cloud for those working more than 52 hours per week to ensure employees are well-rested and to comply with legal requirements (No access to work environment when cloud is off)			
Support for Long- Term Service Rewards and Vacation Usage	· Offer 'Refresh Vacation' of up to three weeks off with payment: guarantee · Offer a variety of luxury resorts and glamping sites, including Ananti, Paras · Create a vacation photo book			
Reward	· CEO Rewards: select and reward exceptional performers each year through business unit nominations · Provide SPOT incentives and business unit rewards for successful projects			
	· Operate 23 in-house clubs 'Infomal'	· Free rental of 2 books per month for 2 weeks through LG CNS e-Library		
Hobbies & Sports Programs	· Year-end company-wide e-sports competition (online LoL game competition)	· Four free LG TWINS baseball tickets per year and four free Seoul FC soccer tickets per year		
rrograms	· Operate 'For Me Day' for hobby discovery: learning K-POP dance, barista experience, acrylic painting healing class, etc.	<ul> <li>Expand the executive-only midweek golf program to all company employees</li> </ul>		
		· Establish an in-house Running Crew		
Mental and Physical Healthcare	· Conduct one-on-one psychological counseling with a professional counselor at a time of the employee's convenience through our inhouse counseling center	· Operate programs for team building and mental care of employees: stargazing, rooftop terrace parties, etc.		
	· Operate a mind sanctuary: regularly send out newsletters with articles	Send PM support gifts, project support gifts		
	and methods to help with mental care  Provide health therapy; professional therapists were hired to provide professional massages	<ul> <li>In-house fitness center</li> <li>Support for major medical expenses, group insurance, flu vaccination, etc.</li> </ul>		
Employee Promotion	Offer promotions and discounts on hotels, airline tickets, amusement parks, etc. Provide life care points worth KRW 860,000 per year for purchases of LG Electronics devices, groceries, etc.			

Governance

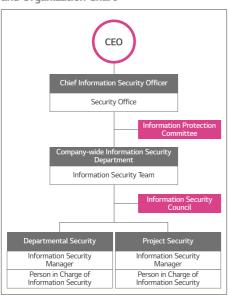
# **Information Security**

# **Policy**

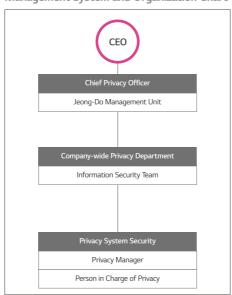
#### Information Security Management System

LG CNS operates an information security management system based on the three major Korean laws on data (Personal Information Protection Act, the Act on Promotion of Information and Communications Network Utilization and Information Protection, and the Credit Information Use and Protection Act) as well as overseas information security-related laws and systems. LG CNS appoints a CISO (Chief Information Security Officer), CPO (Chief Privacy Officer), and credit information managers/protectors for companywide information security activities. It is mandatory for each team to designate a security manager and person in charge of information security. The person in charge is responsible for managing personnel information in their team, managing major assets, and informing security issues. In particular, all teams handling personal information are making efforts to protect the information by designating persons in charge of personal information protection. In addition, we hold regular meetings with major internal and external service security officers to discuss security policies, countermeasures, and business agenda.

#### Information Security Management System and Organization Chart



#### Personal Information Protection Management System and Organization Chart



#### **Principles of Personal Information Protection**

LG CNS recognizes the importance of personal information. We use and protect personal information in accordance with related policies and regulations. To follow Ten Principles of Personal Information Protection, we conduct annual training for personal information handlers and inspect the personal information managers. We operate a specialized system that allows us to grasp the status of personal information management at a glance. We are minimizing vulnerabilities by regularly checking the management status. We also conduct mock training frequently to raise employees' awareness of personal information leakage.

#### Ten Principles of Personal Information Protection

- 1 Indiscriminate collection of personal information must be avoided.
- Distinction must be made between mandatory information and optional information when collecting personal information for service provision.
- 8 Processing of identification information such as resident registration number and sensitive information such as religion and health information are strictly prohibited from being processed.
- When collecting and consigning personal information for advertisement and sales purposes, customers must be notified and information must be managed safely.
- 6 Personal information files must be stored using security programs such as database security programs and encryption software.
- The retention period stipulated by laws for documentary evidence that needs to be kept must be observed
- Personal information files must be destroyed so that they cannot be recognized after they are used for the original purpose.
- 8 All CCTV cameras need clear signs that cameras are placed.
- Quidelines and documents related to personal information protection must be in place.
- Prepare for noticing personal information leakage, collective dispute resolution, and class action lawsuits.

Governance

# **Information Security**

#### **Security Inspection System**

LG CNS derives security requirements from the planning stage to strengthen the security of solutions and services. In the implementation phase, we conduct security quality activities, and before opening, we conduct security reviews to ensure that the security requirements are properly implemented. In addition, in the operation phase, we always conduct security vulnerability checks. LG CNS is continuously managing security through the establishment and operation of these security inspection systems.

Derive security requirements and check implementation through security review Strengthen security in the development stage through web application security guides, checklists, etc. Open Operation Planning **Implementation** Conducting security Conducting security Conducting security Conducting security vulnerability checks on review at investment reviews at opening quality activities stage a regular basis

## Response to International Personal Information Security Regulations

International regulations on personal information protection are being strengthened with the introduction of the EU (European Union) GDPR (General Data Protection Regulation) and China's Network Security Law. LG CNS is actively responding to the movement to strengthen regulations together with local subsidiaries to conduct safe overseas business. In addition, in order to minimize the damage caused by these regulations, we are thoroughly conducting inspection activities by deriving countermeasures for each major area.



#### Response to EU GDPR Measures

#### Main areas

- Personal information processing standards
- Guarantee of rights of data subjects
- · Reinforcement of corporate responsibility
- Offshore transfer of personal information
- Measures to be taken in case of infringement of personal information

#### Measure to Take

- Establish management system according to personal information life cycle
- Guarantee personal information access, correction, deletion, and transfer
- Minimize using personal information, implement protection measures, and pseudonymization
- Restrict on transferring personal information outside the EU. Transfer through cross-border cooperation, supervisory authority approval, consent of the data subject
- Identify the rights that should be applied according to the business type and prepare procedures and systems for implementation
- Prepare security incident response measures (including notification step)
- Safety measures for personal information terminals, etc.

#### Response to China's Network Security Law

#### Main areas

- Response to network security violations
- · Network safety management
- Technology to prevent network violations
- Personal information protection management system

#### Measure to Take

- Establish realistic and enforceable security management policies and strict enforcement
- Establish and implement the classification system that prioritizes information based on the importance
- Monitor infringement and personal information leakage and establish response system
- Strengthen access control and account management
- Establish antivirus and malware response system
- Check vulnerability periodically and establish management system
- Establish management system according to personal information life cycle
- Identify, train, and manage personal information handlers
- Prepare response procedures for requests for personal information access, correction, and destruction, etc.

#### Governance

# **Information Security**

#### Goal

#### Information Security Management Goal

LG CNS, a leading IT company, is proactively improving security blind spots and strengthening its response system to new and increasingly sophisticated hacking attacks. In doing so, we are working toward our ultimate goal of zero security incidents. In 2022, LG CNS actively promoted the introduction of new technologies to enhance the security of the remote work environment activated by COVID-19. In 2023, we will promote the implementation of Zero Trust, a new security paradigm that will enable us to respond to long-term changes in the IT work environment in the era of DX transformation and the new normal

What is Zero Trust? (2010, John Kindervag)

## Trust is a security vulnerability

## → Nothing can be trusted!

- ① Thorough security authentication and management without exception (all users and devices)
- ② Implementation of security policies to minimize the scope of damage such as limited access rights
- 3 Continuous detection, supplementation, and improvement of vulnerabilities and anomalies even after authentication



# **Activity** | Performance

#### Disclosure of information security activity

LG CNS has been transparently disclosing its information protection activities and investment status by posting the information protection status on the information protection disclosure website (isds.kisa.or.kr) since 2022. As of 2022, the investment in information protection amounted to KRW 15,777,385,681 and the total number of employees dedicated to information protection was 117.7.

## Activities to reinforce information security awareness

LG CNS conducts various activities to raise the security awareness of our employees. Employees must sign a security pledge once a year and receive mandatory information security and personal information protection education. In addition, we raise security awareness by sending out information security newsletters to employees on a regular basis. In addition, we provide information security training not only to our employees but also to our suppliers to strengthen the security of our project sites.

#### **Information Security Training**

Education Program	Description	
Personal information protection education	Precautions for the protection of personal information	
Basic education on information security	Information protection precautions to be observed while performing work	
Security training for developers	Security compliance for developing a system without vulnerabilities	
Security training for suppliers	Information protection precautions to be observed by suppliers	

#### **Key Activities of Information Security**

LG CNS regularly conducts information security activities by establishing a system of administrative, physical, and technical security controls to protect knowledge assets from security risks.

Security Area	Key Activities
Establishment and	· Establish and manage company-wide information security policies and guidelines
Management of Information	$\cdot$ Respond to information security-related laws and regulations
Security Policy	· Revise and publish regulations at least once a year
	· Security training and awareness activities at least once a year
Personnel	· Promote company-wide security activities
Security	· Create a pledge and conduct security checks when entering and leaving the company
	$\cdot$ Manage the security of supplier employees when joining a project
Outsider	· Specify compliance with personal information protection when contracting with suppliers
Management	$\cdot$ Regularly monitor and audit on personal information managers
	· Conduct regular and ad hoc audits of technical, administrative, and physical areas
Security Checks	<ul> <li>Operate and check the personal information management system for complying with personal information protection</li> </ul>
	$\cdot$ System vulnerability checks and penetration testing
Response to Information Security Incidents	· Establish information security incident response procedures and mock drills at least once a year
Physical Security	· Enforce access control based on each site's necessity for security

Governance

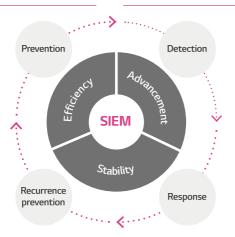
# **Information Security**

#### **Preventive Activities Against External Attacks**

With the recent increase in threats to industrial facilities and external attacks to leak personal information, LG CNS is constantly carrying out preventive activities to prepare for more intelligent external attacks like hacking and distribution of malicious codes. To prevent the spread of damage, we are operating the Security Information and Event Management (SIEM) service that detects and responds to intrusion threats in real time. In addition, we strive to create a safe working environment by introducing solutions to block malware and ransomware delivered through e-mail.

#### Security Information and Event Management(SIEM)

- Vulnerability diagnosis
- OS patch application
- · Dissemination of security information
- 24/7 Monitoring of security incidents
- Real-time detection of hacking and computer worm



- Cause analysis and reporting
- Incident information sharing
- · Blocking virus spread
- · Analysis on hacking incident and recovery support
- New virus prevention measures

#### Internal and External Certification Status

LG CNS has earned ISO 27001 certification, an international standard for information security management systems established by the International Organization for Standardization (ISO), since 2013. LG CNS has established and operates a technical and physical information protection system to protect key information assets from increasing security threats. We have also maintained the related certification, Information Security Management System (ISMS), since 2017.

#### Information Security Certification



ISMS (Information Security Management System) Certification (Scope: Company-wide external service and IDC operation)



ISMS-P (Personal Information and Information Security Management System) Certification (Scope: LG CNS B2C/B2B services)



PCI-DSS



ISMS (Information Security Management System) Certification (Scope: SINGLEX service)



Information Security Management System Certification (ISO 27001)



Information Security Management System Certification (ISO 27001)

#### Environment Social Governance

# **Supply Chain Management**

# **Policy**

## **Supply Chain Management Policy**

LG CNS operates a system to select, maintain, and manage excellent suppliers based on fair and clear criteria. Each year, we select suppliers based on objective evaluation criteria set forth in regulations, and manage them through a four-level management system: strategic group, cooperation group, transaction group, and potential group.

We provide financial, manpower, and technological support to our suppliers for their stable operation and growth. Accordingly, we sign fair trade agreements, participate in the Shared Growth Index evaluation, and operate a dedicated organization for cooperation with suppliers.

## **Subcontracting Management Policy**

LG CNS strives for fair trade by complying with the Korea Fair Trade Commission's four practices for subcontracting, using standard contract forms, and complying with laws and regulations.

By complying with the Subcontracting Act, we keep subcontracting transactions fair and transparent and create partnerships where large and SMEs can develop together.

We regularly monitor compliance with the Subcontracting Act and ensure that improvements are implemented according to the monitoring results. We also provide subcontracting training to all employees.

#### Goal

#### **Key Supply Chain Management Goals**

LG CNS gives trading opportunities to its suppliers and supports their internal growth through various supporting activities. This leads to increased project success rates and expanded business opportunities. We aim to achieve sustainable growth with our suppliers from the long-term perspective.

# **Activity** | Performance

#### **Supporting New Hires for Suppliers**

LG CNS strives to help small and medium-sized suppliers solve one of their biggest challenges: securing software talents.

We opened the LG CNS online recruitment center on a large domestic job search site to make it easier for job seekers to access information about our suppliers. As a result, we posted 2,357 job postings, including regular and project positions, for a total of 39 suppliers in 2022, and received a total of 12,962 applicants.

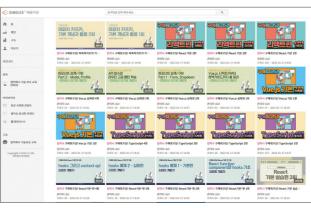


Job Korea's LG CNS Online Recruitment Center

LG CNS has been operating the 'U-Camp Software Developer Course.' The U-Camp SW Developer Course, which has been in operation since 2006, is a nine-week intensive software development course for prospective employees of suppliers. The excellent software talents fostered through the course are hired by suppliers immediately after the course ends. In 2022, a total of 48 students completed the course, with a cumulative total of 36 batches and more than 1,000 new employees from suppliers.

#### Competency Development Support

LG CNS has established an online training portal for suppliers called 'Supplier Learning Center' and operates it for free. It provides DX technology training such as agile, cloud, and AI, and job training such as personal information protection. In 2022, a total of 176 courses were offered and 1,939 employees of suppliers completed the training.



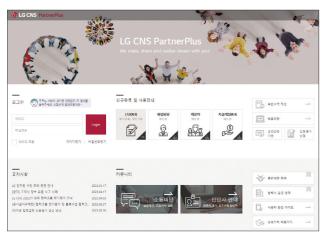
| Supplier Learning Center

Governance

# Supply Chain Management

#### Strengthening Communication with Suppliers

For active communication with suppliers, LG CNS runs the 'Partner Communication Forum' on the PartnerPlus portal (partnerplus.lgcns. com). Through this, suppliers can freely propose business and consult about difficulties and problems encountered during collaboration, as well as request improvements to inconveniences such as contract procedures and payment.



| PartnerPlus Portal

### **Technical Support and Protection**

LG CNS actively conducts technical support and exchanges through joint R&D with suppliers. To this end, we are taking the lead in protecting the technologies of our suppliers through a fair trade portal, a trade secret original proof service, and the signing of nondisclosure agreement (NDA).

#### Improving Financial Support and Payment Terms

Since 2010, LG CNS has maintained a financial institution fund for growth with suppliers to support operating funds. We continue to provide financial support to strengthen suppliers' competitiveness, including R&D expenses and investment in new businesses. We provided interest-free loans worth KRW 6.9 billion to 14 suppliers, and KRW 25 billion in loans to 52 companies through the Shared Growth Fund. In addition, LG CNS conducts daily deadlines for subcontractor payments and pays them in full in cash within 15 days after examination.

#### **Status of Financial Support for Suppliers**

Direct Financing  LG CNS self-created fund KRW 6.9 billion loaned to 14 companies (based on annualized balance)	
Shared Growth Fund	· Fund created together with a Financial Institution (IBK) based on LG CNS deposits · Offering interest rate reduction for 52 companies in KRW 25 billion in total (based on annualized balance)
Network Loan	· Low-interest loan support according to how many transaction cases implemented with LG CNS

## **Business Support**

LG CNS has been providing preventive supplies every year in response to COVID-19, a national disaster. In 2022, we provided 3,100 selftest kits to 25 suppliers. To facilitate the commute of our suppliers' employees working at LG Science Park at Magok, we provide free commuter buses and shuttle buses to and from Magok which are used by our employees, and as of 2022, a total of 77,428 times were used by the employees of suppliers. In addition, we operate an online shopping website exclusively for our suppliers so that they can purchase LG products at low prices.

#### Selected as a 'Best Honorable Company' in the Shared Growth Index Evaluation

Through our collaborative and partnership activities, LG CNS has received the best rating for five consecutive years from the 2017 to 2021 evaluations. In 2022, LG CNS was selected as a 'Best Honored Company' by receiving the 'Best' rating for the fifth consecutive year in the 2021 Shared Growth Index released by the Korea Commission for Corporate Partnership. In addition, in December 2022, we were awarded the Fair Trade Commission commendation for establishing a fair trade order and spreading a culture of cooperation through fair trade agreements.



Plaque of Best Honorable Company on the Shared Growth



Commendation for Fair Trade Agreement

#### **Subcontracting Training**

LG CNS conducts subcontracting-related training for all employees on matters to be observed and the latest trends. In addition, we conduct monitoring to prevent violations of laws related to fair trade, and any findings from monitoring are used to improve business processes and systems to prevent and manage fair trade risks.





| Subcontracting Training - Smart Collaborative Way

Governance

# **Quality Management**

# **Policy**

#### **Quality Management Policy**

For large-scale financial and public projects with significant social and economic impact, preemptive risk management and quality assurance are very important in the project implementation process. LG CNS has established a quality management policy and all employees work with the right perception of quality. We defines three values and nine rules of action for quality management and follow them.

# Purpose(Quality Management)

Lead the business innovation of our clients with best-in-class IT services technology capabilities

# 3 Values(Quality Values)



# Practices(Rules of Action)

Proposal of customer value based on business understanding	Goal-oriented thinking and continuous self-development	Keeping one's word with stakeholders
Leading quality based on technological competency	Right planning and quick feedback	Respect and cooperation with colleagues
Communicating based on understanding the clients	Recollecting the past experience for future growth	Responsibility for social contribution

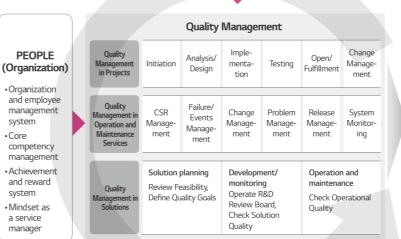
## **Quality Management Operation System**

LG CNS practices quality management by establishing an integrated quality management system that combines people, process, and technology for quality management of 'projects', 'operation and maintenance services, and 'solutions.'

#### **Integrated Quality Management System**

#### PROCESS (RULE)

Service development and operation management process (regulations and principles)



# and profits

Customer

VALUE

national public

Enhancing user

satisfaction

process and

Increasing sales

Innovating

operation

Improving

service

Continuous Innovation System

#### **TECHNOLOGY**

**Projects and Solutions** Analysis · Design/Test/Development, Management Tool & System

Operation and Maintenance Automation/Quality Control/Event Monitoring/Security Tool and System

Governance

# **Quality Management**

# **Activity | Performance**

#### **Customer Satisfaction Management**

As a clients' Digital Growth Partner, LG CNS strives to improve service quality satisfaction by providing various service offerings based on customer pain points and improving operational services to improve service quality satisfaction.

We conducted a 'Customer Satisfaction Survey on Operation and Maintenance Services' for the IT departments of 33 client companies in 2022. With respondents indicating that they would continue to use and expand services from LG CNS, the survey showed improved client satisfaction and loyalty compared to the previous year. In particular, clients were highly satisfied with the stable operation of the service and quick response.

#### **Customer Satisfaction Status**

Year	Unit	2020	2021	2022
Customer Satisfaction	Point	75.5	79.3	82.2
Customer Loyalty (positive responses)	%	63.2	68.0	72.4

#### Reinforcement of PM Competencies

LG CNS values project managers (PM)' DX competency. PMs are being trained on how to manage projects through a variety of case studies to become a DX partner for their clients. LG CNS also operates a PM competency development system, a PM expert certification system, and a PM evaluation system.

#### **PM Competency Development Model**





| Company-wide PM Meeting

#### **PM Training and Education System**

Category	PM	
	· Project management basics	
Before Earning Certification	$\cdot$ Easy-to-understand profit and loss management that PMs must know	
	· Easy-to-understand project contract management	
Certification	· Written test: General SI, Construction/engineering type	
Test and Assessment	· Skill Review Board assessment: Project management, Leadership, Domain knowledge, Communication competency	
After Earning	· New technology training: DevOps, MSA, Cloud, Al, Big Data, etc.	
Certification	· Practical business negotiations	

## **Quality Management Certification**

In July 1994, LG CNS, as the first company in the SI industry, obtained ISO 9001 certification for all of its business sites, and has since successfully completed both the follow-up audit and the comprehensive three-year recertification process.

Through this, we have a quality management system that enables all employees to achieve the best performance in their work by continuously improving business processes.

ISO 9001 Certification







# Governance

- Jeong-Do Management
- Compliance 68
- Corporate Governance
- Stakeholders Communication

Governance

# Jeong-Do Management

# Policy

#### LG Code of Ethics

LG shares and believes in two key corporate management philosophies: 'Creating Value for Customers, and 'People Oriented Management<sub>J</sub>. Based on these philosophies and in the spirit of our Management Charter, we strive to promote autonomous management and responsibilities. Also, our interest is to uphold the tenets of the free market economy, which embodies the spirit of free and fair competition. LG enacted the LG Code of Ethics, which is the standard for proper behavior and value judgment that all employees must follow and we distribute and share it to employees as a handbook in Korean, English, and Chinese. The LG Code of Ethics is available to all stakeholders through the Jeong-Do Management page on the LG CNS website and the Jeong-Do Management noticeboard on the internal portal. Employees of LG CNS must understand their roles and responsibilities in performing their duties, understand the LG Code of Ethics and related regulations, and always comply with the Code of Ethics and practice Jeong-Do Management.

## Jeong-Do Management-Practicing Organization

For systematic practice of Jeong-Do Management, LG CNS operates the 'Jeong-Do Management Unit' under the direct command of the CEO and performs regular, irregular and ad hoc diagnosis. In addition, there is an Ethics Bureau in charge of Jeong-Do Management to review reports submitted, educate and spread Jeong-Do Management practices, establish relevant systems and structures, and operate a counseling center.

CEO			
Jeong-Do Management Unit			
Auditing & Management Consulting Team	Ethics Secretariat		
Regular diagnosis	Report/Audit	Spread and education of Jeong-Do Management culture	
Diagnosis on an irregular basis	Establishment of systems and structures	Operation of counselling center	

#### Goal

#### Direction of Promotion of Jeong-Do Management

LG CNS aims to establish a proactive inspection system to prevent possible Jeong-Do Management-related risks by major business processes and businesses, and to continuously improve related processes and systems. In addition, we will expand Jeong-Do Management training to overseas subsidiaries and suppliers to build mutual trust and cooperation through transparent and fair transactions to pursue common development from a long-term perspective.

# **Activity** | Performance

#### Promoting Fair Trade Practices in the Company

Improve Business Processes	<ul> <li>Reflect changes to the Fair Trade Act, the Subcontracting Act, and the Audit Guidelines in business processes and systems promptly when they are revised and implemented, and notify employees to prevent violations due to unfamiliarity with the revisions.</li> </ul>
Conduct Online and Offline Training and Monitoring	Conduct online and offline training for employees on collusion prevention, subcontracting compliance, and the latest trends to spread fair trade awareness     Prevent and manage fair trade risks by conducting monitoring to prevent violations of fair trade laws
Operate Fair Trade Portal	<ul> <li>Provide content such as 'Introduction to fair trade', 'Report of contact with competitors' employees', 'Technical data request', 'Compliance guide', etc.</li> <li>In 2022, reflecting the revision of the Subcontracting Act, we required suppliers to sign confidentiality agreements when requesting technical data.</li> </ul>
Anti-Cartel Pledge	Every January, all employees take an anti-cartel pledge.     Prohibit contact with competitors' employees in principle, and when it is unavoidable, make pre- and post-reporting to avoid situations that could lead to suspicion of collusion

#### **Jeong-Do Management Activities**

Jeong-Do Management Pledge and Internal Noticeboard

- · Complete the Jeong-Do Management pledge for all employees every January
- Submit the Jeong-Do Management pledge mandatorily when contracting with suppliers
- · Operate the 'Jeong-Do Management Guide' noticeboard for systematic implementation of Jeong-Do Management, which provides information on Jeong-Do Management announcements and the Code of Ethics, as well as self-checks and consultation

Jeong-Do Management Training and **Awareness** Activities

- Conduct annual online Jeong-Do Management training for all employees
- Send Jeong-Do Management letters and post cases of Jeong-Do Management violations on internal noticeboard

Operating a Voluntary Bribery Reporting System

- Strictly prohibit the receipt of money and gratuities from business-related stakeholders
- When receiving money and gifts due to unavoidable circumstances, refuse and return them in accordance with the Code of Ethics and report to the Ethics Secretariat
- · If it is difficult to return the item, the item should be delivered to the Ethics Secretariat, which will donate the item to a welfare organization.

Operating Fraud Reporting Channels and Reward Programs

- · LG's Jeong-Do Management reporting channel, which is accessible to all stakeholders, and various channels such as phone, fax, mail, and visit to report cases of irregularities by LG CNS members
- · After the report, verify the facts and, if the facts are confirmed to be true, take follow-up measures such as disciplinary action, personnel action, Jeong-Do Management training, and work process improvement
- · Strictly manage relevant information in a confidential manner so that reporters are not penalized for their
- Through the reward system for reporting irregularities, review whether a reward is appropriate according to the facts and the degree of influence, and then the reward is paid through the reward deliberation committee.

Governance

# **Compliance**

# Policy

## **Compliance Policy**

LG CNS has been operating a compliance program since 2015, and based on the compliance management regulation, we manage the areas of anti-corruption, fair trade, subcontracting, human resources/ labor, safety/health/environment, information protection, and IT. The Compliance Committee, led by the CFO, conducts various activities to prevent compliance risks that may arise in business areas.

The Compliance Committee is held every quarter to plan, review, and discuss prevention activities in each risk management area. Major risk areas related to the company's business are selected as management targets, and each risk owner takes the initiative to carry out prevention activities and disclose the progress and results. Representatives from all business units of LG CNS also participate in the Compliance Committee to ensure that the compliance program is disseminated to husiness site.

#### **Compliance Management System**



#### Goal

Overview

#### **Key Goals of Compliance**

In addition to the review of the compliance management system conducted in 2022, LG CNS has prepared a mid- to long-term roadmap for improvement tasks in 2023 and is conducting various improvement activities to upgrade the level of LG CNS' compliance management system.

In addition, in order to continuously improve the compliance program, we have established compliance control standards and appointed a compliance officer to be in charge of operating the compliance control system, thereby laying the foundation for compliance management.

# **Activity** | Performance

#### Review and Improvement of Compliance Management

In 2022, we conducted an inspection of LG CNS' compliance management system through an external specialized agency. The inspection was based on benchmarking and precedent analysis of global leading companies, relevant domestic and international laws and regulations, and the U.S. Department of Justice's Evaluation of Corporate Compliance Programs (ECCP), which resulted in 30 improvement measures. In 2023, we are implementing various improvement activities to enhance the level of LG CNS' compliance management system in accordance with the mid- to long-term roadmap for improvement tasks.

## **Compliance Training**

LG CNS operates various training programs for employees to comply with domestic and international anti-corruption laws such as the Anti-Corruption Act and the U.S. Foreign Corrupt Practices Act (FCPA), as well as laws such as the Fair Trade Act and the Subcontracting Act. We regularly conduct compliance training by selecting training targets according to the role and type of work of employees, such as leaders and sales employees who are in contact with clients.

#### **Monitoring Legislative Trends**

LG CNS conducts business in various IT fields such as cloud, big data, smart city, smart logistics, and smart factory. We proactively identify and prevent regulatory risks by regularly monitoring major domestic and international legislative and regulatory trends related to our business and analyzing their impact on our business.

#### **Anti-corruption Activities**

LG CNS employees conduct business in compliance with the Anti-Corruption Act, regardless of region or country, in accordance with the Jeong-Do Management philosophy. At the beginning of each year, all employees affirm their commitment to comply with anti-corruption laws by signing the pledge, which indicates that they understand and will follow the company's policy on compliance with all domestic and international anti-corruption laws, including prohibiting bribery and graft and prohibiting corrupt activities through third parties.

In response to the trend of strengthening regulations and penalties for corruption in various countries, including the U.S., LG CNS has included precautions for overseas business in its anti-corruption regulations to prepare for anti-corruption regulatory risks in each country, and has established enhanced pre-inspection procedures to prevent risks when conducting overseas business.



| Compliance Training

\* As of March 2023

Environment Social

Governance

# **Corporate Governance**

#### Members of the Board of Directors

LG CNS' board of directors (BOD) is responsible for making decisions for important management and business and supervising the execution of the duties of the directors. Through the BOD, the directors actively express their opinions and perform their evaluation and supervisory functions. The BOD is composed of five members: two inside directors, and three non-executive directors. CEO serves as the chairperson. In March 2023, the Board of Directors appointed Mr. Shin Gyoon Hyun was appointed as CEO in accordance with the procedures of relevant laws such as the Commercial Act and other relevant laws

Category	Name	Credentials	Date of the Appointment	Term Expiration
Inside Director (chairperson)	Shin Gyoon Hyun	LG CNS Co., Ltd. Representative Director	March 28, 2023	Until the 2026 Annual Meeting of Shareholders
Inside Director	Ji Hwan Park	LG CNS Co., Ltd. CFO	March 25, 2023	Until the 2024 Annual Meeting of Shareholders
Other Non- executive Director	Bum Shik Hung	LG Corp. Business Strategy Division President	March 28, 2023	Until the 2026 Annual Meeting of Shareholders
Other Non- executive Director	Yong Hwan Kim	Macquarie Korea Asset Management Co., Ltd. Representative Director	April 29, 2020	Until the 2026 Annual Meeting of Shareholders
Other Non- executive Director	Dong Hyun Kim	Macquarie Korea Asset Management Co., Ltd. Director	March 24, 2022	Until the 2025 Annual Meeting of Shareholders

#### **Operation of the Board of Directors**

LG CNS holds regular BOD meetings according to the annual schedule to deliberate and decide on matters stipulated in laws and articles of incorporation and important management-related issues. When resolution of urgent matters is necessary, an ad hoc meeting is held. The BOD is operated according to transparent standards and procedures, and the BOD can approve decision with the attendance of a majority of directors and the approval of a majority of directors present.

#### Shareholder Status

The total number of shares issued by LG CNS is 87,197,353, and the largest shareholder is LG Corp., which holds 49.95% of the total shares. Other shareholders consist of Crystal Korea Co., Ltd. holding 35.00%, the employees' stock ownership association holding 1.53%, and minority shareholders holding 13.52%.

Category	Name of Shareholder	Number of Shares owned	Ratio (%)
Shareholders	LG Corp.	43,557,218	49.95
holding more than 5%	Crystal Korea Co., Ltd.	30,519,074	35
Other	Employee's Stock Ownership Association	1,332,132	1.53
shareholders	Minority Shareholders and Related Parties, etc.	11,788,929	13.52

#### \* As of December 2022

#### **Activities of the Board of Directors**

LG CNS held a total of eleven BOD meetings in 2022 to handle 37 agendas.

The main agenda of the board of directors

Date of BOD meeting	Agenda
2.09.22	Approval of the 35th annual financial statements and business report
	Approval of the 2022 occupational safety and health plan
	Approval of the 2022 business plan
	Approval of paid-in capital increase of Open Source Consulting Inc.
2.24.22	Approval of application for registration as a facilities-based telecommunications business (wireless business with line facilities)
	Approval of application for designation as a data specialized organization
	Approval of the convening of the 35th ordinary general meeting of shareholders and the purpose of the meeting
	Appointment of the chairperson of the board
	Appointment of a CEO
	Approval of director compensation
3.24.22	Approval of amendments to the personnel management regulations for executive officer
	Approval of executive officer performance incentive payments
	Approval of entering into a partnership agreement
4.14.22	Approval of BizTech Partners Co., Ltd. as a subsidiary
4.28.22	Promotion of listing on the Korea Composite Stock Price Index (KOSPI)
6.29.22	Approval of convening an extraordinary general meeting of shareholders
7.06.22	$\label{proval} \mbox{ Approval of cancellation of the extraordinary general meeting of shareholders}$
8.29.22	Approval of personnel changes of executive officer
10.26.22	Approval of an increase in the borrowing (credit) limit and borrowing
	Approval of LG mark license agreement
	Approval of establishment of a branch in Cambodia
11.24.22	Approval of self-transactions with affiliates
	Approval of goods and services transactions with affiliates
	Approval of personnel promotion of executive officer

Topics of

Interest to

Channels

Stakeholders

· CEO on-site visits (ongoing)

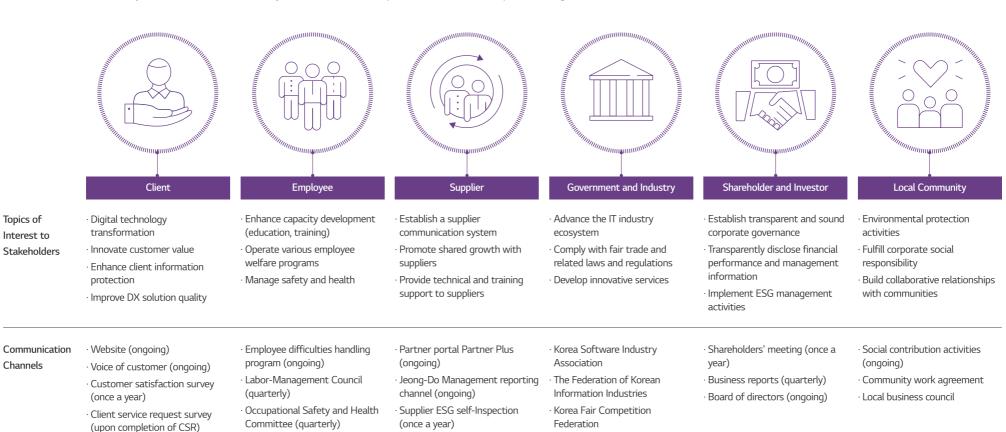
Environment Social

Governance

# Stakeholders Communication

#### **Operating Multiple Communication Channels**

LG CNS defines clients, employees, suppliers, industry, shareholders and investors, and local communities as key stakeholders, and has established communication channels for each of them. To assess the materiality of key ESG issues, we conduct surveys with our stakeholders and try to reflect the various opinions received in our corporate management.



Government and Industry Policy

Engagement

· Training and technical support

for suppliers (ongoing)

# Appendix

- Financial/Governance Performance
- Environmental Performance
- Social Performance
- GRI Standards Index
- 81 SASB Index
- 82 UN SDGs
- 83 Independent Assurance Statement

**LG CNS** 

# **Double Materiality Assessment**

# **Double Materiality Assessment**

#### Environmental and Social Materiality (Inside-out)

Materiality related to the positive/negative impacts that LG CNS' activities may have on the environment and society





Materiality related to the financial risks or opportunities that externally generated ESG-related issues, such as global and domestic regulations and trends, may have on LG CNS.

## **Double Materiality Assessment Process**



Step

Step

#### Configuring an Issue Pool

- · Compile an issue pool of six peer companies
- · Draft GRI-based material items
- · Compare previous year's sustainability material items and derive final items

# Conducting Double Materiality Assessment

#### **Environmental and Social Impact**

- · Analyze 673 internet articles
- · Analyze 6 domestic peer companies
- · Analyze GRI, UN SDGs, and ISO26000 global quidelines
- · Stakeholder surveys

#### Financial Impact

- Analyze internal strategies such as LG CNS ESG Focus Areas and LG CNS Vision
- · Analyze international standard indicators such as SASB, TCFD, KCGS, etc.
- · Analyze ESG-related laws and regulations by issue
- · Stakeholder surveys

# Selecting Material Issues

Identify the key 8 issues as material issues

# Double materiality assessment results

#### Selecting material items for the double materiality assessment

LG CNS conducts annual materiality assessments based on the GRI Standards' principles for selecting reporting topics for sustainable management and reports the results to management. Eight material items, which were derived by considering both environmental and social impacts and financial impacts, are transparently disclosed in the 2022-2023 Sustainability Report along with major activities and achievements...

Area	Key Issues	Environmental and Social	Financial	Reporting Page	GRI Index
Economy and Governance	Compliance with fair trade and applicable laws and regulations	•••	•••	p.67-68	206-1
	Leading internal IT innovation	••0	•••	p.10-12, p.14-34	N/A
Environment	Building a climate change response system	•••	•••	p.38-39, p.43-45	302, 305
Society	Customer information protection and data security	•••	•••	p.58-61	418-1
	Quality and service management for customer satisfaction	•••	••0	p.65	N/A
	Securing talents	•00	•••	p.53	401-1
	Enhancing competency development of employees	•00	••0	p.52-53	404-2
	Managing employee safety and health	•00	••0	p.47-49	403-6

# Financial/Governance Performance

#### Consolidated Income Statement

Unit	2020	2021	2022
KRW million	3,360,486	4,143,140	4,969,651
KRW million	2,845,553	3,526,176	4,237,641
KRW million	514,933	616,964	732,010
KRW million	268,812	288,379	346,616
KRW million	246,121	328,585	385,395
KRW million	9,899	9,760	18,190
KRW million	18,359	15,015	19,485
KRW million	-2,710	4,046	5,456
KRW million	51,020	24,739	49,446
KRW million	54,260	36,025	74,137
KRW million	231,711	316,090	364,864
KRW million	65,217	81,144	99,896
KRW million	166,494	234,946	264,968
	KRW million	KRW million         3,360,486           KRW million         2,845,553           KRW million         514,933           KRW million         268,812           KRW million         246,121           KRW million         9,899           KRW million         18,359           KRW million         51,020           KRW million         54,260           KRW million         231,711           KRW million         65,217	KRW million         3,360,486         4,143,140           KRW million         2,845,553         3,526,176           KRW million         514,933         616,964           KRW million         268,812         288,379           KRW million         246,121         328,585           KRW million         9,899         9,760           KRW million         18,359         15,015           KRW million         -2,710         4,046           KRW million         51,020         24,739           KRW million         54,260         36,025           KRW million         231,711         316,090           KRW million         65,217         81,144

Category	Unit	2020	2021	2022
Current liabilities	KRW million	1,033,043	1,382,441	2,005,335
Non-current liabilities	KRW million	563,050	480,254	229,012
Total liabilities	KRW million	1,596,092	1,862,695	2,234,346
Capital attributable to the owner of the parent company	KRW million	1,285,760	1,457,397	1,625,966
Capital	KRW million	47,198	47,198	47,198
Capital surplus	KRW million	36,693	36,693	35,041
Accumulated other comprehensive income	KRW million	-19,058	-8,892	-9,285
Retained earnings	KRW million	1,220,927	1,382,398	1,553,012
Non-controlling interests	KRW million	1,562	4,580	4,823
Total equity	KRW million	1,287,323	1,461,977	1,630,789
Total Debt and Equity	KRW million	2,883,415	3,324,672	3,865,135

### Consolidated Balance Sheet

Category	Unit	2020	2021	2022
Current assets	KRW million	1,973,939	2,330,449	2,847,939
Accounts receivables	KRW million	816,734	1,107,571	1,392,333
Inventory	KRW million	34,764	51,327	55,359
Other current assets	KRW million	1,122,440	1,171,552	1,400,247
Non-current assets	KRW million	909,476	994,223	1,017,196
Associate and joint venture investments	KRW million	74,051	76,489	91,569
Tangible assets	KRW million	583,892	568,884	564,926
Intangible assets	KRW million	75,801	119,246	104,486
Other non-current assets	KRW million	175,732	229,604	256,215
Total assets	KRW million	2,883,415	3,324,672	3,865,135

### Government Subsidies<sup>1)</sup>

Category	Unit	2022
Namdong Industrial Complex Smart Logistics Platform Construction & Operation Project (Korea Industrial Complex Corporation)	KRW million	120
Win-Win Job Creation Program (Korea Foundation for Cooperation of Large & Small Business, Rural Affairs)	KRW million	114

<sup>1)</sup> On a separate basis

#### Distribution of Financial Performance<sup>1)</sup>

Category	Unit	2020	2021	2022
Salary and bonus	KRW 100 million	5,843	6,554	7,321
Welfare	KRW 100 million	905	1,000	1,068
Severance	KRW 100 million	502	513	573
Education and training expenses	KRW 100 million	82	93	122
Outsourcing service expenses	KRW 100 million	6,751	10,179	12,049
Corporate tax payments	KRW 100 million	357	721	714
Other taxes and utility expenses	KRW 100 million	47	54	60
Donation	KRW 100 million	15	14	18
Association and conference participation expenses	KRW 100 million	14	8	9
Dividend	KRW 100 million	746	950	1,038

#### Code of Ethics

	Category	Unit	2020	2021	2022
Employees who received a notice (campaign)		Person	6,226	6,410	6,634
Notice and	Notice and		100	100	100
training			248	551	1,239
			3.98	8.60	18.68
Number of violations <sup>2)</sup>		Case	6	6	2
	Number of actions taken <sup>3)</sup>		12	14	3
10.1	Severe penalties		7	11	2
Violations and actions taken	Violations and Actions taken  Minor penalties		5	3	1
	Number of incidents where contracts with business partners were terminated or contract renewals were canceled due to violation	Case	0	0	0

#### **Unfair Behavior**

Category	Unit	2020	2021	2022
Number of lawsuits related to anti-competition and anti-trust violations	Case	0	0	0
Total monetary losses incurred as a result of legal proceedings to regulate anti-competitive behavior	KRW million	0	0	0

### **Technical Interruptions**

Category		2020	2021	2022
Grade 1 service failure <sup>4)</sup>	Case	5	8	14
Grade I service failure	Time	1,206	4,143	5,578

<sup>1)</sup> On a separate basis

<sup>2)</sup> The number of cases in which the report was confirmed to be true among the cases where an investigation was completed

<sup>3)</sup> The number of persons who received disciplinary action among the cases where an investigation was completed

<sup>4)</sup> Grade 1 service failure

<sup>-</sup> Critical service failures that result in business losses, downtime, and negative publicity for clients and the company

<sup>-</sup> Service interruption that results in lost revenue for clients and the company or system interruption that affects other systems

# **Environmental Performance**<sup>1)</sup>

#### Air Pollutant Emissions<sup>2)</sup>

Category	Unit	2020	2021	2022
Total GHG emissions	tCO₂eq	27,655	123,716	133,922
GHG emissions intensity <sup>3)</sup>	tCO <sub>2</sub> eq/ KRW 100 million	0.82	2.99	2.69
Direct GHG emissions (Scope1)	tCO <sub>2</sub> eq	3.50	490.03	572.09
Indirect GHG emissions (Scope2)	tCO <sub>2</sub> eq	27,652.07	123,228.67	133,352.16
Direct volatile organic compounds	Ton	0	0	0
Carbon credits purchased	tCO <sub>2</sub> eq	0	8,648	21,661
Cost of purchasing carbon credits	KRW	0	164,212,000	224,191,350
Carbon credits sold	tCO <sub>2</sub> eq	5,872	0	0
Revenue from selling carbon credits	KRW	81,914,400	0	0
	Total GHG emissions GHG emissions intensity <sup>3)</sup> Direct GHG emissions (Scope1) Indirect GHG emissions (Scope2) Direct volatile organic compounds Carbon credits purchased Cost of purchasing carbon credits Carbon credits sold		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

#### Energy

Category	Unit	2020	2021	2022
Total energy usage	TJ	612	2,629	2,839
Fuel usage	TJ	0.05	8.03	9.33
Steam usage		152.50	199.80	213.41
Electricity usage	TJ	460.07	2,423.84	2,618.80

#### Water

Category	Unit	2020	2021	2022
Water withdrawal (water)	Ton	198,307	221,137	237,703
In-house water reuse	Ton	1,693	2,258	1,353
Water reuse rate	%	0.85	1.02	0.57

#### Waste

Category	Unit	2020	2021	2022
Total waste generated	Ton	189	225	354
General waste (recycling)	Ton	53.06	44.14	134.67
General waste (other)	Ton	136.05	180.42	218.94
Waste recycling rate	%	28.06	19.65	38.09

- 1) Data scope: Headquarter + 4 data centers + Sangam DDMC (excluding leased worksites based on statements)
- 2) From the 3rd planning period of the emissions trading system (2021-), the business sites subject to reporting are expanded to the company-wide scope. In 2020, only Sangam IT Center figures were reported.
- 3) Sales for GHG emission intensity is consolidated basis.

# **Social Performance**

#### **Employee Status**

Category		Unit	2020	2021	2022	
		Total	Person		6,410	6,634
			Person	4,707	4,831	4,978
Number of employees		Female	Person	1,519	1,579	1,656
		Percentage of female employees	%	24.40	24.63	24.96
	Regular	Total	Person	6,121	6,237	6,452
		Male	Person	4,640	4,711	4,849
By contract		Female	Person	1,481	1,526	1,603
by contract		Total	Person	105	173	182
	Temporary <sup>1)</sup>	Male	Person	67	120	129
		Female	Person	38	53	53

### Overseas Employee Status

Category	Unit	2020	2021	2022
Total	Person	683	751	863
China	Person	326	322	353
America	Person	116	140	183
Europe	Person	46	56	44
India	Person	17	18	18
Indonesia	Person	16	39	79
Malaysia	Person	4	6	8
Japan	Person	8	7	8
Brazil	Person	52	50	47
Columbia	Person	45	49	49
Greece	Person	25	31	31
Vietnam	Person	28	33	43

<sup>1)</sup> Non-regular and contract workers

# **Social Performance**

# Respect for Diversity<sup>1)</sup>

	Category		Unit	2020	2021	2022
	Age 29 or	Total	Person	866	882	907
	younger	Ratio	%	14.15	14.14	14.06
Dy 200	Age 30 to	Total	Person	4,220	4,045	3,946
By age	under 50	Ratio	%	68.94	64.85	61.16
	Age 50 or older	Total	Person	1,035	1,310	1,599
		Ratio	%	16.91	21.00	24.78
Vulnerable	Workers with disabilities <sup>2)</sup>	Total	Person	114	118	113
group		Ratio	%	1.86	1.89	1.75
	Male employee average salary		KRW million	98.6	105.1	115.1
	Female employe	Female employee average salary		79.3	85.5	94.0
Employee salary	Male-to-female	salary ratio	%	80.4	81.3	81.7
salai y	Male employee a	average tenure	Year	12.2	12.4	12.5
	Female employe	e average tenure	Year	10.8	10.9	10.9

#### New Hires

	Category		Unit	2020	2021	2022
		Total	Person	305	620	676
Age 29 or younger  By age  Age 30 to under 50		Male	Person	217	452	470
		Female	Person	88	168	206
	4 20	Total	Person	193	279	330
	_	Male	Person	129	180	192
	younger	Female	Person	64	99	138
		Total	Person	101	321	320
By age		Male	Person	77	252	253
		Female	Person	24	69	67
	Age 50 or older	Total	Person	11	20	26
		Male	Person	11	20	25
	oldei	Female	Person	0	0	1
		Total	Person	254	496	570
	Regular	Male	Person	185	362	399
D		Female	Person	69	134	171
By contract		Total	Person	51	124	106
	Temporary	Male	Person	32	90	71
		Female	Person	19	34	35

### Voluntary Retirement<sup>3)</sup>

	Category		Unit	2020	2021	2022
Number of voluntary retirees		Total	Person	196	333	343
		Male	Person	133	240	240
		Female	Person	63	93	103
		Total	%	3.20	5.34	5.32
Voluntary	retirement rate	Male	%	2.87	5.09	4.95
		Female	%	4.25	6.09	6.43
		Total	Person	40	105	114
	Age 29 or younger	Ratio	%	4.62	11.90	12.57
		Male	Person	28	71	62
		Female	Person	12	34	52
		Total	Person	141	212	214
Pulago	Age 30 to	Ratio	%	3.34	5.24	5.42
By age	under 50	Male	Person	92	156	165
		Female	Person	49	56	49
		Total	Person	15	16	15
	Age 50 or	Ratio	%	1.45	1.22	0.94
	older	Male	Person	13	13	13
		Female	Person	2	3	2

#### Parental leave

Category		2020	2021	2022
Total	Person	130	105	131
Male	Person	57	48	36
Female	Person	73	57	95
Total	Person	129	99	127
Male	Person	56	43	35
Female	Person	73	56	92
Total	%	99.23	94.29	96.95
Male	%	98.25	89.58	97.22
Female	%	100.00	98.25	96.84
	Male Female Total Male Female Total Male Male	Male Person Female Person Total Person Male Person Female Person Total % Male %	Total         Person         130           Male         Person         57           Female         Person         73           Total         Person         129           Male         Person         56           Female         Person         73           Total         %         99.23           Male         %         98.25	Total         Person         130         105           Male         Person         57         48           Female         Person         73         57           Total         Person         129         99           Male         Person         56         43           Female         Person         73         56           Total         %         99.23         94.29           Male         %         98.25         89.58

- 1) Based on regular employees
- 2) Based on workplaces subject to reporting of employment levy for people with disabilities
- 3) Based on regular employees

# **Social Performance**

### Safety and Health

	Category	Unit	2020	2021	2022
	Number of lost work days case	Day	2	1	1
Lost-time injury rate	Total employee's working hour	Hour	10,677,705.70	10,712,048.80	11,363,644.80
	Lost-time injury frequency rate (LTIFR)	Case/ 1 million hour	0.19	0.09	0.09
	Number of incidents employee involved	Case	2	1	1
	Number of incidents supplier's employee involved	Case	0	0	0
Work-	Employee	Person	0	0	0
related fatality	Supplier employees	Person	0	0	0

### **Customer Personal Information**

	Category	Unit	2020	2021	2022
Complaints concerning customer data	Externally received and organization-verified complaints about personal information breaches and losses of customer data		0	0	0
loss	Complaints from regulators about personal information breaches and losses of customer data	Case	0	0	0
	Total amount of monetary losses as a result of legal proceedings associated with user privacy		0	0	0
Data privacy	Number of law enforcement requests for user information		0	0	0
and freedom of expression	Percentage resulting in disclosure	%	0	0	0
G. (p. 030.01)	Number of users whose information was requested	Person	0	0	0
	Number of users whose information is used for secondary purposes	Person	0	0	0
	Total number of data breaches	Case	0	0	0
Data security	Number of breaches involving personally identifiable information (PII)	Case	0	0	0
	Number of users affected by the data breaches	Person	0	0	0

### Employee Competency Development<sup>1)</sup>

Category		Unit	2020	2021	2022
	Total	Hour	313,948	287,579	279,160
Total training hours	Male	Hour	230,170	210,231	194,301
	Female	Hour	83,778	77,348	84,859
	Total	Hour	51.29	46.11	43.27
Average training hours per person	Male	Hour	49.61	44.63	40.07
	Female	Hour	56.57	50.69	52.94
	Total	Hour	31,484	27,139	7,919
Mandatory training hours	Male	Hour	23,991	20,808	5,922
	Female	Hour	7,493	6,331	1,997
Total training amount		KRW	7,520,902,608	7,776,588,365	9,976,034,700

### Suppliers

Category	Unit	2020	2021	2022	
Suppliers subject to ESG self-assessment	Company	97	99	94	
Suppliers that have completed the ESG self-assessment	Company	0	0	64	

<sup>\*</sup> No ESG self-assessment in 2020 and 2021

#### Social Contribution

Category	Unit	2020	2021	2022
Donations + Community investment + Commercial initiatives	KRW	1,548,833,441	1,505,000,000	1,933,500,000

<sup>1)</sup> Based on regular workers

# **Social Performance**

## Association Membership Status

No	Name of the association	No	
1	Consortium of Computer Emergency Response Team	21	Ор
2	Korea Data Industry Association	22	Ele
3	Korea Council of Chief Information Security Officers (CISO Korea)	23	Th
4	Korea CIO Forum	24	Inf
5	Korea Information Technology Service Industry Association (ITSA)	25	Ко
6	Construction Association	26	Th
7	Korea Fair Competition Federation	27	Ко
8	Finance IT Forum	28	Ко
9	Machinery Construction Association	29	Ко
10	Korean Society of Transportation	30	Ко
11	Korea Industrial Safety Association	31	Ко
12	Korea Specialty Contractors Association	32	Ко
13	MyData Korea Hub	33	Ко
14	Maekyung SEL CLUB	34	Ко
15	International Trade Association	35	Ко
16	Institute of Industrial Engineers	36	Ко
17	Seoul Chamber of Commerce and Industry	37	Ко
18	Seoul Regional Defense Industry Security Council	38	Ко
19	Smart City Association	39	Ко
20	Engineering & Consulting Association	40	Int

No	Name of the association
21	Open Blockchain & Decentralized Identifier Associaion
22	Electrical Contractors Association
23	The Federation of Korean Information Industries
24	Information Industry Cooperative
25	Korea Information & Communication Contractors Association
26	The Korea Institute of Intelligent Transport Systems
27	Korea PMO Association
28	Korea Software Testing Association
29	Korea Transportation Card Industry Association
30	Korea Digital Advertising Association
31	Korea Digital Cable Laboratories
32	Korea Defense Industry Association
33	Korea Industrial Technology Association
34	Korea Fire Facility Association
35	Korea Software Industry Association (KOSA)
36	Korean Artificial Intelligence Manufacturing Initiative
37	Korea Information Security Industry Association
38	Korea Association of Cloud Industry
39	Korean Fintech Industry Association
40	International Contractors Association of Korea

Topic	Disclosure		Page and Description
GRI 2 : General	Disclosu	re 2021	
	2-1	Organizational details	p.8-9
The	2-2	Entities included in the organization's sustainability reporting	p.8-9
organization and its reporting	2-3	Reporting period, frequency and contact point	p.2
practices	2-4	Restatements of information	p.2
	2-5	External assurance	p.83-84
	2-6	Activities, value chain and other business relationships	p.14-34
Activities and workers	2-7	Employees	p.8, p.75
	2-8	Workers who are not employees	p.75
	2-9	Governance structure and composition	p.69
	2-10	Nomination and selection of the highest governance body	p.69
	2-11	Chair of the highest governance body	p.69
	2-12	Role of the highest governance body in overseeing the management of impacts	p.69
Governance	2-13	Delegation of responsibility for managing impacts	p.43, p.47, p.58, p.67, p.68
	2-14	Role of the highest governance body in sustainability reporting	Materiality assessment results are being reported to management, but the management does not have an official role of approval.
	2-15	Conflicts of interest	Related to paragraph ③ from Articles of Incorporation (Article 35. Resolution Methods of the Board of Directors)

Statement LG CNS reports sustainable management's key activities and of use performance according to the GRI Standards for the period between January 1 and December 31, 2022.

GRI 1 used GRI 1: Foundation 2021

Applicable GRI Sector Standards N/A

Topic		Disclosure	Page and Description			
GRI 2 : General	GRI 2 : General Disclosure 2021					
	2-16	Communication of critical concerns	p.69			
	2-17	Collective knowledge of the highest governance body	Not conducting board training			
	2-18	Evaluation of the performance of the highest governance body	Related to Business Report p.251- Executive compensation rules			
Governance	2-19	Remuneration policies	Related to Business Report p.251- Executive compensation rules			
	2-20	Process to determine remuneration	Related to Business Report p.251- Executive compensation rules			
	2-21	Annual total compensation ratio	Related to Business Report p.250-251-2. Executive compensation, etc.			
	2-22	Statement on sustainable development strategy	p.6-7			
	2-23	Policy commitments	p.10-12, p.43, p.47, p.50, p.52, p.55, p.58, p.62, p.64, p.67, p.68			
Strategy,	2-24	Embedding policy commitments	p.43-65, p.67-68			
policies and practices	2-25	Processes to remediate negative impacts	p.43, p.47, p.49, p.56, p.59, p.62-63			
	2-26	Mechanisms for seeking advice and raising concerns	p.49, p.56, p.63			
	2-27	Compliance with laws and regulations	p.74, p.77			
	2-28	Membership associations	p.78			
Stakeholder	2-29	Approach to stakeholder engagement	p.70			
engagement	2-30	Collective bargaining agreements	Not applicable since the union does not exist			

# **GRI Standards Index**

Торіс		Disclosure	Page and Description	
GRI 3 : Material Topics 2021				
	3-1	Process to determine material topics	p.72	
Management approach	3-2	List of material topics	p.72	
	3-3	Management of material topics	p.72	
Economic	201-1	Direct economic value generated and distributed	p.73-74	
Performance	201-4	Financial assistance received from government	p.73	
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	p.51	
Anti-corruption	205-2	Communication and training about anti-corruption policies and procedures	p.68, p.74	
	205-3	Confirmed incidents of corruption and actions taken	p.74	
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	p.74	
E	302-1	Energy consumption within the organization	p.75	
Energy	302-4	Reduction of energy consumption	p.40, p.44	
Water and	303-3	Water withdrawal	p.75	
Effluents	303-5	Water consumption	p.45, p.75	
	305-1	Direct GHG emissions (Scope 1)	p.75	
Fariations	305-2	Energy indirect GHG emissions (Scope 2)	p.75	
Emissions	305-4	GHG emissions intensity	p.75	
	305-5	Reduction of GHG emissions	p.40, p.44	
	306-3	Waste generated	p.75	
Waste	306-4	Waste diverted from disposal	p.75	
	306-5	Waste directed to disposal	p.75	
Empleyment	401-1	New employee hires and employee turnover	p.76	
Employment	401-3	Parental leave	p.76	

Topic		Disclosure	Page and Description
GRI 3 : Material To	pics 202	21	
Labor/ Management Relations	402-1	Minimum notice periods regarding operational changes	p.56
	403-1	Occupational health and safety management system	p.47-48
	403-2	Hazard identification, risk assessment, and incident investigation	p.47-49
	403-3	Occupational health services	p.49
	403-4	Worker participation, consultation, and communication on occupational health and safety	p.49
Occupational Health and Safety	403-5	Worker training on occupational health and safety	p.49
,	403-6	Promotion of worker health	p.49
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	p.47-49
	403-8	Workers covered by an occupational health and safety management system	p.47
	403-9	Work-related injuries	p.77
Training and	404-1	Average hours of training per year per employee	p.77
Education	404-2	Programs for upgrading employee skills and transition assistance programs	p.52-54
Diversity and	405-1	Diversity of governance bodies and employees	p.76
Equal Opportunity	405-2	Ratio of basic salary and remuneration of women to men	p.76
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	N/A
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	N/A
Public Policy	415-1	Political contributions	Not applicable under related law
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	p.77

# **SASB Index**

Торіс	Code	Metric	Unit of Measure	Page
	TC-SI-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	-
Environmental Footprint of Hardware Infrastructure	TC-SI-130a.2	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic metres (m³), Percentage (%)	p.75
	TC-SI-130a.3	Discussion of the integration of environmental considerations into strategic planning for data center needs	N/A	p.43-44
	TC-SI-220a.1	Description of policies and practices relating to behavioral advertising and user privacy	N/A	p.58-61
	TC-SI-220a.2	Number of users whose information is used for secondary purposes	Number	p.77
Data Privacy & Freedom of Expression	TC-SI-220a.3	Total amount of monetary losses as a result of legal proceedings associated with user privacy	Reporting currency	p.77
	TC-SI-220a.4	(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure	Number, Percentage (%)	p.77
	TC-SI-220a.5	List of countries where core products or services are subject to government-required monitoring, blocking, content filtering, or censoring	N/A	-
	TC-SI-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected	Number, Percentage (%)	p.77
Data Security	TC-SI-230a.2	Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	N/A	p.58-61
	TC-SI-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	Percentage (%)	p.75
Recruiting & Managing a Global, Diverse & Skilled Workforce	TC-SI-330a.2	Employee engagement as a percentage	Percentage (%)	-
	TC-SI-330a.3	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	Percentage (%)	p.75
Intellectual Property Protection & Competitive Behavior	TC-SI-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Reporting currency	p.74
Managing Systemic Risks	TC-SI-550a.1	Number of (1) performance issues and (2) service disruptions; (3) total customer downtime	Number, Days	p.74
from Technology Disruptions	TC-SI-550a.2	Description of business continuity risks related to disruptions of operations	N/A	-

# **UN SDGs**

#### UN SDGs(Sustainable Development Goals)

The United Nations has proposed the UN Sustainable Development Goals (UN SDGs), consisting of 17 goals, to respond to the economic, environmental, and social issues facing humanity and to realize sustainable development together with the world. LG CNS is conducting social value creation activities to focus on achieving 10 goals in particular.



	UN SDGs	Activity	
3 GOOD HEALTH AND WELL-BEING	Good Health and Well-Being	Take care of your employees' mental health with a psychological counseling center and Mind Care Center     Provide health therapy and cover major medical expenses     Improve the screening items related to cardiovascular diseases	p.49, p.57
4 QUALITY EDUCATION	Quality Education	Operate IT education for youth through AI Genius and AI Genius Academy Education for students with disabilities and schools in rural areas	p.50-51
5 GENDER EQUALITY	Gender Equality	· Implement spousal maternity leave and reduce working hours during pregnancy and childcare · Female Leaders Forum	p.57
6 CLEAN WATER AND SANITATION	Clean Water and Sanitation	Save water by replacing old chillers     Monitor water usage, test water regularly, and implement water saving campaigns.	p.45
7 AFFORDABLE AND CLEAN ENERGY	Affordable and Clean Energy	Develop DCIM, PSM, and GHG management system     Replace with high-efficiency equipment in data centers     Improve data center PUE     Achieved energy savings by utilizing environmentally friendly IT systems	p.44-45
8 DECENT WORK AND DECONOMIC GROWTH	Decent Work and Economic Growth	· Supporting new hires at suppliers · Industry-academia programs	p.54, p.62
9 NOUSTRY, INNOVATION AND INFRASTRUCTURE	Industry, Innovation and Infrastructure	· Sustainable Support Solutions	p.14-34
11 SUSTAINABLE CITIES AND COMMUNITIES	Sustainable Cities and Communities	Optimize city operations with AI     Reduce air pollution and save carbon with intelligent transportation systems to solve traffic problems	p.31-32
13 CLIMATE ACTION	Climate Action	Manage and reduce carbon emissions at each business site     Revise environmental policy based on ISO 14001	p.43-44
PEACE, JUSTICE AND STRONG INSTITUTIONS	Peace, Justice and Strong Institutions	Have employees sign an anti-cartel compliance pledge     Implement compliance training based on job type of employees	p.67-68

# **Independent Assurance Statement**

#### Dear Stakeholders of LG CNS

Korean Foundation for Quality (further 'KFQ') has been requested by LG CNS to conduct an independent verification on the F2022-2023 Sustainability Report for LG CNS<sub>J</sub> (further 'the Report'). KFQ has responsibility to provide an independent verification opinion following the criteria and scope of verification as specified below. LG CNS has sole responsibility for the preparation of the report.

### **Verification Criteria and Scope**

- Verification Criteria: AA1000AS(v3) and AA1000AP (2018)
- Verification Type: Type 1 [Verification of four accountability principles]
- Verification Level: Moderate [Verification based on limited evidence collected]
- Verification boundary: The performance and reporting practices of subsidiaries, related companies, business partners and third parties beyond the reporting scope are not included.
- Verification Scope: Compliance with the four reporting principles of AA1000AP (Inclusivity, Materiality, Responsiveness, Impact) and compliance with the reporting requirements of GRI Standards 2021.
- GRI Standards (2021) Reporting Principles
- · Universal Standards: Reporting in accordance with GRI Standards (2021), complying with the following requirements.

Compliance	Requirement	Compliance
0	6. Provide reasons for omission	0
0	7. Report a GRI content index	0
0	8. Apply GRI standards	0
0	9. Notify GRI	0
0	-	-
	0 0	6. Provide reasons for omission     7. Report a GRI content index     8. Apply GRI standards     9. Notify GRI

Topic Standards

Requirement	GRI Standard	ls/Topic Disclosure
Reporting material issues according to the GRI Topic Standards	GRI 206 : Anti-competitive Behavior GRI 302 : Energy GRI 305 : Emissions GRI 401 : Employment	GRI 403 : Occupational Health and Safety     GRI 404 : Training and Education     GRI 418 : Customer Privacy

### Methodology

In order to assess the reliability of the sustainability performance in the report based on above mentioned criteria, the assessment team reviewed sustainability-related processes, systems, internal control procedures, and available performance data. The documentation the assessment team reviewed during the verification includes:

- · Non-financial information: Data provided by LG CNS, business reports, and information obtained from media and/or the Internet, etc.
- Financial information: Data disclosed in the electronic disclosure system (dart.fss.or.kr) of the Financial Supervisory Service and data posted on the website were used, but these contents are not included in the scope of verification.

The assessment was performed by document verification and interviewing the people in charge. The validity of the materiality assessment procedure in the report, the material issue selection considering stakeholders, the data collection, management, and report preparation procedure, as well as the validity of the description, were assessed through interviewes with the people in charge. But external stakeholder interviews were not conducted. Afterwards, it was confirmed that some errors, inappropriate information, and misstatement found in the process were appropriately corrected before publishing the report.

### Competency and Independence

The assessment team was grouped in accordance with KFQ's internal regulations. KFQ has no conflict of interest to the LG CNS business which could threaten the impartiality of verification, other than providing third-party verification services.

# **Independent Assurance Statement**

#### Limitations

The completeness and responsiveness of sustainability performance represented in the report have limitations due to its nature and the methodology used to determine, calculate and estimate its performance. In accordance with the terms of the contract, we assessed the information and evidence provided by the LG CNS. We did not perform any further assessment on raw data.

#### Findings and Conclusions

As a result of the verification, we confirmed that the report was prepared in accordance with GRI standards 2021 and the assessment team found reasonable objectives to guarantee the four reporting principles of AA1000AP and the AA1000AS(V3) Type 1 assurance level. We also found no significant errors or inadequacies in the report regarding with reporting principles.

#### Inclusivity

LG CNS defines the six stakeholder groups (Client, Employee, Supplier, Government and Industry, Shareholders and Investors, Local community) and listens to their opinions through the communication channels considering the characteristics of each group for effective communication. The assessment team could not find any major stakeholders that were omitted during this process, and it was confirmed that LG CNS is making efforts to reflect the collected opinions of stakeholders in its management strategy.

#### Materiality

LG CNS formed a pool of fourteen issues through surveys of material issues from peer companies and analysis of own material issues from the previous year. It conducted a double materiality assessment through media analysis, peer companies analysis, and stakeholder surveys, and selected eight material issues. In the process, it reviewed the positive and negative impacts that the company can have on society and the environment, thereby enhancing the necessity of selecting material issues.

The assessment team confirmed that the identified material issues were highlighted in the report, and that the material issues identified in the materiality assessment process were reported in the report without omission.

#### Responsiveness

LG CNS responds in a timely manner to the needs and major concerns gathered from stakeholders. The assessment team found no evidence that the organization's response activities and performance on material issues were inappropriately reported.

#### Impact

LG CNS identified and monitored the impact of material issues related to stakeholders throughout its management activities, and reported the contents to the extent as it could. The assessment team could not find any evidence that the impact related to material issues was inappropriately measured and reported.

#### Recommendation for Improvement

- In the following report, we hope that ESG management performance will be managed effectively and transparently by specifying the definition of data and monitoring measures necessary for disclosure of ESG management performance and settling the operation of the data management system.
- We also hope that LG CNS' ESG management performance will be widely communicated to stakeholders by expanding the scope of reporting through efforts to create, collect and manage ESG-related data from a wider perspective.

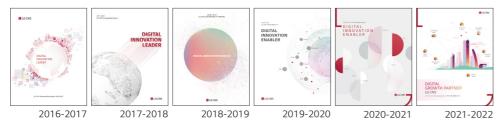




July, 2023 Seoul. Korea Ji Young Song, CEO Korean Foundation for Quality (KFQ)



### LG CNS Sustainability Report Publications





2022-2023



LG CNS Sustainability Report can be downloaded from the company's website (https://www.lgcns.com/en/).

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