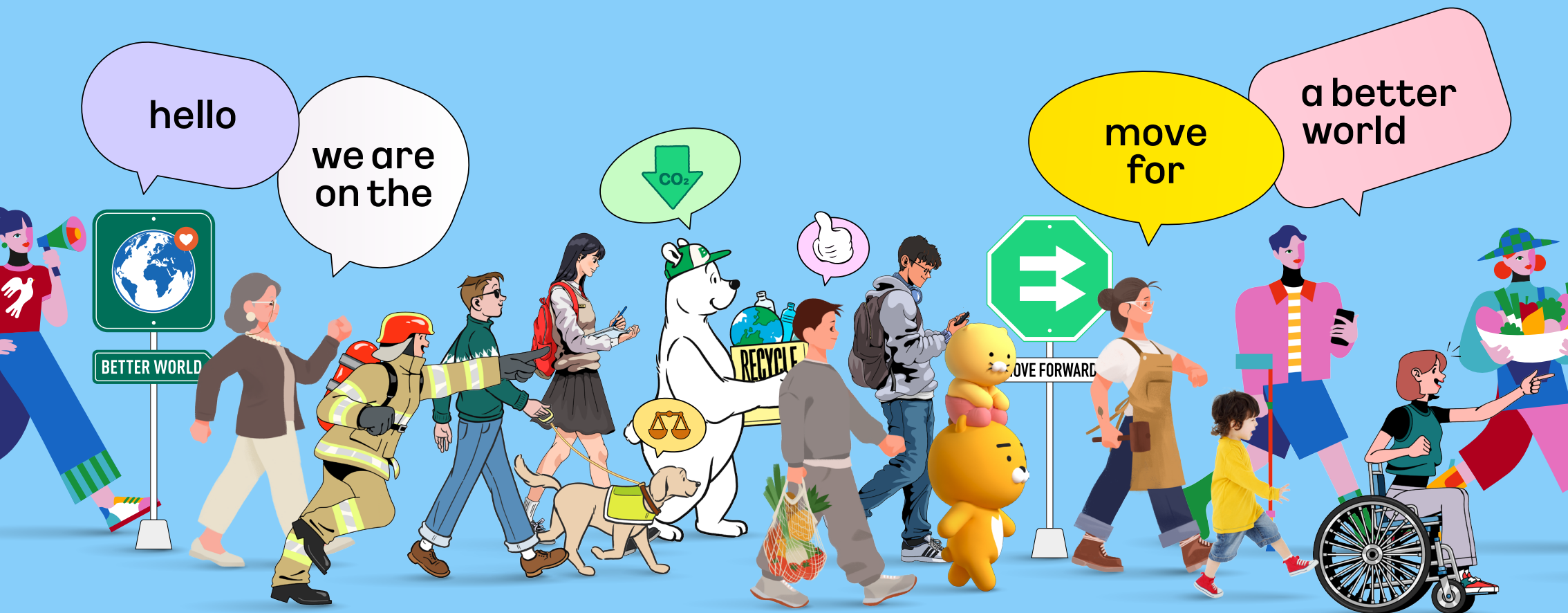


2022

KAKAO'S COMMITMENT AND RESPONSIBILITY



About this report

Report Overview

Kakao publishes annual ESG reports to illustrate our commitments and responsibilities to make a better world. Transparently disclosing our performance in the Environmental, Social, and Governance areas, we reach out ever closer to our stakeholders.

Reporting Standards

This report was prepared in accordance with the international sustainability reporting framework of the GRI (Global Reporting Initiative) Standards 2021 and the Internet Media & Services Industry Standard of the SASB (Sustainability Accounting Standards Board) of the US. The financial performance contained herein was presented in conformity with the K-IFRS unless otherwise stated. This report also outlines our progress in abiding by the UN Global Compact 10 principles in the areas of human rights, labor, the environment, and anti-corruption as a member of the UNGC as well as in attaining the UN SDGs (Sustainable Development Goals).

Reporting Period

This report spans the period between January 1, 2022 and December 31 2022. Information prior to 2022 or in the first half of 2023 is partially included and noted as such within the report. For quantitative performance, data over the recent three years (2020-2022) is provided to enable year-over-year trend analyses.

Reporting Scope

Financial performance is reported on a consolidated basis, and non-financial performance mainly focuses on our domestic operations. A portion of the environmental and social performance data covers the performance of our major affiliated companies.

Assurance

To establish the credibility of the reporting process and the information disclosed, this report was assured by LRQA as an independent assurance provider. The assurance engagement was conducted in conformity with AA1000AS v3 Moderate Level, Type 2.

Inquiries on This Report

If you have any inquiries about this report, please contact us at:

ESG Business Team, ESG Business Division, Kakao

E-mail: esg@kakaocorp.com

Website: www.kakaocorp.com/esg



Kakao ESG Webpage

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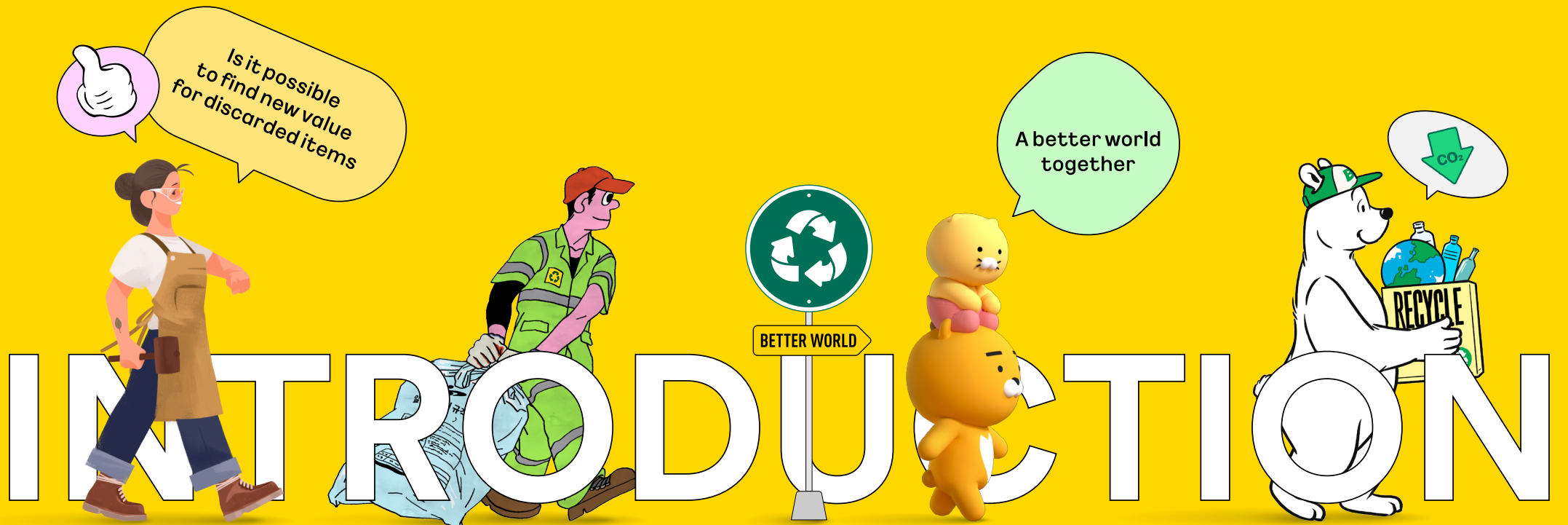
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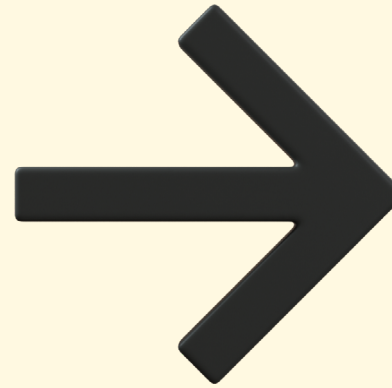
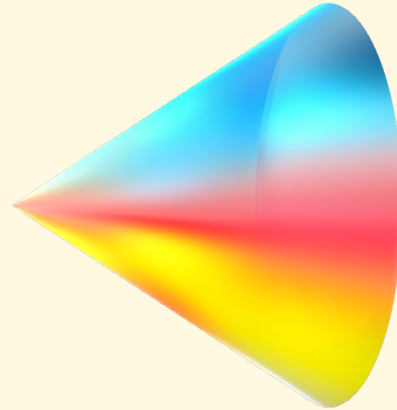
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Our Mission and the Kakao's Style



Our Mission

One Kakao

**Making a better world
with people and technology**

Kakao

**Kakao brings people and technology
together like never before,
Creating a world of convenient
and safe communication.**

Kakao's Style

Willing to Venture

Back to Basics

Trust to Trust

Act for Yourself

Tech for Good

A Message from the ESG Committee Chair



**Dear Valued Stakeholders,
My name is Sejung Choi, and I am truly honored
to serve as the Chair of the Kakao ESG Committee.**

Firstly, allow me to thank and acknowledge our shareholders, investors, customers, and end users for their steadfast interest in and support for Kakao's journey to make a better world with people and technology. Also, let me not forget to thank our partners and Krew members who accompany us on this path each and every step of the way.

At Kakao, we define ESG as 'Kakao's commitment and responsibility to a better world', and we pursue progress in four focus areas (resolution of social issues, shared growth, digital society, and environmental sustainability) and their corresponding areas of action. To establish transparent and sound governance, we strive

to elevate shareholder value, bolster the independence, expertise, and diversity of the Board of Directors, establish an integrated risk management system, and advance ethical business conduct.

The ESG Committee formed under the BOD last year helped the Board assume stronger roles and responsibilities. In 2022, we appointed Euntaek Hong, our current CEO, as the ESG Head, to ensure that our ESG management system and its influence become firmly rooted into the day-to-day operations of Kakao and its major affiliates. We launched the ESG Working Group under the ESG Head to share our ESG strategic directions and perform periodic progress reviews.

In April 2022, we announced our Active Green Initiative which encompasses our net zero goal and have since been actively engaging in climate change adaptation efforts. Notably, our Jeju Office sourced all its power from eco-friendly photovoltaic energy in 2022, and by 2040, we are committed to fully transitioning to eco-friendly energy for all our power consumption.

Furthermore, Kakao announced our plans to closely collaborate with partners to promote their digitally-enabled, sustainable growth. Over the next five years, win-win partnership funds valued at KRW 300 billion will go to support small business owners, local partners, content creators, mobility platform workers, and mobility & digitally underprivileged groups. Any and all accomplishments affiliated with such win-win partnership projects, along with the details of how such funds are allocated, are regularly reported to the ESG Committee, and are also made publicly available in our ESG reports.

Kakao continues with efforts to advance our corporate governance. In February 2022, we made the decision to initiate our mid/long-term shareholder return policy to improve shareholder value. Over the next three years, we will allocate 15%~30% of our non-consolidated free cash flow to pay out cash dividends and

repurchase and retire our treasury shares. In fact in 2021 and 2022, we paid out KRW 323 billion in cash dividends and retired KRW 148.2 billion in treasury shares (treasury shares and special treasury shares combined).

Last year, we stipulated risk management regulations and appointed the company-wide Risk Management Officer to advance risk management. Building on this achievement, we created the ERM Committee in 2023 to implement integrated risk management at every level of the Community and we hold regular meetings to bolster our response to any possible potential risk.

In March 2023, we appointed an independent director as the Chair of our BOD to strengthen its independence and brought in a legal expert as a new independent director to elevate the Board's risk management expertise. From the perspective of gender equity, our Board became more diverse as two of the three incoming inside/independent directors are women. Going forward, we will continue to manage a pool of independent director candidates so that we can continue to reinforce the independence, expertise, and diversity of our Board.

Each and every one of us at Kakao is genuinely aligned towards the goal of creating a more sustainable society through the wide range of services we offer the general public. We believe that delivering on our commitment to make life just a little safer and easier for people will ultimately earn us the trust from all stakeholders.

We look forward to your continued interest in and encouragement for our relentless journey towards a better world.

Sincerely,

Sejung Choi

Chair, Kakao ESG Committee

A message from the CEO



Dear Stakeholders,
My name is Euntaek Hong and I am the CEO of Kakao.

We proudly present the third edition of Kakao's Commitment and Responsibility.

In 2022, Kakao experienced sluggish business growth, enduring a gamut of external challenges amid the shifting macroeconomic landscape in Korea and abroad and the shift of COVID-19 from the pandemic to the endemic stage. When the fire broke out in October 2022 and affected our data center operations, our users and stakeholders were naturally concerned. For us, it was a crisis like no other we had ever experienced.

While our Kakao Krew members stood in solidarity to move past this crisis, the unexpected and unfortunate nature of the event

served as a grave reminder of our commitment and responsibility. We take seriously yet again the responsibility we shoulder for our society and the role we play as a company enabling connectivity in the lives of so many. Our promise to be a company people can truly depend on is a promise we intend to keep.

In spite of such challenges and uncertainties, Kakao achieved a 16% year-on-year growth to reach KRW 7.1608 trillion in sales and KRW 580.3 billion in operating profit in 2022. In our platform business, Talk Biz continued its steady revenue growth and Gift and other commerce transactions continued to expand. In our content business, story, music, media, and game all demonstrated steady growth and produced solid performance. Our overseas sales surpassed the KRW 1 trillion mark for the first time in our history, raising its proportion out of annual sales to nearly 20%. Our plan is to further increase our overseas sales to 30% of total by 2025.

Besides our business performance, Kakao also fully committed to ESG management last year. In the Environmental area, we announced our Active Green Initiative last April, set our goal of achieving net zero GHG emissions by 2040, and worked to reduce GHG emissions throughout our entire business operations by opting for renewable energy, transitioning to EVs, and laying the basis for climate change adaptation across our supply chains. In the Social area, we became the first Korean IT company to appoint the Digital Accessibility Officer (DAO) and are focused on improving digital accessibility to Kakao services for people with visual impairments. Our projects that pursue mutual benefits with partners — Kudos for Credos, Jegaburch — also help drive the value of sustainable growth for both society and businesses. In the Governance area, we created the Tech for Good Committee last July as the first Korean company to do so to revisit our AI ethics regulations and bolster algorithm transparency, fulfilling our social responsibility in the technology domain in so doing. The sum of our wide-ranging efforts incorporated us in the DJSI World Index for two consecutive years and earned us a rating of AA in the MSCI

ESG Ratings, gaining public recognition for our ESG management performance.

As uncertainties persist in the global macroeconomic landscape in 2023, we will explore ways to move beyond, pursue sustained growth, and take a fresh look at our overall business operations to achieve qualitative growth in the year ahead.

To this end, we will bolster KakaoTalk and other key services that enable connectivity for the benefit of the general public while increasing our infrastructure investment to render our service environment safer and more reliable. In search of new opportunities for mid/long-term growth, we will double down on AI and healthcare and accelerate our efforts to expand the territory of K-content and tap into the wider global market.

We believe that at the core of ESG management is our commitment to articulate and realize the value that we provide to society. That is why our priority for 2023 will be to further elaborate on our mission of making a better world with technology and people so that we come up with a clearer mission of Kakao as a company and our raison d'être as a member of society. We will continue to push the limit to enable ever-closer and more reliable communication among people and between people and technology.

Thank you.

Euntaek Hong
 CEO, Kakao

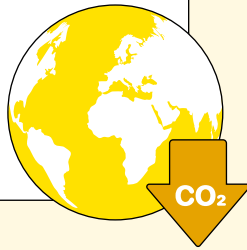
2022-2023 Highlights

Announced our Net Zero goal

Active Green Initiative

Along with our Net Zero goal to reduce our GHG emissions to zero by 2040, we announced the Active Green Initiative as our climate change adaptation principle to help drive sustainability through the services that we deliver.

Our environmental performance is made publicly available through the Kakao Carbon Index.



Launched the Roundtable on Human Rights and Business



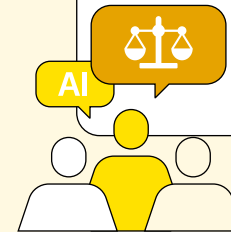
Bolstering human rights management

We launched the Roundtable on Human Rights and Business to establish a human rights-driven management system and implement this system in our day-to-day operations. Monthly meetings are held to identify human rights issues early on and discuss specific action plans for risk mitigation.

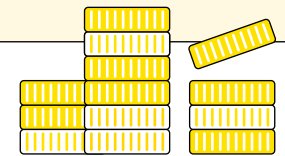
Created the 'Tech for Good Committee'

The First Tech Ethics-oriented Committee Created in the Korean Private Sector

We established the 'Tech for Good Committee' to review overall business operation of the Kakao Community with a technology ethics perspective and to advance along with relevant societal trends. The Committee pursues systemic policy improvements by ensuring our Community comply with AI ethics regulations, reviewing potential risks, bolstering algorithm transparency, etc.



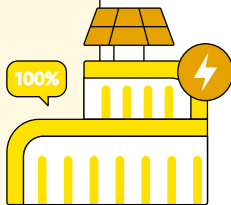
KRW 20 billion



Fully transitioned to renewable energy at our Jeju Office

Increasing the use of renewable energy

For the year 2022, our Jeju Office sourced all its operational power from eco-friendly photovoltaic energy directly generated by citizens. We will gradually expand the sourcing of renewable energy and fully transition to eco-friendly energy for all our operational power consumption by 2040.



Appointed the DAO and improving digital accessibility

Barrier Free Initiative

Kakao became the first Korean IT company to appoint the DAO (Digital Accessibility Officer) to systematically advance our Barrier Free Initiative that aims to create a barrier-free environment for all wishing to use Kakao services with our Community.



Reached KRW 20 billion in cumulative transactions of Jegaburch

Operating Jegaburch as our impact commerce brand

Jegaburch was launched to convert oversupplied agricultural/livestock/fisheries products and processed food products into products consumers are willing to pay full price on our Kakao Makers platform. As of April 2023, this brand was chosen by one million consumers to reach 3,930 tons in cumulative sales and surpass KRW 20 billion in cumulative transaction value.

Dangol Market

Supporting digital marketing for Kudos for Credos¹⁾

Our Dangol Market project was launched to help traditional market merchants use digital technology in reaching out to regular customers, providing digital transformation training and publicity support at 11 traditional markets.



¹⁾ Merchants nationwide who conduct business with their own enterprising initiative

Set ESG performance metrics for the CEO

Bolstering ESG-driven decision-making

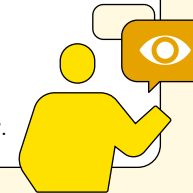
Kakao allocated 15% of our CEO compensation determination factors to metrics associated with bolstering ESG management implementation to ensure ESG responsibility is considered in our business decision-making.



Appointed an independent director as the Board Chair

Strengthening the independence of the Board

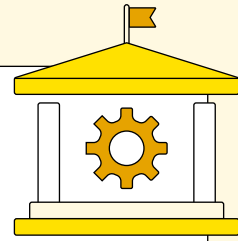
In March 2023, we appointed Seok Yun, an independent director, as the Chair of the Board of Directors to boost the independence and transparency of the Board. We ensure independent directors account for the majority of total Board members, and Board committees are chaired by independent directors to enhance independence and management transparency.



Created the ERM Committee

Building an integrated risk management system

We established the ERM (Enterprise Risk Management) Committee as our risk management committee. The Committee oversees our risk management governance, a transition from our previous governance form in which the Risk Management Officer held the responsibility. The Committee consists of decision-makers from key functions and holds monthly meetings to ensure systemic and effective risk management across our overall operations and to embed risk management into our day-to-day operations.



Created win-win partnership funds worth KRW 300 billion

Announcing our sustainable growth plans to move together with society

Kakao announced our Kakao Community win-win partnership plan to support the digitally-enabled, sustainable growth of our partners. Over the next five years, win-win partnership funds valued at KRW 300 billion will go to help small business owners, local partners, content creators, mobility platform workers, and mobility/digitally underprivileged groups.



Bolstered ethical management and compliance

Strengthening our ethical management and compliance system

To share our ethical philosophy across the Community, we developed ethics training content with some of our Community members²⁾ and provided enterprise-wide training for Krew. The Roundtable on legal affairs was also run bi-weekly to establish a closely-aligned collaboration system for legal affairs teams.



²⁾ Kakao Entertainment, Kakao Pay, Kakao Games, Kakao Enterprise

Ranked in the Top 1% in S&P Global's Sustainability Yearbook 2023

Ranking in the Top 1% as the first Korean company to do so

Kakao became Korea's sole company to rank in the Top 1% in the Services & Home Entertainment industry of the S&P Global Sustainability Yearbook 2023. We were incorporated in the DJSI World Index for two consecutive years while receiving AA in the MSCI ESG Rankings and overall A by the Korea Institute of Corporate Governance and Sustainability in recognition of our ESG management performance.



About Kakao

Company Overview

As of Dec. 31, 2022

Name of company

kakao

Kakao Corp.

Date of establishment

Feb. 16, 1995
(Merger with Kakao Corporation: Oct. 1, 2014)

CEO

Euntaek Hong

Headquarters

242 (Yeongpyeong-dong),
Cheomdan-ro, Jeju-si, Jeju-do,
Republic of Korea

Headcount

16,479 persons

Financial Performance

As of Dec. 31, 2022

Sales

KRW 7.1068 trillion

Operating profit

KRW 580.3 billion

Credit ratings

Korea Ratings: AA
(Rating outlook: Positive)

Kakao Community¹⁾ Overview

As of Dec. 31, 2022

kakao

ENTERTAINMENT

kakaopay

kakaogames

kakaomobility

kakaobank

kakaopiccoma

kakaoinvestment

kakaoenterprise

kakaobrain

kakaohealthcare

GROUND X

kakaoventures

kakaostyle

kakaospace

KnWorks

dktechin

Linkage Lab

Global Network

As of Dec. 31, 2022

Kakao operates a global network consisting of 42 affiliated companies in 14 regions, including Agit in Pangyo and Jeju Office in Korea, across the world.



1) The Kakao Community refers to Kakao Group's affiliated companies. For more information on each member of the Community, please see pages 93-94 of this report.

Business Portfolio

Kakao's service offerings span a broad array of sectors from platform and content business to high-technology, with KakaoTalk, the nation's unrivaled messenger service, playing a pivotal role. In conducting business, Kakao enables connectivity in our everyday life in the mobile environment to deliver the value of communication and innovation.

Platform Business

As of Dec. 31, 2022

Talk Biz

We provide a wide spectrum of mobile services with KakaoTalk, Korea's No. 1 messaging service, playing a central role. We generate synergy with diverse businesses within the mobile ecosystem centered around KakaoTalk.



KakaoTalk

A life platform offering diverse services beyond messenger functionality to help build new relationships and make everyday life more convenient. Support chats, voice talk, face talk, open chats, emoticons, e-mail, calendar, network drive, content, sharp (#) search, TV, wallet, and many more

MAU (Monthly Active User): 47.78 million in Korea, 53.48 million globally



KakaoTalk Gift

Mobile messenger-based commerce platform business that enables users to give and receive gifts just as easily as sending messages to KakaoTalk Friends, offering specialized experience of 'gift giving' in consideration of its meaning and purpose because of high accessibility and user convenience

MAU (Monthly Active User): 34.98 million



Talk Channel

Message-based advertising business that offers content — information, brand news, promotions, and notices — through KakaoTalk messages

Kakao Bizboard Kakao Bizboard

Tailor-made, performance-based display advertising that promotes users to purchase and/or book products or services through varying Talk Biz solutions — ad views, chats, and #tap searches — and premium landing pages, starting from the discoveries made within Talk on the basis of KakaoTalk's chatting tabs and other traffic generated by the major services of the Kakao Community



KakaoTalk Store

Differentiated shopping brokerage platform business that enables any seller to open a store and do business within the KakaoTalk app, while aligning with other KakaoTalk business solutions to encourage customers to voluntarily share feedback and make purchases

Annual transaction value: KRW 997.3 billion
Annual number of shoppers: 5.22 million



Kakao Makers

Impact commerce that pursues the betterment of our society and environment through group buying

Portal Biz

We offer a range of internet-enabled services with our portal website Daum. Pairing our advanced search technology with the extensive content available within the Kakao ecosystem, we provide users with satisfying experience.



Korea's leading internet portal that serves as a platform to deliver search, e-mail, community, and other internet-enabled services

MAU (Monthly Active User): 20 million on mobile, 24 million on PC



Brunch

Content publishing platform operated under the vision 'A space where writing becomes a piece of work' to provide pre-reviewed, high-quality content created by authors

Cumulative number of registered authors: Nearly 57,000 persons



Kakao Story

Service designed to share precious life moments with KakaoTalk Friends through an extensive pool of photos, videos and texts

Mobility

We provide mobility service through each of life's moments and stages all while meeting the transport needs of our users, delivering optimized mobility for people, products, and services and rendering a more seamless and convenient user experience.



Kakao T

MaaS (Mobility-as-a-Service) platform that delivers taxis, parking, navigation, designated drivers, e-bikes, trains, buses and other varied mobility services

Cumulative number of subscribers: Over 30 million



Kakao Navi

One-stop platform for car owners that provides 'Service for Car Owner' services including visits for maintenance, car washing, used car trading as well as 24/7 traffic flow analysis powered by extensive mobility data and rapid and accurate navigation services updated every minute

Business Portfolio

Investment & Consulting

We invest in startups that pioneer innovation to secure industry-leading technology and new growth drivers.

kakaoventures Kakao Ventures

Invest in startups that enable innovation through technology to support their founders in bringing us one step closer to the world we imagine

Investment area: AI, robotics and other advanced technology, ICT service, digital healthcare

Companies invested in 2022: 44 companies
Investments made in 2022: KRW 51.7 billion

kakaoinvestment Kakao Investment

Create a self-reinforcing venture ecosystem by supporting startups that have the potential to bring innovation to life and offering them M&A, IPO and other exit opportunities

Investment area: AI, metaverse, blockchain, healthcare, and other new tech areas to drive a new S-Curve in innovation

Companies invested in 2022: 14 companies (5 in Korea, 9 overseas)
Investments made in 2022: KRW 25.4 billion (KRW 9.3 billion in Korea, KRW 16.1 billion overseas)

Techfin & Finance

Kakao Pay is extending its scope of business to money transfer, payment, investment and insurance on the KakaoTalk platform. KakaoBank offers novel banking services by leveraging user-centric innovation technology.

Kakao Pay

Everyday financial service platform for all that meets all user needs. Launched Korea's first mobile easy payment service to remove inconvenience experienced with existing financial activities across money transfer, billing, membership, investment, loans, and insurance

Cumulative number of subscribers: 39 million
MAU (Monthly Active User): 23 million
Annual transaction value: KRW 118 trillion

KakaoBank

Mobile-first bank that has become the No. 1 customer-centric bank that offers variety of essential financial products for over 20 million customers by connecting finance with our daily life through improved usability and information technology

MAU (Monthly Active User): 20.42 million
MAU (Monthly Active User): 16.44 million
Deposits & loans: KRW 33.1 trillion in deposits, KRW 27.9 trillion in loans

Content Business

As of Dec. 31, 2022

IP Business

We deliver cross-genre content that blends music, drama, cinema and performances with musicians and actors/actresses through our global platform network that takes user enjoyment and experience to a whole new level.

Kakao Entertainment

<Music Content>

Secure an unrivaled market share in the domestic music distribution market and expand the global distribution network through music planning with artists, production investment and distribution

<Video Content>

Accelerate the original video content business by planning and producing premium content IP for the global market with top-notch creators and talent

<Management>

Advance the management business for artists and celebrities who are at the core of content IP and boost synergy with production business

Number of productions in 2022: Over 20 dramas, films, entertainment shows, etc.

Number of distributed tracks through the music library: Over 70,000 songs

Number of artists: Over 50 teams of musicians and about 240 actors

Melon

Korea's leading music platform that has established market leadership through differentiated services that combine music and information technology since launching in 2004

Paid subscribers: Over 5 million

Total subscribers: Over 33 million

Kakao Page Kakao Webtoon Tapas

<KakaoPage>

Korea's leading story entertainment platform that provides a wide range of content services, including webtoons, web novels, and books

<Kakao Webtoon>

IP content services provided through the expanded Global One-Build platform, carrying on the legacy of 'Daum Webtoon' which first introduced webtoons to the world

<Tapas>

North America's first webtoon platform and a promotion channel for K-webtoons in the North American Market, operated by Tapas Entertainment which is the North American subsidiary of Kakao Entertainment

KakaoPage & Kakao Webtoon & Tapas
Cumulative number of original IPs:
Approximately 10,000

Number of IPs supplied overseas:
Approximately 3,700

Business Portfolio



Manga subscription platform operated by Kakao Piccoma, Kakao's Japanese subsidiary

MAU (Monthly Active User): 10 million

KAKAO FRIENDS Kakao Friends

Offer differentiated brand experience to consumers with a variety of lifestyle products that have added a spark of joyful creativity since its inception as a provider of emoticons for the mobile messenger KakaoTalk

Gaming

We provide game services for users to enjoy with friends to enrich their experience and increase their interest and participation in such gaming activities. In launching a number of highly successful and popular games, we set the trend in the gaming market.

kakaogames Kakao Games

Deliver games and content within a wide array of genres from casual to hard-core in Korea and key overseas locations across mobile and PC platforms

Mobile game: 'Odin: Valhalla Rising', 'ArcheAge War', 'Eversoul', 'Guardian Tales', etc.

PC game: Delivering a range of game services spanning over 20 titles including 'ArcheAge', 'Kakao Battleground' etc.

Tech

B2B·AI

We leverage AI technology in our home and office life to build a more convenient and flourishing world. We combine our accumulated AI, big data, cloud and search technology with service operation knowledge to drive the evolution of innovative business services.

kakaoenterprise Kakao Enterprise

<Kakao i Cloud>
High-performance cloud platform delivering reliable connectivity among diverse technologies, platforms, and services as well as flexibility and convenience

<Kakao i>
Integrated AI Platform that encompasses diverse AI technologies for computer vision, natural language processing, voice recognition, and prediction & optimization made available for different industry/domain services

<Kakao i Connect>
AI-based customer service platform that combines KakaoTalk channels, chatbots, and voicebots with customer centers across varying industry sectors

<Kakao Work>
Business collaboration platform equipped with AI/search technology and highly essential business functions and optimized for today's hybrid working environment

kakaobrain Kakao Brain

Develops platforms and AI technology ranging from cloud and voice to meta-learning, natural language processing, and video processing to create a self-reinforcing AI ecosystem and build next-generation growth drivers

Developing 'Karlo' based on text-to-image technology
Launching 'B^Discover' as a text-to-image service app

klip Klip

Mobile wallet service to help with easy and convenient digital asset experience spanning blockchain-based tokens and NFTs

Cumulative subscribers: Surpassed 2 million

Other Business

As of Dec. 31, 2022

kakaostyle Kakao Style

Operates 'ZigZag', 'Fashion by Kakao', and 'Posty' as style shopping platforms

Annual transaction value: Over KRW 1.3 trillion

kakaospace Kakao Space

Delivers innovative space solutions that meet the needs of society in diverse formats spanning physical spaces and universal principles by way of environments defined as 'space' and 'tools'

14 ESG Framework
21 Kakao's Promise to Deliver Reliable Services



ESG Framework

Kakao's Commitment and Responsibility

Kakao's commitment and responsibility to make a better world with digital technology for good and positive social impact.

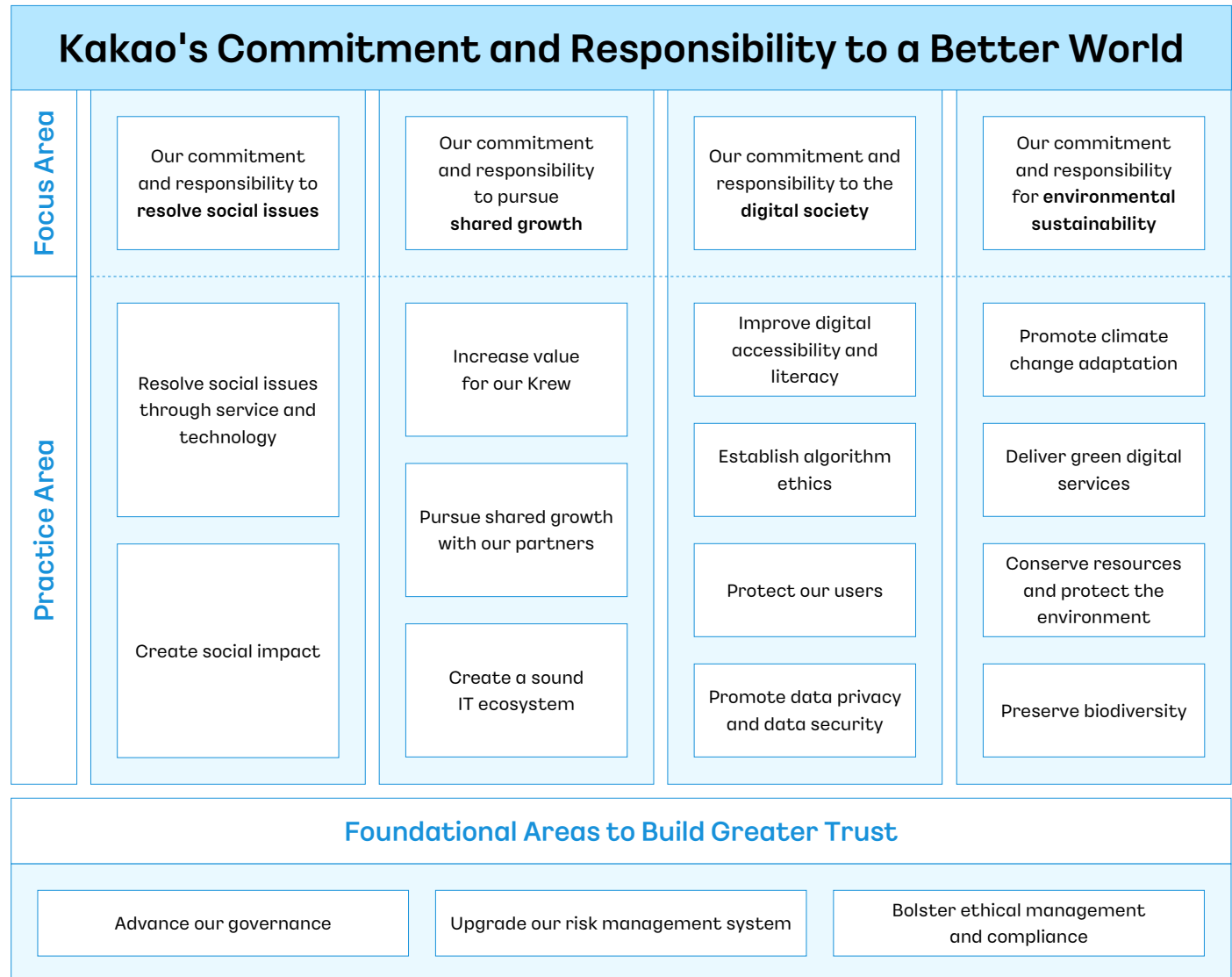
Kakao believes that when a company's operations are based on good faith, it has the potential to bring positive change in the world and serve as an agent of change to help resolve social challenges.

Taking seriously yet again the responsibility we shoulder as a company enabling connectivity in the lives of so many, we redefined 'foundational areas' to build greater trust with stakeholders. This essentially aims to lay a solid basis for our ESG management in applying the Kakao's Style to tackle social issues and create new value.

In presenting our third ESG report, we transparently share with our stakeholders the progress we made for the past year in the four focus areas of Kakao's commitment and responsibility and in the foundational areas defined to elevate the trust they place in us. We also promise that we will further commit to making a positive difference in the world on the strength of our technology and impact.

Kakao's commitment and responsibility to make a better world

- Kakao takes its distinctive Kakao Style approach to 'resolving social issues'.
- Kakao pursues 'shared growth with its stakeholders'.
- Kakao fulfills its 'responsibility in the digital society'.
- Kakao takes the lead in 'protecting the environment'.
- Kakao manages 'base areas to build greater trust' with stakeholders.



ESG Framework

Milestones Reached in Fulfilling Kakao's Commitment and Responsibility

△ Laid the basis to implement the plan □ Taking action as planned ● Generated outcomes from activities being undertaken

Commitment and Responsibility			Action Plan	2021-2022 Achievement	Progress Status
Resolution of social issues	Resolve social issues through service and technology	Pursue meaningful social change based on user engagement	Develop programs to resolve social issues by leveraging Kakao's technology and engaging users	<ul style="list-style-type: none"> Built wider internal consensus for service development Identified services that contribute to resolving social issues and prepared for their launching Provided digital transformation training programs for small business owners 	● □ ●
	Create social impact	Measure and manage outcomes generated in resolving social issues	Gradually expand the measurement of outcomes in resolving social issues and the scope of target programs	<ul style="list-style-type: none"> Measured and managed the social value generated by the Harmonious Digital World program Worked to expand the performance measurement and management programs Analyzed the outcomes of Kakao Class' digital transformation training for small business owners 	● □ ●
Shared growth	Increase value for our Krew	Promote human rights and working conditions for Krew	Lay the basis to advance human rights management and develop systems to motivate Krew and increase value for them	<ul style="list-style-type: none"> Conducted human rights impact assessments on Krew and some suppliers Improved our grievance handling process for Krew Established 'kakao ON' as our work program Provided growth support training customized for job categories and levels and measured its effectiveness 	● ● ●
	Pursue shared growth with our partners	Improve partners' capacity and disseminate ESG along our supply chains	Develop systems to protect CPs (Content Producers) and support their growth, and disseminate ESG awareness among suppliers	<ul style="list-style-type: none"> Provided copyright training to emoticon creators and future creators Established the Kakao Creative Foundation Announced plans to help improve the creative ecosystem and joined the Webtoon Win-Win Partnership Council Requested suppliers to sign the sustainability management guide compliance pledge 	● □ ●
	Create a sound IT ecosystem	Create a wholesome IT ecosystem by sharing technology and know-how	Host developer conferences to share Kakao's technology and knowhow and disclose our open source assets	<ul style="list-style-type: none"> Hosted the if (kakao) dev 2022 Launched OLIVE Platform as an open source management service and expanded its functionality Disclosed our open source resources for AI image model 'Karlo 1.0' 	● ● ●
Digital society	Improve digital accessibility and literacy	Support an environment where digital benefits as well as information and technology are brought within the reach of everyone	Identify areas in need of accessibility improvement across overall services and make improvements	<ul style="list-style-type: none"> Appointed the DAO (Digital Accessibility Officer) Took stock of accessibility to Kakao's services Provided accessibility training to Krew and external stakeholders Provided text alternatives for Kakao Talk emoticons and images 	● ● ●
	Establish algorithm ethics	Ethically use AI technology	Establish Kakao's algorithm ethics and develop implementation tasks	<ul style="list-style-type: none"> Established the Tech for Good Committee Added privacy protection provisions to Kakao Algorithm Ethics Expanded users' editing rights at Daum News 	● ● ●
	Protect our users	Prevent the violation of user rights that may occur in the course of service use	Distribute guides to prevent the violation of service user rights and introduce prevention systems	<ul style="list-style-type: none"> Improved the safebot functionality to perform AI-enabled comment filtering Produced hate speech guidelines Launched the Kakao Safety Campaigns Expanded the operation of the Roundtable on Financial Customer Protection 	● ● ●
	Promote data privacy and data security	Comply with domestic/international regulations and prevent data breaches	Boost governance for personal data privacy and data security	<ul style="list-style-type: none"> Operated the data protection policy organization and Community-level CPO (Chief Privacy Officer) meetings Developed data privacy handling labeling images Developed 'privacy protection guidelines' for children and teens 	● ● ●

ESG Framework

△ Laid the basis to implement the plan □ Taking action as planned ● Generated outcomes from activities being undertaken

Commitment and Responsibility		Action Plan	2021-2022 Achievement	Progress Status	
Environmental sustainability	Respond to climate change	Minimize climate impact in line with GHG emissions reduction targets	Lay the foundation for a company-wide environmental management system and set mid/long-term GHG emissions reduction targets	<ul style="list-style-type: none"> Established the Active Green Initiative and managed the performance of the Kakao Carbon Index Announced our 2040 Net Zero goal Fully switched to renewable energy for the power consumption of our Jeju Office 	● □ ●
	Deliver green digital services	Provide eco-conscious services	Develop and operate additional eco-conscious services	<ul style="list-style-type: none"> Built wider internal consensus to develop additional services Launched the Act Together for Green Digital campaign to encourage user participation Calculated carbon emissions from 2022 MMA performance and worked to offset these emissions through the voluntary carbon credit 	● □ ●
	Conserve resources and protect the environment	Mitigate environmental impact and contribute to resource circularity	Improve energy efficiency at office buildings and create an eco-friendly culture	<ul style="list-style-type: none"> Certified Kakao Agit in Pangyo to LEED Gold Applied eco-friendly designs to our data center in Ansan Conducted in-house environmental training Implemented a Kakao makers upcycling project to contribute to the circular economy 	● □ ●
	Preserve biodiversity	Support marine ecosystem and forest conservation	Plan and expand user-engaging activities to protect the biodiversity of local communities and support reforestation	<ul style="list-style-type: none"> Improved the marine environment and raised funds for forest restoration through the EcoSeed campaign Supported marine ecosystem clean-up projects through our Jeju Impact Challenge Supported research on the behavioral characteristics and ecological environments of Indo-Pacific Bottlenose Dolphins living in the waters of Jeju as well as marine ecosystem conservation activities through the Kakao Impact Fellowship 	△ ● ●
Foundational areas to build greater trust	Improve our governance	Establish transparent and sound governance and ESG-driven decision-making	Operate systems to ensure the independence and expertise of the Board and elevate stakeholder trust	<ul style="list-style-type: none"> Appointed an independent director as the Chair of the Board Stipulated regulations on stock selling of executives of Kakao Community Set ESG performance metrics for the CEO 	● □ ●
	Upgrade our risk management system	Systematically manage financial/non-financial risk that may arise in business conduct	Establish an integrated risk management system and spread a culture of risk management	<ul style="list-style-type: none"> Stipulated integrated risk management regulations Established the ERM Committee to shift from the Risk Management Officer to the Committee for risk management governance 	● □ ●
	Bolster ethical management and compliance	Advance ethical management and abide by laws and regulations	Bolster the ethical management system across the Community and establish an integrated compliance process	<ul style="list-style-type: none"> Bolstered ethical management governance at the Community level Developed and implemented ethical management training programs with some of our Community companies (Kakao Entertainment, Kakao Pay, Kakao Games, Kakao Enterprise) Operated the Legal Affairs Table at the Community level 	● □ ●

ESG Framework

ESG Management System

ESG Governance

Highest decision-making body for ESG management

Kakao is establishing our ESG governance to achieve sustainable growth over the long haul by disseminating positive impact on the environment and society based on transparent governance. Our ESG Committee up and running since 2021 convenes at least twice a year to serve as the highest decision-making body in overhauling our ESG strategic directions, reviewing non-financial issues and countermeasures as well as non-financial risks in relation to environment and society, and in managing and overseeing ESG management performance. The Committee may seek feedback from stakeholders when necessary to manage the environmental and social impact of the Company, and is briefed by the ESG Business Division, a dedicated company-wide ESG management organization, to perform final reviews and grant approval on our annual Kakao's Commitment and Responsibility reports and the material issues chosen through materiality assessment.

Composition of the ESG Committee

Director	Name	Mandate and Authority
Independent director	Sejung Choi (Chair)	Review the Company's strategic directions for sustainability management, and manage and oversee the resulting performance and issues
Independent director	Saerom Park	
Inside director	Euntaek Hong	

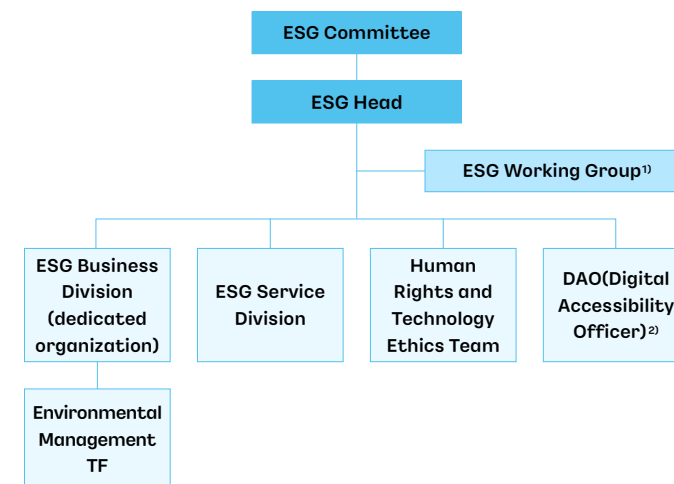
Agenda Reported to the ESG Committee in 2022

Category	Reporting and Resolution Agenda	Date of Reporting
Manage and oversee ESG management performance	Approval of Kakao's Net Zero commitment	Apr. 2022
	Reporting on win-win partnership projects for Kakao and the Community	Apr. 2022
	Reporting on the implementation status of win-win partnership projects for Kakao and the Community	Dec. 2022
Review non-financial risk	Reporting on non-financial risk management on its status and plans	Dec. 2022
Communicate and engage with stakeholders	Reporting on the Kakao ESG report publication plan	Apr. 2022
	Reporting on Kakao ESG assessment results in 2022	Dec. 2022
Others	Appointment of the Chair of the ESG Committee	Mar. 2022

Working-level ESG organization

Our CEO serves as the ESG Head to oversee our company-wide ESG strategy, and is delegated by the ESG Committee, our highest decision-making body for ESG management, to take responsibility for managing our environmental and social impact. The ESG Business Division, as a company-wide ESG management organization, supports the work of the ESG Head and manages wide-ranging improvement tasks implemented by the ESG Working Group joined by relevant departments. The division also collects and addresses ESG-related requirements from internal/external stakeholders, and reports our progress towards ESG improvement tasks to the ESG Committee. The ESG Working Group, composed of ESG-related departments working in the areas of environment, human rights, win-win partnership, digital responsibility, ethics and compliance, and communication, identifies new tasks to advance ESG management and drives the successful implementation of improvement tasks in partnership with multiple departments.

ESG Organizational Structure



Bolstering ESG-driven Decision-making

To ensure ESG considerations inform our decision-making both for Krew and the CEO, ESG is factored into KPIs for top management and relevant departments. Metrics associated with boosting the implementation of ESG management are included in determining performance-based pay (15%) to motivate our CEO to fulfill his/her social responsibility as the company-wide ESG Head. ESG considerations are also reflected in the KPIs that apply to relevant departments to embed ESG management into our business operations at all levels. In so doing, Kakao builds trust with society and conducts business in a way to maximize our corporate value in the long term.

1) Composed of ESG-related departments
 2) Oversee digital accessibility operations

ESG Framework

Stakeholder Communication

Kakao defines shareholders/investors, users, Krew, partners, communities, and governments as our key stakeholder groups who directly and indirectly interact with us in business operations. In 2022, we heeded their voice and fully reflected their feedback in our business operations. In so doing, we do our part in making a better world.

Stakeholder	Area of Interest	Communication Channel	Our Response	Our Communication Activity in 2022	
Shareholders/ investors	<ul style="list-style-type: none"> Financial performance generation and dividend payout ratio Development of future growth drivers Preemptive risk management competency Transparent performance disclosure Sound governance 	<ul style="list-style-type: none"> Corporate website Annual General Meeting of Shareholders NDR (Non-Deal Roadshow) Earnings conference call 	<ul style="list-style-type: none"> Analyst Day One-on-one meeting Shareholder engagement Disclosure materials 	<ul style="list-style-type: none"> Implement a mid/long-term shareholder return policy Ensure integrated and systemic risk management by establishing risk management regulations Establish sustainability management governance by operating the ESG Committee Transparently disclose financial performance Share business outcomes through IR meetings 	<p><Hosting the AGM></p> <p>In March 2023, we hosted the 28th Annual General Meeting of Shareholders. Its total attendance was 54.7% (30.5% when excluding the largest shareholder and related parties), and shareholders owning 17.9% of shares represented (42,882,453 shares) exercised voting rights through electronic voting. A total of nine agenda items were presented, including the approval of the financial statements, the appointment of directors, and the retirement of treasury shares. All of them were approved.</p>
Users	<ul style="list-style-type: none"> New service launching Improvement in user satisfaction Improvement in service reliability Personal data protection Improvement in access to digital services 	<ul style="list-style-type: none"> Corporate website Discussion with Kakao users Counseling Talk within KakaoTalk Service-specific customer center (web/application) 	<ul style="list-style-type: none"> Emergency phone counseling and reporting center Customer center for in-person visits Disclosure materials 	<ul style="list-style-type: none"> Host Kakao user discussion meetings Launch Kakao Safety Campaigns Reinforce the user data protection system Operate a user protection system to protect them from the harmful internet environment Operate a user VOC handling process and manage user satisfaction Improve service accessibility and digital literacy 	<p><Holding User Discussion Meetings></p> <p>We held online user discussion meetings to directly hear the voice of Kakao users and receive their proposals for service upgrades. Nearly 80 proposals collected in so doing will be fully reflected in our service improvement efforts.</p>
Krew	<ul style="list-style-type: none"> Support for individual growth Workplace human rights protection Fair and reasonable appraisal Work-life balance Benefits 	<ul style="list-style-type: none"> In-house portal Open Talk TellMe@Kakao 	<ul style="list-style-type: none"> Roundtable grievance-handling member Time's Up Occupational Safety and Health Committee (quarterly) Kakao organizational health check (annual) 	<ul style="list-style-type: none"> Advance the Krew grievance handling process Extend the scope of Kakao's employee satisfaction survey - 'organizational healthy checks' - to the wider Community Support training for Krew's growth Implement fair appraisal and compensation systems Operate diverse benefit programs Create a safe and pleasant working environment 	<p><Organizational Health Check of the Kakao Community ></p> <p>We perform organizational health checks as our employee satisfaction and engagement survey to gather Krew's feedback on our organizational culture and leadership. In 2022, the measurement framework and its questions were restructured to better reflect our current conditions, and the scope was extended to include 10 Community members as well as Kakao.</p>
Partners	<ul style="list-style-type: none"> Fair trade practices Provision of shared growth opportunities Training and infrastructure support Cooperation and communication IT ecosystem innovation 	<ul style="list-style-type: none"> Official shared growth web page New purchasing system PoK Online Ethics Center Purchasing briefing session 	<ul style="list-style-type: none"> Partner's Day Kakao Class with Partners Disclosure materials KakaoTalk Store seller training center 	<ul style="list-style-type: none"> Operate KRW 300 billion in win-win partnership funds for shared growth with partners Comply with the fair trade principle Operate shared growth programs including the sharing of technology and knowledge Support small businesses with online sales opportunities Operate platforms to identify and support creators Share open source resources to revive the IT industry ecosystem 	<p><Operating Win-Win Partnership Funds for Kakao Partners></p> <p>We raised win-win partnership funds worth KRW 300 billion in total with the Kakao Community to create an inclusive ecosystem where all co-exist and thrive together over the next five years. These funds go to support small business owners and local partners, digital content/performing arts creators, mobility platform workers, startups/social innovators, local communities, and mobility/digitally underprivileged groups.</p>
Communities	<ul style="list-style-type: none"> Local economic development Corporate social responsibility Climate change adaptation Cooperation and communication 	<ul style="list-style-type: none"> Corporate website Kakao Together Kakao Class Dolharbang on the Internet of Kakao 	<ul style="list-style-type: none"> Jeju Data Hub Jeju with kakao Disclosure materials 	<ul style="list-style-type: none"> Support social activists Implement community CSR activities through platformss Support the development of talents and startups for local community development Establish community communication channels and facilitate their operation 	<p><Kakao's Dangol Market></p> <p>Operating Dangol Market under the Kudos for Credos project designed to support small business owners nationwide, we helped traditional market merchants pursue digital transformation and build communication channels with their customers.</p>
Governments	<ul style="list-style-type: none"> Economic value generation Regulatory compliance Transparent tax practices Participation in major policy decision-making External environmental policy monitoring 	<ul style="list-style-type: none"> Corporate website Public service support 	<ul style="list-style-type: none"> Environmental policy symposium Disclosure materials 	<ul style="list-style-type: none"> Reinforce the compliance system Support infrastructure development by using platforms and data Create high quality jobs to contribute to employment Pay taxes honestly Join the k-TCFD Working Group and bolster climate change adaptation capabilities 	<p><Abiding by User Protection Regulations and Participating in Relevant Assessment and Voluntary Review></p> <p>We proactively participate in the user protection work assessments conducted pursuant to the Telecommunications Business Act to regularly monitor our efforts to protect users. We also voluntarily examine the operational status of the chief officer of youth protection pursuant to the Act on Promotion of Information and Communications to sincerely fulfill our responsibility as a platform business to protect users.</p>

ESG Framework

Double Materiality Assessment

Materiality assessment enables businesses to identify key issues out of ESG issues that impact their sustainability. Kakao performed such assessments in accordance with global sustainability reporting guidelines and the concept of double materiality. This led us to consider both how we materially impact the environment and society and how ESG issues impact us in financial aspects and to eventually select key issues to report.

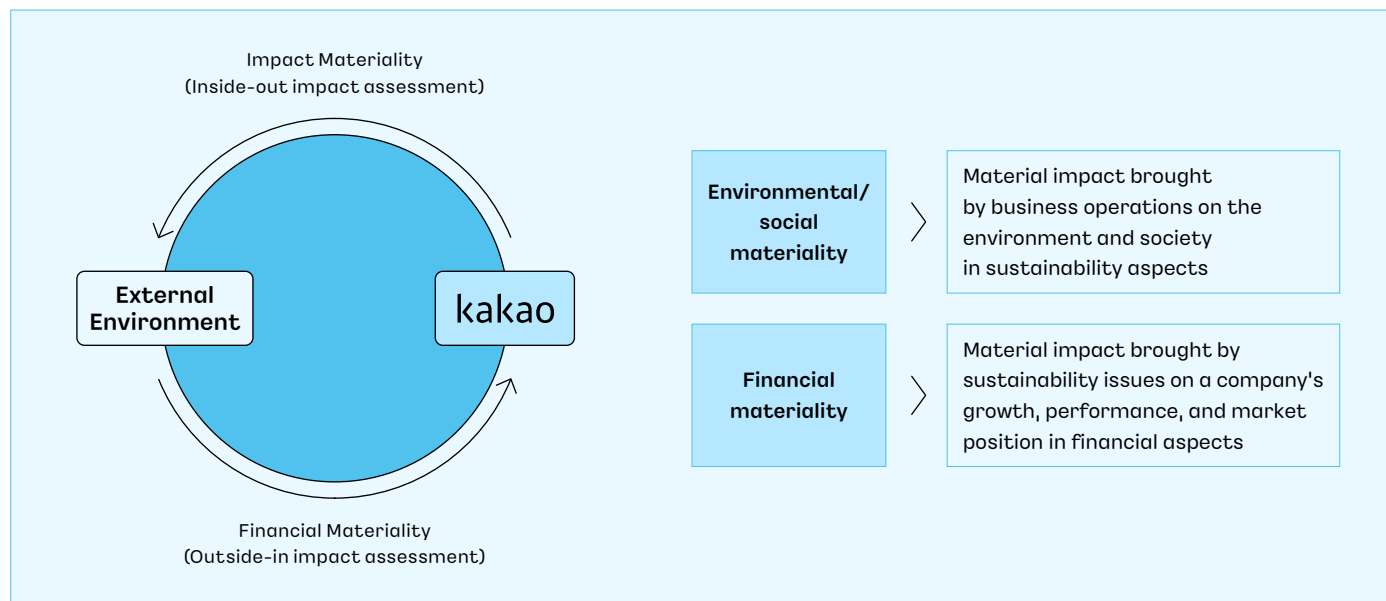
Assessment Process

To determine the major content of our ESG reports and select key issues requiring intensive management, we conducted materiality assessment in conformity with global sustainability reporting guidelines.

In so doing, we abided by the updated GRI (Global Reporting Initiative) reporting guidelines valid from 2023 onwards, and incorporate the materiality assessment guidelines of the EU CSRD (Corporate Sustainability Reporting Directive) to keep current with global disclosure trends. This informed our efforts to design a 4-step materiality assessment process.

We also integrated our materiality assessment with the ERM (Enterprise Risk Management) process. A pool of sustainability management issues was identified in alignment with the key non-financial risks defined by the ERM Committee, and internal risk experts serving on the ERM Committee participated in the materiality assessment process to identify and assess non-financial risk factors that critically affect our business conduct. The non-financial risks associated with the material issues identified through materiality assessment are monitored and managed in alignment with our company-wide risk management process.

Double Materiality



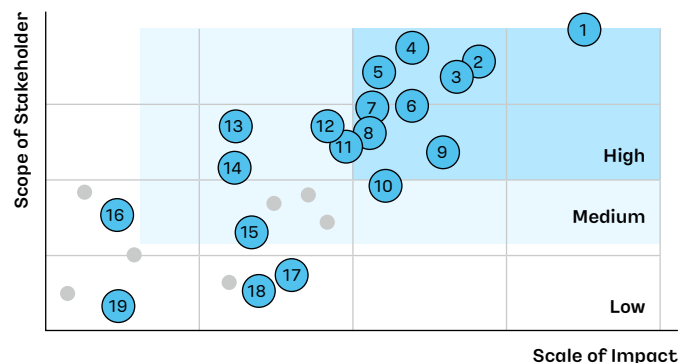
ESG Framework

Double Materiality Assessment

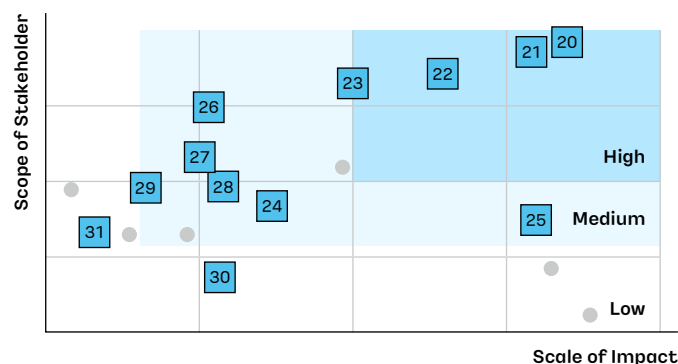
Assessment Result

A total of 10 key issues¹⁾ were identified. For each key issue, 19 inside-out impacts and 12 outside-in impacts were identified. Our response, performance, plans, and approaches in addressing these key issues are illustrated throughout this report to help our stakeholders better understand.

Environmental/social(Inside-Out) Matrix



Financial(Outside-In) Matrix



1) 'Eco-friendly products and services', 'risk management and mitigation', 'product and service quality improvement', and 'technology ethics' added as material issues, and 'fair trade' split into 'compliance with fair trade regulations' and 'win-win partnership programs'.

* ●●● High ●●○ Medium ●○○ Low

Key Issue	Impact Identified	Type of Impact	Impact Level*	Page
Product and service quality improvement	2 Improve user convenience through technology and service innovation	Inside-out	●●●	21~24
	5 Cause user inconvenience and some damage when lacking service quality management	Inside-out	●●●	
	20 Incur increasing compensation/infrastructure investment costs when service quality incidents occur	Outside-in	●●●	
	21 Suffer customer churn and the resulting decline in sales when service quality incidents occur	Outside-in	●●●	
Technology ethics	7 Give rise to social discrimination when respect for diversity wanes	Inside-out	●●●	63~65
	25 Suffer tarnished reputation and the resulting decline in sales when losing trust in technology reliability	Outside-in	●●○	
	17 Create an environment that helps the wholesome growth of teens	Inside-out	●○○	
Risk management and mitigation	1 Lose social trust and fail to protect shareholder rights when lacking risk management	Inside-out	●●●	87~89
	3 Ensure service reliability and user trust	Inside-out	●●●	
	28 Lose investor trust and face the risk of falling share prices when failing to identify and mitigate non-financial risks	Outside-in	●●○	
	11 Improve public safety/health through the use of innovative technology and service	Inside-out	●●○	
	19 Suffer deterioration in employee health, work productivity and service quality when lacking the management of external environmental risks such as infectious diseases and natural disasters	Inside-out	●○○	
	31 Suffer deterioration in employee health and work productivity and the resulting decline in sales when lacking the management of external environmental risk	Outside-in	●○○	
	10 Incur social costs in the event of user data breaches	Inside-out	●●●	
Data privacy system development and regulatory compliance	22 Incur increasing costs associated with damage compensation, litigation, and disciplinary action in the event of personal data breaches	Outside-in	●●●	57~62
	15 Reduce social costs from regulations and improve user trust	Inside-out	●●○	
Human rights risk management	9 Violate stakeholder human rights when lacking preemptive response to human rights risk	Inside-out	●●●	36~38
	27 Incur increasing costs including penalties when failing to take corrective measures imposed due to the failure of managing human rights risk	Outside-in	●●○	
	12 Establish a working environment to respect human rights along the value chain	Inside-out	●●○	
Prevention of anti-competitive practices	4 Devitalize the local economy and undermine consumer choices when conducting business that may raise issues with win-win partnerships	Inside-out	●●●	54
	26 Incur increasing costs associated with litigation and disciplinary action for anti-competitive practices	Outside-in	●●○	
	14 Undermine free competition and violate consumer rights	Inside-out	●●○	
Fair trade practices and programs	23 Incur increasing costs associated with penalties or business sanctions for fair trade non-compliance	Outside-in	●●●	51
	13 Undermine sound transaction practices (lack of fair trade practices and programs)	Inside-out	●●○	
Partner capacity support programs	8 Create a wholesome IT ecosystem (help small businesses improve their business capabilities)	Inside-out	●●●	46~50
	29 Increase sales by launching competitive services when content producers and partners elevate capabilities	Outside-in	●●○	
	18 Contribute to improving the culture of society (promote digital content/artistic creation)	Inside-out	●○○	
Employee capacity building	6 Improve product quality and consumer satisfaction in line with boosting employee capacity	Inside-out	●●●	39~41
	30 Increase sales through improved service quality in line with boosting employee capacity	Outside-in	●○○	
Eco-friendly products and services	24 Increase sales through rising demand for low carbon/eco-friendly products and services in line with the emerging value-oriented consumption trends	Outside-in	●●○	32~34
	16 Reduce environmental impact by improving energy efficiency and mitigating carbon emissions	Inside-out	●○○	

Kakao's Promise to Deliver Reliable Services

Our Response to the Service Disruption Caused by the Fire That Affected the SK C&C Data Center in Pangyo

It has been seven months since the fire broke out at SK C&C's data center in Pangyo on October 15, 2022 and disrupted Kakao's services.

Since then, we have fulfilled all the steps necessary to identify the root causes for the service outages and develop viable solutions to safeguard the reoccurrence of such an unfortunate event. We hope this will help prove to our users that we are still dependable and trustworthy, and leave behind valuable lessons learned for the whole wider industry. Most of all, we have transparently communicated with our stakeholders every step of the way.

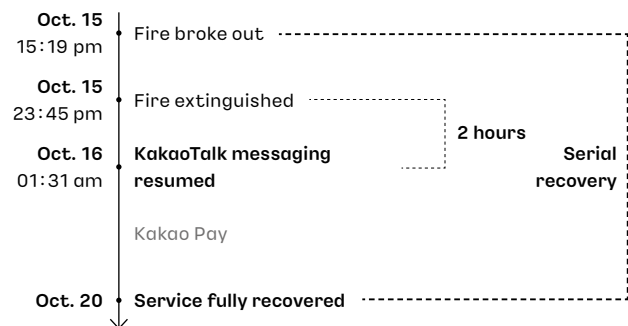
Looking back on our journey to date, our focus was on blazing a trail by leveraging new technology and pursuing mutual growth with varying stakeholders to implement ESG tasks.

The service shutdown, however, served to remind us that we somehow lost sight of the essence of our business, which is to ensure the reliability of our services for our users.

Reflecting on our failure to fulfill our social responsibility, we at Kakao will continue to do everything in our power to make doubly sure that such an event never happens again. With our steadfast commitment to service reliability, we will work to ensure that Kakao's services are once again regarded as solid and dependable by all our users and stakeholders.

Overview of Kakao Service Outages

On October 15, 2022, a fire broke out at the SK C&C's data center in Pangyo, where Kakao's data is stored. This shut down power to all our servers, resulting in large-scale disruptions to many of our services, including KakaoTalk. In spite of our best efforts to recover the disaster, it took nearly five days to get all the services back up again.



In fact, Kakao had been implementing distributed data management for our respective services at across more than three data centers in preparation for such emergency. All of Kakao's communications networks/databases and data centers were already made fully redundant, along with most of its service servers. The fire led to service outages in spite of this, and this prompted us at Kakao to thoroughly analyze the causes to transparently disclose the results to stakeholders and develop solutions to prevent such a reoccurrence.

Causes for Service Disruptions

Service disruptions occurred even though our service servers had been made redundant. While key functions, including KakaoTalk messaging, were recovered first, it took longer before all our services were normalized at 11 pm on October 20. We performed rigorous analyses on what the root causes

were, and were able to find weaknesses in our redundancy and emergency response process.

System-wide Redundancy

While our data had been made redundant, this was not the case at the whole-of-system level. Even if a primary data center is affected, a well-functioning redundancy system would ensure a secondary data center takes over for a quick recovery. When the power completely went down at the SK C&C data center in Pangyo, some of the systems that support this failover process did not function along with it, fundamentally causing the service outage as the data center switchover failed to occur. This forced us to perform a manual switchover, delaying our efforts to recover from the service disruptions.

Emergency Response Capability

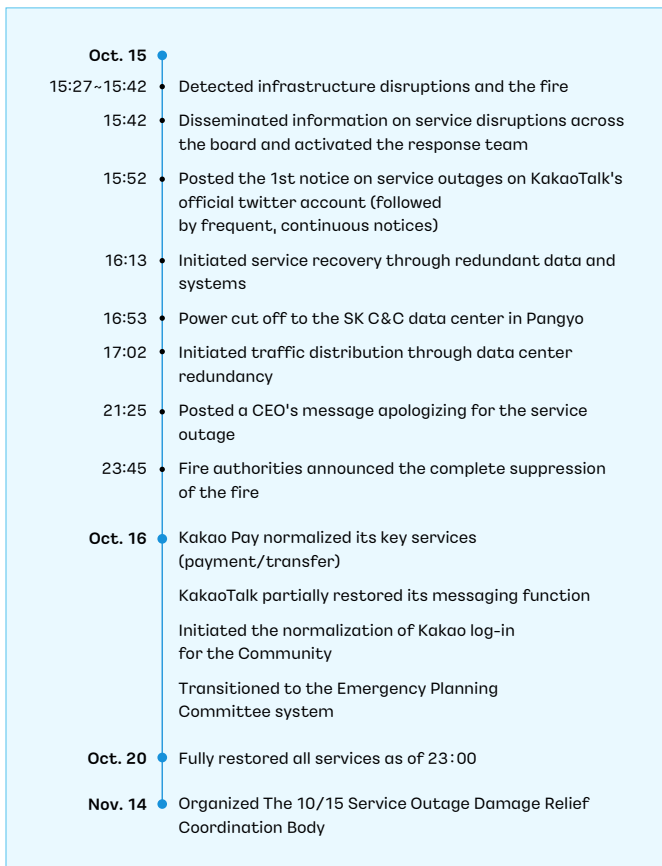
As Kakao and our whole Community were affected amid the service outages, this naturally created delays in mobilizing support for the Community. There are Community services, including Kakao Pay and Kakao Mobility, that are associated with Kakao's infrastructure or systems, and this requires that we double down on the management of linkages among different services and preemptively ensure they are reliable. The lack of clear awareness on such a system-wide impact resulted in Community services being affected by the service interruption. Furthermore, an independent mechanism to disseminate disaster information and make decisions early on had not been arranged, and the control tower was not in place. While Kakao, the Kakao Community, and individual organizations all worked together simultaneously to address the service disruptions, the lack of a company-wide organization to support overall coordination and collaboration postponed Community-level emergency response.

Kakao's Promise to Deliver Reliable Services

Pursuing Swift Response

Following the fire, we immediately organized the Emergency Planning Committee as the control tower. The Committee was chaired by our CEO to head its overall management, and joined by responsible personnel from the Headquarters and key Community members. The Committee consisted of three subcommittees each mandated to investigate the causes of the fire, develop rigorous measures to prevent such events from reoccurring, and review and provide compensation to stakeholders affected by the service outages.

Accident Response Timeline



Proactive Efforts for Damage Compensation

We set up a separate channel for our users affected by the service outage to submit their damage reports. For general users, the application process spanned between October 19 and November 6. For small business owners, we received their reports on two occasions between October 19 and November 6 and between February 13 and April 14 respectively, and further extended the period to receive damage compensation applications by May 31.

To set out reasonable damage compensation principles, we organized the Damage Support Council caused by the Service Disruption on 15, October. Composed of six internal/external experts, the Council met over 10 times. Out of 105,116 cases of damage submitted through our official channel, 83.1% or 87,195 cases for Kakao were analyzed excluding those submitted for the Community.

For those who suffered direct, sizable damages based on analysis results, they were reviewed through a separate process for individual support measures. For others, cases whose clear direct causality was not established were excluded, and the decision was made to offer comprehensive aid for the inconvenience caused in the daily lives and business activities of users as a way to fulfill our social responsibility. Compensation was provided in two different groups of general users of Kakao services and business partners whose operations were affected amid the service outage.

Damage consumption for general users

Provide three types of emoticons (one for permanent use, two for 90-day use) to convey our promise to ensure reliable services in the future

Damage compensation for business partners

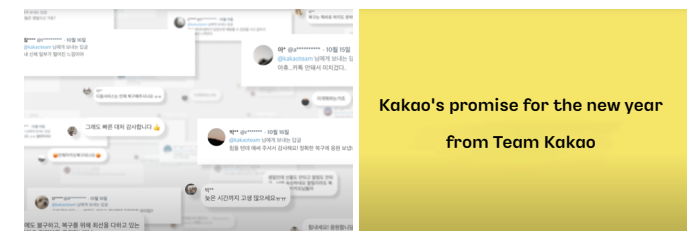
- Pay compensation in proportion to their revenue losses (KRW 30,000 when losses are KRW 300,000 or below, KRW 50,000 when losses range between KRW 300,000 and KRW 500,000)
- Consider additional compensation for damages exceeding KRW 500,000 through Council review and proof of damage
- Open a cash program at the Kakao Talk Channel for small business owners (pay cash grants worth KRW 50,000)

Transparent Stakeholder Communication

Kakao strives to objectively and transparently analyze and address service disruptions while honestly communicating a series of actions that we take to prevent the reoccurrence of such disruptions. This goes beyond simply announcing countermeasures to sharing our genuine endeavors to pursue consistent and far-reaching improvements for Kakao and our services. This, we believe, will also contribute to the wider IT industry working to ensure such unfortunate events do not occur ever again.

At Kakao, we take seriously the responsibility we shoulder as a company enabling connectivity in the lives of so many. We promise that we will proactively communicate the varying activities that we will pursue in this regard.

- [if \(Kakao\) session on the service outage](#)
- [Kakao's promise](#)
- [News on the service outage](#)
- [Kakao's promise for 2023](#)



Kakao's Promise to Deliver Reliable Services

Building Our Own Data Centers

Anticipating the continuous increases in service traffic and the data growth following our expanding cloud business, we developed a plan to build our own data centers in 2018 and have since implemented this plan consecutively. Our Ansan Data Center is under construction at the Ansan Campus of Hanyang University with KRW 460 billion investment. The construction began in December 2021 and is slated for completion within 2023. Our goal is to make this data center operational from 2024 onwards.

Our Ansan Data Center will be capable of fully delivering uninterruptible power supply, fitted with redundant infrastructure for power, cooling, and communications to enable 24/7 uninterrupted operation and management as

well as backup plans to ensure undisrupted power supply even in the event of such emergencies as power failures and fires. Unlike conventional data centers, our Ansan Data Center will also have its UPS (Uninterruptible Power Supply) rooms and battery rooms separated with fire-resistant partitions so that a fire occurring in the battery room does not affect the operation of the rest of the facilities.

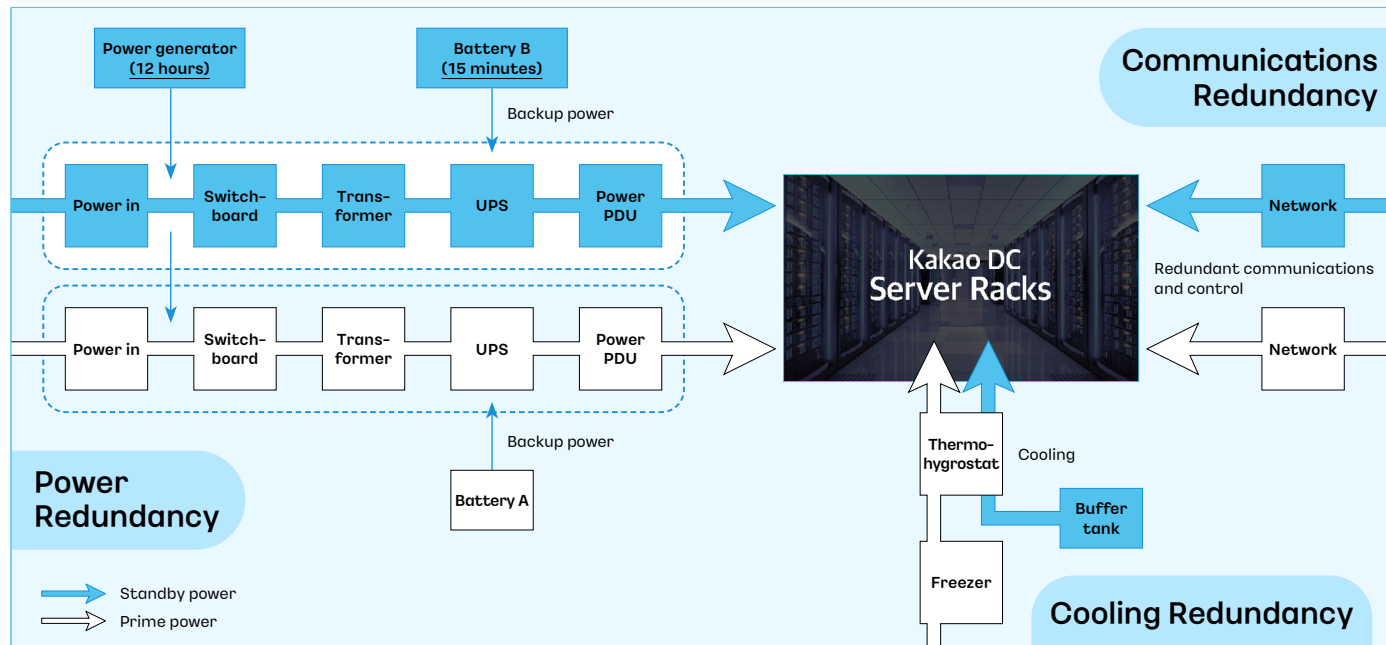
Furthermore, each room is designed to have sealed electrical panels with fire detection sensors and individual fire extinguishing devices to enable initial response to a fire, which is paired with a backup system that supplies fire suppression gas as the second-line defense to ensure the early, complete suppression of fires. If the first and second lines of response fail, the areas that caught fire are separated and filled

with cooling water to shield the flames and heat and swiftly extinguish the fire.

The Data Center is designed to ensure the computer building hosting servers is separated from work spaces. The computer building is equipped with eco-friendly fire suppression gas for data protection, and the operation building with sprinklers to keep people safe so that a swift and efficient firefighting system is activated in the case of any emergency.

Lastly, at least four emergency routes are arranged on each floor — two windows for the entrance of firefighters and two emergency elevators — to enable access to fire-affected areas. We also plan to conduct regular fire drills to bolster our emergency response system in partnership with the Ansan Fire Station.

Building Redundant Infrastructure for our Ansan Data Center



Ansan Data Center

- Location: ERICA Campus of Hanyang University, Ansan-si, Gyeonggi-do, Republic of Korea
- Total floor area: 47,379m²
- Computer building: 29,996m²
- Operation building: 17,382m²
- Facility size: 1 underground and 6 above ground floors
- Rack: 4,000 racks

Developing Fire Response Manuals Tailormade to Kakao Data Centers

- Develop a response system and scenarios customized for data center facilities
- Will update continuously on a monthly basis and report to the fire station

Planning to Conduct Regular Joint Fire Drills

- Engage the Ansan Fire Station and patrol divisions
- Conduct fire drills according to data center fire response manuals

Kakao's Promise to Deliver Reliable Services

Bolstering Our Infrastructure

Following the recent service outage, we will pursue the following improvements in three aspects from the viewpoint of infrastructure.

Expanding the IT engineering organization

Kakao's IT engineering organization, which was previously under the development organization, was expanded and will be under the direct leadership of our CEO. We plan to hire Korea's top-notch IT engineering experts, along with the recruitment and development of data center, SRE, Devops, and cloud development engineers. We will also immediately organize the disaster recovery committee in preparation for large-scale service interruptions to ensure prompt response.

Bolstering our emergency response planning policy and emergency response structure

An emergency response plan intends to minimize the probability of business discontinuation even in the face of natural disasters or accidents. We will seek advice from external experts to assess our vulnerabilities more objectively and improve these vulnerabilities. To ensure service reliability, we will also study and develop areas introduced by global companies — Kaos Engineering, Statuspage — for their proven benefits. Our emergency response framework will be made publicly available to contribute to the IT industry as a whole. With triple + alpha redundancy as the underlying architecture, we aim to elevate our reliability to a level where redundancy is still ensured when one of three data centers is made inoperable. For our key services, we will leverage multi-cloud to further reinforce service continuity, and work is underway to review the establishment of a separate remote Disaster Recovery data center for the recovery of essential services.

Increasing investments

To implement our improvement plans, we will more than triple our infrastructure investments over the next five years compared to the investments made for the last five years.

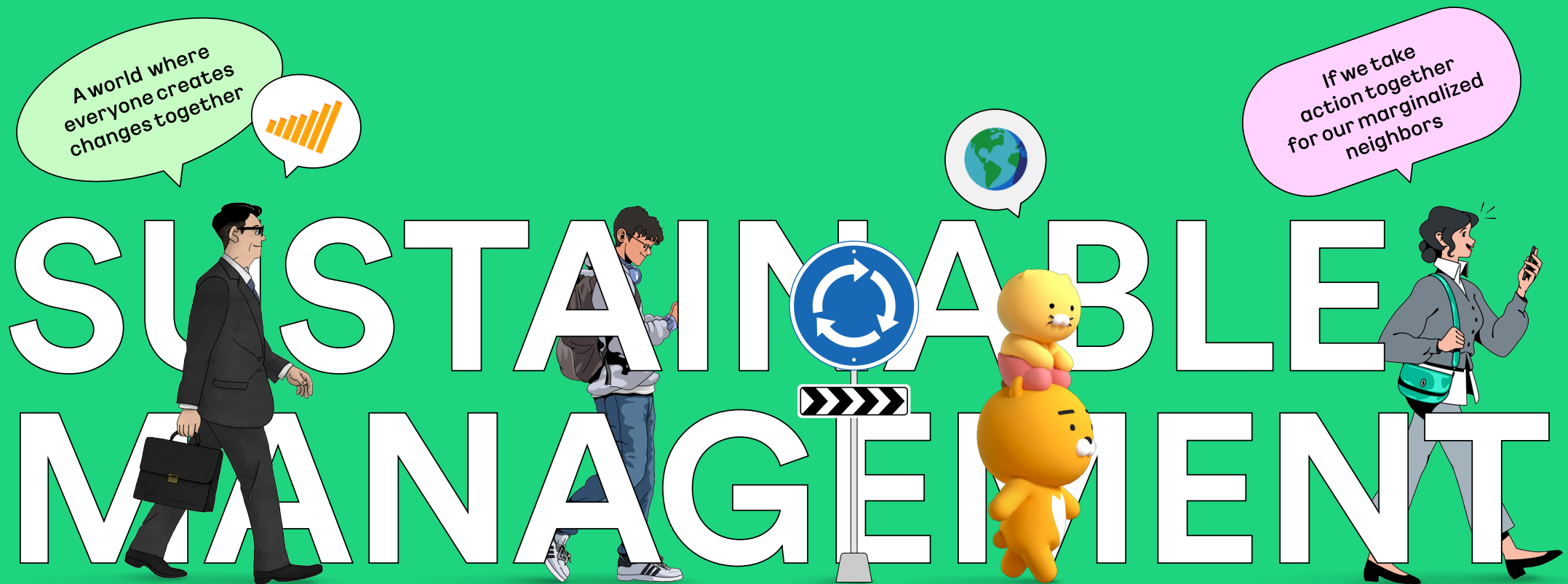
Advancing Our Risk Management Governance

The service outage served to remind us yet again of the importance of risk management and response at the Community level.

This is why we created the ERM (Enterprise Risk Management) Committee in 2022 to transform our risk management governance from the previous Risk Management Officer system to a committee system. The Committee consists of decision makers from our key functions, and its mandate is to ensure more systemic and efficient risk management across our overall business operations and ultimately assist us in embedding risk management into our day-to-day business conduct.

The ERM Committee implements diverse tasks for systemic risk management and performs multi-faceted reviews on major risk. A risk management organization similar to the one we have at Kakao will be created for key members of our Community. These risk management organizations will benchmark the ERM Committee for their composition and operation and optimize themselves to the conditions of each Community member. When risk review is required at the Community level, Kakao's ERM Committee and the ERM committees of respective Community members will work in alignment to resolve the issue in question.

26 Environmental
35 Social
81 Governance



Environmental

Why This Matters

A worldwide consensus is emerging on the urgency of the climate crisis. Climate change adaptation is no longer an option but an imperative for all businesses as they are never free from any direct/indirect impact from climate change. Kakao moves beyond merely responding to external regulations towards stepping forward in tackling environmental issues. We will make a positive difference in the world with our eco-conscious technology and services.

Approach

Kakao independently stipulated our 'Active Green Initiative' principles for climate change adaptation. We also created an environmental management taskforce to bolster our implementation of environmental management at the Community level. With a goal of becoming net zero by 2040, we are increasing the proportion of renewable energy, and moved ahead by fully transitioning to renewable energy for our Jeju Office operations. Launching our green digital services and eco-friendly campaigns, we work together with our users to pave the way to resolving environmental issues.

Reporting Contents

- Environmental Management System 27
- Climate Change Adaptation 28
- Active Green Initiative 29

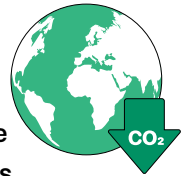
2022 Highlights

Set our climate change adaptation goal and GHG inventory

Achieving **net zero**

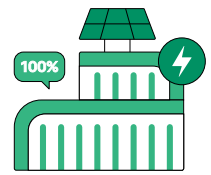
Scope 1&2 emissions by 2040 and

upgrading the scope of Scope 3 emissions management



Opted for renewable energy

Joined the **RE100** and fully transitioned to renewable energy for our Jeju Office



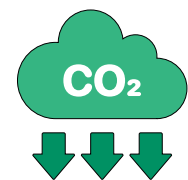
Embraced eco-friendly architecture for our Pangyo Agit

Achieved **LEED Gold** certification under the green building certification program



Taking small daily actions for the planet earth

66,000 persons participating in our green digital campaign



Environmental Management System

We set forth our environmental policy to minimize environmental impact of our business operations and established governance to implement environmental management. Key environmental issues are regularly discussed at the Board of Directors and the ESG Committee. We systematically execute the environmental goals that we set and make eco-conscious investments to help resolve environmental issues.

Environmental Management Implementation System

Environmental Policy

Kakao stipulated our environmental policy in 2021 to guide our implementation of environmental management. This policy drives us to minimize environmental impact from our service delivery and fulfill our responsibility for environmental pollution prevention and environmental protection. In 2022, this policy was updated with the addition of provisions concerning company-wide environmental management governance. In line with the policy, the Board, as the highest decision-making body, makes decisions and performs oversight on our environmental performance and risk, and the ESG Working Group under the Committee integrates the decisions made into our overall operations and manages environmental performance.

[Kakao's Environmental Policy](#)

Dedicated Environmental Management Organization

Climate change, waste, and other environmental issues are reported to the Board as the highest decision-making body, which in turn reviews and approves our ESG plans and implementation outcomes. The ESG Committee provides the foundation for our company-wide environmental management to regularly engage in the management, oversight, deliberation and decision-making of overall ESG plans and their implementation including environmental management. In 2022, we created an environmental management taskforce as a dedicated environmental management organization at the Community level. This taskforce is responsible for setting our net zero strategy, monitoring and reporting the progress made against environmental goals, communicating with stakeholders, and responding to global initiatives while coordinating Community-wide environmental responses. Each Community member also has their dedicated environmental organizations to propose and implement environmental

improvement tasks and strategies at the member level, and advance environmental management concerning environmental data management, environmental disclosure, ISO certification, and GHG emissions verification.

Environmental Management System

To efficiently manage environment-related risk based on our environmental management system, we systematically identify, evaluate, manage and improve our organization in terms of environmental aspects. In April 2021, our Jeju Headquarters and Pangyo Agit achieved the ISO 14001 environmental management system certification, and have since received annual surveillance audits by independent third-party organizations. Internal audits were made on our environmental management system in December 2022, and we maintained our certification through the regular ISO 14001 audits performed in March 2023.

Environmental Investment

Our Pangyo Agit, which accommodated Community members in 2022, achieved LEED (Leadership in Energy and Design) Gold under this green building certification system in March 2023. We signed an MOU with 60hz, an energy IT social venture company, to purchase renewable energy directly produced by community cooperatives. In so doing, Our Jeju Office met all its power needs with photovoltaic energy for the year of 2022.

Environmental Investments Made

Improved the energy efficiency of Pangyo Agit	· Used the scheduling system and occupancy sensors and operated the lighting control system to eliminate the unnecessary use of lighting and reduce energy consumption
Purchased RECs	· Purchased renewable energy (1,900MWh) produced from small-scale PV power generators operated by civic associations

Environmental Goal

Kakao sets goals and takes action in line with detailed plans to reduce environmental impact from our business operations and bring positive environmental impact with the services that we provide. We set our 2040 Net Zero goal to reduce Scope 1 & 2 GHG emissions to zero by 2040, and will gradually expand our GHG emissions management to the entire value chain. In 2022, we set a goal of fully shifting to renewable energy first for our Jeju Headquarters in our efforts to source renewable energy for office operations and reduce GHG emissions. To meet this goal, we purchased renewable energy certificates valued at 1,900MWh and fully switched to renewable energy for power consumption at our Jeju Office in 2022. This resulted in a 92% reduction in GHG emissions intensity at the office, from 0.26 tCO₂e/person in 2021 to 0.02 tCO₂e/person in 2022. Meanwhile, GHG emissions intensity for our Pangyo Office inched up from 0.66 tCO₂e/person in 2021 to 1.92 tCO₂e/person in 2022, which is attributable to Community members moving into our Pangyo Agit and power consumed for electrical load testing at the new office building. We will continue to manage building energy efficiency and embrace renewable energy to reduce emissions intensity both from our new and existing office operations.

Climate Change Adaptation

2040 Net Zero Roadmap

Net Zero Goal

We committed to our Net Zero goal to reduce our consolidated GHG emissions to zero by 2040, and joined the SBTi¹⁾ as the first Korean internet business to do so. We defined our SBTi-based goal to reduce our Scope 1&2 emissions by 40% in 2030 and by 100% in 2040 from the 2021 base year. As to Scope 3 emissions, we set a mid-term goal of achieving a 17% reduction by 2030 from 2021. We also joined the RE100, a global renewable energy initiative, in the first half of 2023 to fully switch to eco-friendly energy for 60% of our consolidated power consumption by 2030 and for 100% by 2040 to gradually lower our carbon emissions from power consumption.

[Scope 1] Transition to EVs

Scope 1 emissions directly generated from our business operations mostly stem from the use of vehicle fuel. We aim to reduce such emissions by switching to EVs for our commuter buses and corporate fleet vehicles.

[Scope 2] Increase the use of renewable energy

We set a goal of reducing our indirect Scope 2 emissions generated from operational power consumption. We will shift to eco-friendly energy for 60% of our power consumption by 2030 and embrace renewable energy for all our power consumption by 2040. We took the first step to this end by fully transitioning to renewable energy for our Jeju Office in 2022, and plan to gradually expand our sourcing of renewable energy. We sourced 1,900MWh of renewable energy in 2022, and this will rise to 4,000MWh in 2023.

[Scope 3] Manage supply chain carbon emissions

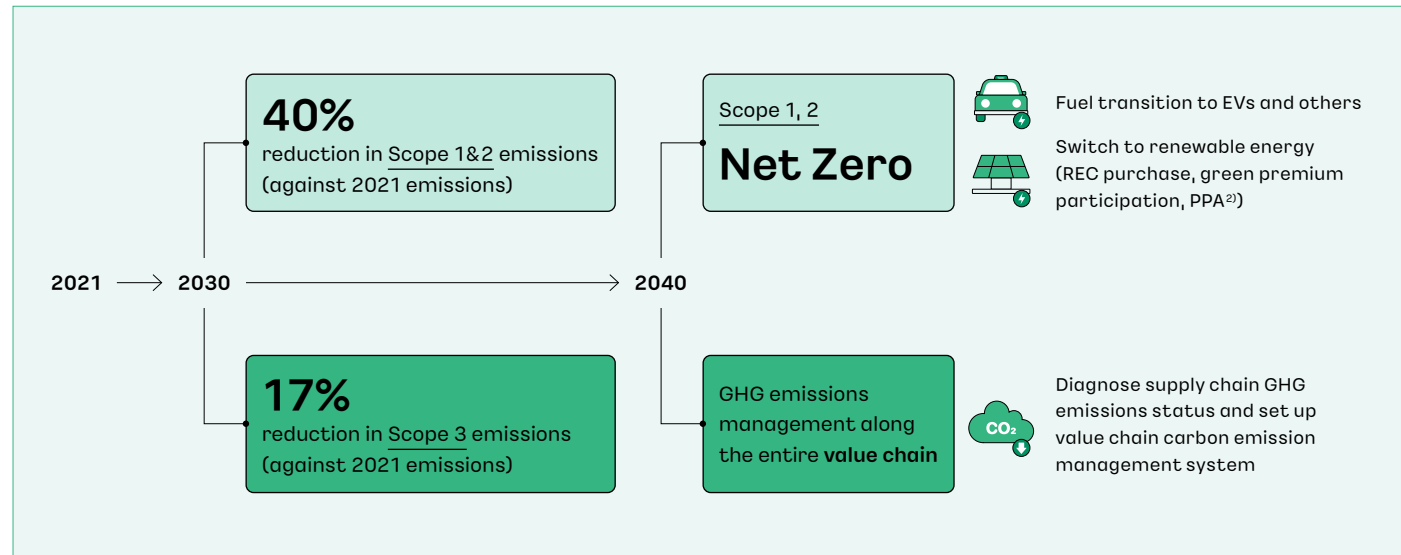
To identify GHG emissions indirectly generated along the value chain, we calculated our Scope 3 emissions across all 15 categories in 2022, and disclosed our emissions in 13 relevant categories. The data will base our efforts to establish and advance our Scope 3 emissions management system.

We deeply concur on the severity of climate change and established our mid/long-term climate change adaptation goal to join in the global efforts to address climate change. With an overarching goal of achieving Net Zero emissions by 2040, we are working on multiple fronts to transition to EVs, increase the use of renewable energy, and manage supply chain carbon emissions to mitigate carbon emissions along the entire value chain as well as from our own operations.

CASE Fully transitioning to renewable energy at our Jeju Office with the power generated from small-scale, civic association-operated PV generators

We sourced photovoltaic energy for all our power consumption at the Jeju Office by purchasing RECs (Renewable Energy Certificate) issued for renewable energy directly generated by community members. Under the agreement we signed with 60hz, an energy IT social venture business, we gave precedence in our REC purchasing to RECs issued for renewable energy generated by nationwide community cooperatives that are members of the Korea Energy Cooperatives Association. The Association comprises community co-ops from nearly 90 largest energy cooperative unions in Korea and over 10,000 co-op members, and members operate 240 or more PV generators to produce PV energy. Kakao purchased 1,900MWh through a total of 17 community cooperatives, and met all power needs at our Jeju Office with renewable energy. Building on this achievement of fully transitioning to renewable energy for our Jeju Office operations, we will gradually expand our sourcing of renewable energy down the road.

2040 Net Zero Roadmap



1) Science Based Targets initiative: a science-based greenhouse gas reduction target initiative

2) Power Purchase Agreement: a method in which a company enters into a power purchase agreement with a renewable energy power generation company to receive eco-friendly electricity

Active Green Initiative

Active Green Initiative

We stipulated our company-wide principles to resolve environmental challenges and respond to the climate crisis, and announced our Active Green Initiative which embodies our commitment to fulfilling our role in this regard. The Active Green Initiative focuses on the Kakao's Style of contributing to the environment. This moves beyond merely reducing our carbon emissions to contributing to social sustainability with the wide spectrum of service offerings that we provide to the general public. Specifically, the Initiative aims to advance climate change adaptation with the Net Zero goal of reducing our GHG emissions to zero by 2040. Driven by the principles of 'Within Kakao', 'Through Kakao' and 'With Kakao', we ensure that our Krew, partners, users, and members of society all do their part in tackling environmental challenges.

Active Green Initiative





Global Standards	Within Kakao	Through Kakao	With Kakao
<p>Comply with global environmental standards</p> <ul style="list-style-type: none"> · Achieve certifications for regulatory compliance 	<p>Manage and operate key environmental metrics</p> <ul style="list-style-type: none"> · Environmental data disclosure · Eco-friendly data center 	<p>Protect the planet through our services</p> <ul style="list-style-type: none"> · e-certificate and e-document · EV adoption for mobility · Reduction in mobility energy · Expansion of eco-friendly packaging for Friends 	<p>Eco-friendly activities undertaken together with users and partners</p> <ul style="list-style-type: none"> · Act Together for Green Digital · Fundraising for forest fire recovery and reforestation by Kakao Together · Kakao makers' upcycling · Environment Day campaign by Kakao Together

Our the Active Green Initiative applies the Kakao's Style to advancing environmental initiatives. This will help us abide by environmental regulations as part of our corporate social responsibility. We will transparently communicate to our stakeholders how we adapt to climate change and reduce our environmental footprint. Leveraging the strengths of our platforms, we will ensure our users join us on our journey to transition to a low-carbon society using our services.

Kakao Carbon Index^{Beta}

As part of our Active Green Initiative, we will collect data on the efforts Kakao users make for the environment through Community services and platforms and disclose them through the Kakao Carbon Index. This metric indicates the impact of environmental contributions made by users, calculated based on Kakao's distinctive quantifiable index to measure user's contribution to reducing GHG emissions and the indirect social value created as such. The Kakao Carbon Index for the year 2022 was 63,000,000KUC¹⁾. Going forward, we will numerically measure our eco-conscious activities and efforts across different areas and gradually expand them towards the low carbon transition of our society.

Key Categories of the Kakao Carbon Index in 2022

	<p>Makers' Upcycling Project²⁾ Makers upcycles garments and contributes to the circular economy through upcycling projects. Nearly five tons of clothing were collected and upcycled into 1.4 tons of new apparel, reducing 10,800KUC of estimated carbon emissions in so doing.</p>
	<p>Kakao Pay's e-document issuance³⁾ Kakao Pay replaced 153.34 million documents with e-documents and mobile bills for the year 2022. When converting one such document to one piece of A4-sized paper, this is translated into nearly 770 tons of paper saved and 856,000KUC.</p>
	<p>Kakao Mobility's electronic taxi operation⁴⁾ Kakao Mobility strives to facilitate electronic taxis through its purchase support program and battery management service. Kakao T Blue (franchise)'s e-taxis traveled nearly 117,000,000km during the year of 2022. Compared to LPG-powered taxis, these eco-conscious taxis helped mitigate carbon emissions worth 7,808,500KUC.</p>
	<p>Forestation under the Act Together for Green Digital campaign⁵⁾ Our Act Together for Green Digital campaign helped create green digital forests. Under this campaign, 1,026 trees were planted to absorb 144,700KUC of carbon emissions for the next 60 years.</p>

1) KUC is the abbreviation of Kakao Users' Carbon-reduction and is the unit of indicating user impacts of contributing to the environment. The Carbon Index categories introduced on this page were calculated with the advice from the Climate Lab of the Seoul National University Graduate School of Environmental Studies.

2) Applied the emission factor (8kgCO₂e/kg) from A systematic review of the life cycle inventory of clothing (Munasinghe, Druckman, & Dissanayake, 2021)

3) It was assumed that one piece of A4-sized paper weights approximately five grams, and the emission factor (1.12kgCO₂e) of printing paper (virgin fiber) under the 2021 Environmental Product Declaration of the Korea Environmental Industry & Technology Institute was applied.

4) Applied the emission factors (LPG: 174.581gCO₂e/km, EV: 107.877gCO₂e/km) from Research on transport energy prices and and tax reform directions in preparation for the dissemination of automotive electrification by the Korea Energy Economics Institute

5) Applied the average 60-year CO₂ absorption of pine trees (141.04kgCO₂e per tree) from Standardized Carbon Absorption of Major Tree Species of the Korea Forest Research Institute

Active Green Initiative

Within Kakao (Green Kakao)

Our Approach to Reducing Internal Environmental Impact

We work on multiple fronts to reduce our environmental impact internally. Work is on-going to improve energy efficiency to lower the environmental footprint of our data centers that are heavy power users. Presently, we rent our data centers, and our new eco-conscious data center will initiate its operation in January 2024. This data center was built with environmental considerations in mind from the design phase and will help us fulfill our environmental responsibility. For existing data center, we will continue with our activities to maximize their energy efficiency.

Embracing Integrated, Eco-conscious Designs

Our Ansan Data Center will be a green data center with integrated, eco-conscious designs that leverage natural conditions and energy-saving technologies. This new data center will have renewable energy infrastructure, high-efficiency energy equipment to improve cooling power efficiency, and a rainwater/graywater/waste heat recycling system. Design and construction work is on-going to keep its PUE¹⁾ at 1.3 and below with the help of energy-saving technologies. The improvement in energy efficiency gained as such will enable the data center to reduce its energy consumption and carbon emissions by nearly 15% compared to our existing rented data centers. This will help us cut down on our annual power consumption by over 30GWh and save more than KRW 3 billion in energy cost. Our Ansan Data Center was awarded 1st grade in preliminary certification under the energy efficiency rating program and the highest grade in preliminary G-SEED (Green Standard for Energy & Environment Design) certification.

1) PUE (Power Usage Effectiveness): Refer to the ratio of power used to run the IT equipment within a data center to the total amount of energy entering the data center, and ideal PUE is 1 with 100% energy efficiency

Eco-conscious Considerations for Our Ansan Data Center

Energy-saving architecture	Minimize energy requirements through energy-saving architecture <ul style="list-style-type: none"> · Adopt shades with improved insulation performance and a high performance double façade system · Introduce hot aisle and UT containment systems and optimize the air current · Introduce a high-efficiency pre-cooling chiller system
Energy efficiency technology	Improve energy efficiency and minimize energy consumption <ul style="list-style-type: none"> · Recycle rainwater and graywater · Install a waste heat recovery system · Use pre-cooled outdoor air for water and air cooling · Install high-efficiency equipment, water-saving devices, and LED lighting
Eco-conscious energy technology	Generate energy through photovoltaics and fuel cells <ul style="list-style-type: none"> · Install 1,000kW-capacity photovoltaic panels · Deploy 50kW-capacity eco-conscious fuel cells

Achieve PUE of 1.3 and below	Reduce carbon emissions by 15%	Save power consumption by 30GWh
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Efficient Data Center Operation

In addition to our owned data center fitted with eco-conscious designs, we also strive to mitigate the environmental impact of our leased data centers we are currently operating. These data centers are equipped with servers certified for their energy efficiency to manage the energy efficiency of servers and power supply units, and cooling devices were made more efficient by separating high temperature heat generated from servers from the cold air supplied by the cooling equipment to ultimately elevate the energy efficiency of their server rooms. Furthermore, the smart temperature management system was deployed for server rooms to monitor temperature variations in real time and maintain optimal temperature/humidity levels.

Energy Efficiency Certifications Awarded to Servers and Power Supply Units

- ENERGY STAR®
- Power Supply Titanium Level Certified
- Power Supply Platinum Level Certified

Newly Leased Eco-conscious Data Center

Our new leased data center to be operable since Q2 of 2023 is equipped with a range of facilities to improve energy efficiency while reducing environmental impact.

Deploying renewable energy generators	· We will install BIPV (Building-integrated Photovoltaics) on three walls of the data center to increase the availability of renewable energy (PV).
Introducing an eco-friendly fire extinguishant	· This data center will exclusively deploy Novec, a clean fire extinguishant with the lowest environmental impact among fire suppression fluids available on the market to advance environmental stewardship and prevent global warming and ozone depletion.
Deploying lighting brightness control and automatic lighting control functions	· The data center will be fitted with a lighting brightness control system to maintain the minimum brightness when the space is not occupied. Automatic control will allow users to control lights according to the set time schedule, and individual/group light controls will also help eliminate any waste of lighting. Efficient lighting management will promote our energy conservation efforts.
Reducing water consumption	· We will install cutting-edge air-cooled chillers to save more water compared to other data centers.

Active Green Initiative

Establishing Pangyo Agit as Our Eco-conscious Office Building

Our new office was completed in 2022 where Kakao and Community members moved in. Eco-consciously built, Pangyo Agit obtained LEED (Leadership in Energy and Design) Gold in March 2023. The building is equipped with a lighting control system to meet LEED certification requirements to reduce the excessive use of lighting and save energy in the process. Using a lighting schedule system and occupancy sensors that detect human presence ensures that lights turn off automatically when no one is around.

Operating the Eco-conscious in-house Cafeteria and Café

CHOONSIK DORAK, our in-house café and cafeteria at Pangyo Agit is working on multiple fronts to reduce negative environmental impact. Our in-house café provides Krew with mugs made of biomass-based EcoGen. For on-the-go foods and beverages, paper cups/lids, cornstarch straws and bamboo chopsticks are provided in place of plastic ones. Our in-house cafeteria also does the same and opts for packaging supplies made of eco-friendly pulp and biodegradable plastic bags as part of our company-wide efforts to minimize the environmental pollution from the use of disposables. Our in-house cafeteria installed three aerobic microbe-assisted food waste processors to reduce food waste generation by 90%. Aerobic microbe food digestion is known for its benefits in reducing GHG emissions generated when food waste is buried or incinerated. Our amenity facilities including office pantries are equipped with rinsers for tumbler washing and waste sorting boxes to help Krew effortlessly choose reusable alternatives and recycle.

Environmental Trainings and Campaigns for Krew

In December 2022, we gave an internal environmental training program titled 'ESG, and Climate Change Story' to improve Krew's awareness on climate change adaptation. This

company-wide training covered issues from the concept of climate change to Kakao's responses to it. Participants were surveyed after training to identify their satisfaction level and effectiveness in applying learnings to their day-to-day work. Along with the training, a green campaign was launched to encourage the use of personal mugs at the in-house café to help Krew practice their learnings. We will continue with such environmental training at least once each year so that our Krew better understand and take interest in the necessity for environmental management.

In-house Environmental Training

ESG, and Climate Change Story	<ul style="list-style-type: none"> · Demands from shareholders, investors, users and other stakeholders for climate change adaptation · Concept of climate change, the Paris Agreement, the Inter-governmental Panel on Climate Change, climate change scenarios, etc. · Introducing Kakao efforts for climate change adaptation and its eco-conscious services · Participant : 101 persons, satisfaction level : 4.7/5.0 points
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Promoting Eco-conscious Commuting and Mobility for Krew

We operate commuter buses and shuttle buses to help reduce carbon emissions generated during the commutes of our Krew, along with bike parking lots and EV charging stations within Pangyo Agit. We are working to raise the proportion of zero-emission vehicles in our corporate fleet vehicles, and 22% of our owned fleet vehicles were EVs as of December 2022.

Eco-friendly Commute Programs

Commuter bus	<ul style="list-style-type: none"> · Operate commuter buses on 19 routes to work and 17 routes to Krew's destinations as of Dec. 2022 (35% of Krew coming to work use commuter buses) · Operate shuttle buses between our office and nearby subway stations
Bike ride	<ul style="list-style-type: none"> · Arranged a bike parking lot for 230 bikes at Pangyo Agit · Operate charging stations for e-scooters and e-wheels · Operate a self-repair area
Switch to EVs for corporate fleet vehicles	<ul style="list-style-type: none"> · As of Dec. 2022, 10 out of 45 corporate fleet vehicles were EVs (rose to 22% this year from 12% last year) · Plan to gradually increase the proportion of zero-emission vehicles

Community

Community's efforts to mitigate environmental impact

The Kakao Community engages in wide-ranging trainings and campaigns to improve Krew's environmental awareness.

Kakao Pay	<ul style="list-style-type: none"> · Opened an in-house flea market to engage Krew to advance resource circularity · Implemented challenge projects based on Krew's volunteering for proper waste sorting, tumbler use, and litter picking to make donations five times the participation fees to environmental organizations · Partnered with the WWF (World Wildlife Fund) for employee environmental training and made donations to support environmental preservation
Kakao Games	<ul style="list-style-type: none"> · Hosted 'Together Green Day' as a Krew-engaging green campaign to donate used goods from Krew to the Beautiful Store and promote resource circularity · Donated to a non-profit store 'Giving Plus' padding wear, mugs, ecobags, and other internally-produced surplus inventory items
KakaoBank	<ul style="list-style-type: none"> · Launched a plogging campaign (nearly 400 Krew members and their families picked up 2,160L of litter near Tancheon, Bundang, and near their homes) · Established an e-document reporting system to go paperless · Distributed tumblers made of recycled materials to all Krew to help reduce the use of disposables
Kakao Enterprise	<ul style="list-style-type: none"> · Included mugs in the new hire welcome kit and fully switched to reusable cups at the in-house café · Equipped pantries and shared spaces on each floor with cupholder return boxes, pantry supplies from eco-friendly materials, and mug sterilizers and cleaning machines to reduce the use of disposables · Refurnished the office with LED lighting for power efficiency
Kakao Style	<ul style="list-style-type: none"> · Hosted an 'Eco-friendly Action Week' event to focus on six green daily habits to stop using disposable cups and to bring one's own packaging containers to stop using plastics among others
dktechin	<ul style="list-style-type: none"> · Launched the Zero Papercup campaign to encourage Krew to opt for tumblers over disposables in the workplace

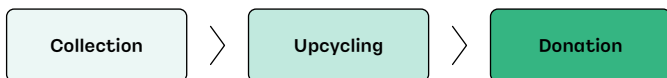
Active Green Initiative

Through Kakao (Green Service)

Saegaburch, our Participatory Upcycling Project

Kakao Makers is implementing the Saegaburch upcycling¹⁾ project to give pre-owned items a second life. Saegaburch aims to repurpose used items to give them a new function and shift the paradigm of the manufacturing industry from a linear economic structure to a circular, eco-friendly one. In 2022, this project was undertaken three times to upcycle T-shirts, shirts, and sweaters. In 2023, we will further extend the scope of upcycling items and open new possibilities for the manufacturing industry so that 'upcycling becomes a new norm of our everyday life'.

Saegaburch Upcycling Process



How to Protect the Earth with Kakao Makers

Providing Green Certification Information and Using Eco-friendly Packaging

Kakao Commerce provides green certification information on the product detail page of its KakaoTalk Gift and KakaoTalk Shopping services. In 2022, the scope of registrable certifications was extended, and products registered for their green certification status were exposed as 'Green Gift' on the Gift search result page so that users can better access such eco-friendly products. Kakao Friends' product packaging also opts for highly recyclable paper boxes to reduce the use of plastics. The official Kakao Friends website ensures that packaging boxes, buffer materials, and tapes are all made of eco-friendly materials, and directly-operated offline stores also provide biodegradable eco-friendly plastic bags.

Reducing Paper Consumption through e-Document and Mobile Billing Service

Kakao Pay, as an authorized electronic document intermediary, operates mobile messenger-based e-document services and makes post notices and paper bills available on the KakaoTalk platform. Kakao Pay's billing service is Korea's first mobile messenger-based EBPP (Electronic Bill Presentment and Payment) service that allows users to conveniently manage and pay their utility bills and other wide-ranging daily service bills. Such e-document and mobile billing services provide the benefits of reduced cost for documentation and billing and improved user convenience and work efficiency, and also contribute to cutting down on paper production and consumption to eventually safeguard forests and reduce carbon emissions for environmental protection.

Environmental Impact Mitigated by e-Document and Mobile Billing Services

As of Dec. 31, 2022

Paper cost savings of mailing paper documents and bills
(KRW 500 reduction possible per case)

KRW **76.7** billion

30 year-old trees protected for the past 1 year
(0.0001 trees per case)

15,334 trees

Support for Shift to Electric Taxis

Kakao Mobility has implemented wide-ranging programs — purchase subsidies, charging discount cards, and battery management service — to minimize any inconvenience and burden that e-taxi users may face in terms of purchase, charging, and battery management among others. As of December 2022, nearly 10,000 of Kakao T Blue and Pro membership taxis are EVs. Switching from LPG-powered taxis to e-taxis could potentially achieve 3.9 tCO₂e in carbon emissions reduction per vehicle each year²⁾.

Pursuit of Eco-conscious Architecture and Design

Kakao Space delves into how people can live in harmony with nature and explores solutions to live with this experience through the medium of space, with the expectation that sustained practice and experience, rather than time-bound one, will pass on to our next generations. Kakao AI Campus (temporary name) embraced eco-conscious designs and construction to deploy eco-conscious architecture and energy systems, and is working to achieve LEED certification. The neighborhood park to be created in the front of the campus will be designed to ensure its ecological continuity to provide a thriving place for nature, the environment, and people based on its experienced-based design.

1) Repurpose unwanted products to give them a new function through new design elements rather than merely recycling them
2) Calculated based on the annual average distance traveled by taxis per vehicle (58,000km) according to 「Seoul Taxi Report」, applied the emission factors (LPG: 174.581gCO₂e/km, EV: 107.877gCO₂e/km) from Research on transport energy prices and and tax reform directions in preparation for the dissemination of automotive electrification by the Korea Energy Economics Institute

Active Green Initiative

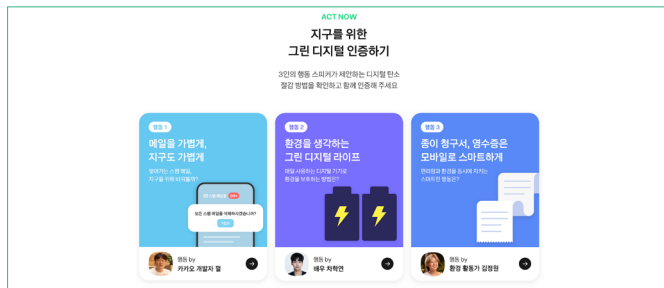
With Kakao (Green Campaign)

Kakao Together | Act Together for Green Digital Campaign

Act Together is the impact movement service launched by Kakao Together to use small daily actions to resolve social issues. In 2022, three actions to reduce digital daily carbon emissions were introduced under the Green Digital environmental campaign, and Kakao donated KRW 1,000 for every action taken and proven by users with proper evidence. The funds raised went to plant a total of 1,026 trees and create the Green Digital Forest in Yeoncheon-gun, Gyeonggi-do.

▶ Learn More about Kakao Together Activities

Green Digital Campaign



Act Together for 'Green Digital'

Set the eco mode for e-mails	<ul style="list-style-type: none"> Use the eco mode to shorten the retention period of spam and trash e-mails from 15 to 7 days for Daum/Kakao e-mails to help reduce carbon emissions Nearly 47,000 persons participated as of Dec. 2022
Reduce the power consumption of digital devices	<ul style="list-style-type: none"> Put one's smartphone to power-saving mode and KakaoTalk to dark mode to save energy consumption Nearly 3,900 persons participated as of Dec. 2022
Go paperless	<ul style="list-style-type: none"> Use Kakao Pay's mobile billing and document box service, replacing paper billing to cut paper consumption Nearly 15,400 persons participated as of Dec. 2022

CASE Disseminating Eco-conscious Audience Etiquettes

Act Together launched the Green Etiquette campaign to disseminate eco-conscious audience etiquettes in alignment with the MMA (Melon Music Award) 2022 hosted on Kakao Entertainment's music platform Melon. Campaign booths were operated at the performance venue to engage offline audiences as well, with nearly 5,000 persons participating. After the MMA event, carbon emissions from the event was calculated based on the energy used for the performance, the waste generated during the event, and audiences' mobility data collected by survey. It was revealed that 184.9 tCO₂e of GHG emissions were produced from the performance, and we will offset these emissions through our voluntary carbon credit in 2023. Meanwhile, over KRW 7 million Kakao donated in proportion to the actions taken and proven by users under the Act Together initiative went to Peace Forest to help create forests. This not only mitigated actual carbon emissions but also promoted eco-conscious audience etiquettes among users. Going forward, we will continuously commit to mitigating the environmental impact of the events that we host.

Eco-conscious Audience Etiquettes



Use public transport to get to the performance venue.
Walk or use public transport when you're not going far (in your daily life)!



Put your smartphone to dark mode when listing to music
Lower monitor/laptop screen brightness (in your daily life)!

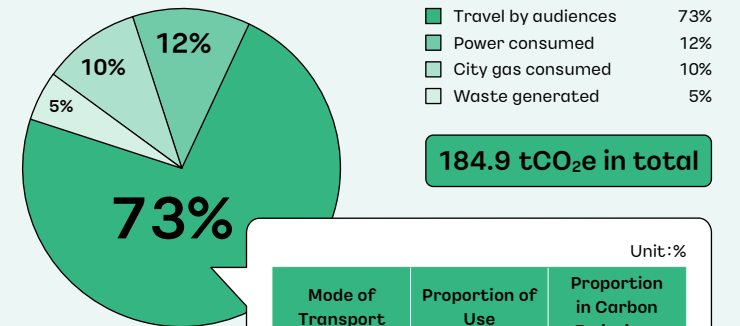


Bring your personal tumbler to the performance venue
Bring your personal tumbler to school, office or café (in your daily life)!



Bring your personal ecobag to carry concert merchandise
Get your ecobag when going out or going grocery shopping (in your daily life)!

Carbon Emissions from the MMA 2022



Unit: %

Made of Transport	Proportion of Use	Proportion in Carbon Emissions
Automobiles	15.4	59
Bus	24	15
Train	10.1	14
Airplane	0.8	11
Subway	47	0.5
EV	0.7	0.5
On foot	1.6	-
Bike	0.4	-

Calculated by estimating the carbon emissions generated from 12,185 persons who traveled to the performance venue based on the data collected from 1,895 survey respondents (16% of the total audience)

Active Green Initiative

Preserving Biodiversity

Kakao advances a host of user-engaging activities to protect biodiversity and promote reforestation across our communities. We safeguard endangered animals and plants whose habitats are being threatened and strive to keep our natural ecosystem intact.

Preserving the Marine Ecosystem

Kakao Together, our CSR platform, launched the 'Our Ocean Campaign' campaign on World Ocean Day on June 8 to help take stock of marine protected areas and develop alternative solutions. A total of five donation boxes were chosen for marine environmental protection and ocean ecosystem preservation, and special KRW 5 million donations made through Kakao's donating KRW 1 million for each box and through additional Kakao encouragement donations were delivered. A project to develop a litter collection system for marine protected areas and a marine environmental education project for elementary/junior/high school students were selected, and the KRW 18.3 million raised by nearly 30,000 participants was donated to these marine environmental protection projects.

Preserving the Habitats of Endangered Wildlife

Kakao strives to preserve habitats for endangered wild animals and eliminate possible threats to the habitats of wild birds. In reflection of the proposals made by project teams, we worked to supply food to endangered white-naped cranes during the winter season and to protect the habitats of otters. In the wake of the large-scale forest fires which broke out in March 2022, we raised and donated KRW 650 million along with users to help restore the affected forest areas.

Protecting Biodiversity for Honey Bees

Honey bees account for 70% of global fruit and plant pollination and are deeply associated with the food crisis we're facing. Kakao Makers is committed to alerting the general public on the declining honey bee population. An illustration-assisted campaign was launched to raise nearly KRW 15 million, which was donated in its entirety to the Korea Beekeeping Association to help with its honey plant¹⁾ growing project.

Supporting the Ocean Clean-up Project in Jeju

Kakao's Jeju Impact Challenge assists the local Jeju community in undertaking environmental impact mitigation projects. In 2022, we funded the Ploving Korea²⁾ project launched to improve awareness on ocean litter and perform ocean clean-ups. The Ploving Korea Team focused on training plovers as stewards of the Jeju ocean by providing 20 ploving training sessions and 5 introductory training sessions for entry-level plovers during the project period. We also helped local fishermen associations repair their ship propellers to bolster our networking with community stakeholders and create a safe marine environment.

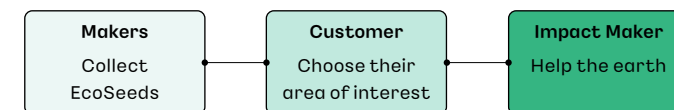
Melon's 'Forest;Streaming' Project

'Forest;Streaming' was launched by Melon, Kakao Entertainment's music platform, as a green project to help create forests under the name of one's favorite artists. Users may select the names of their favorite artists on the 'Forest;Streaming' page during their regular membership period: 2% of their monthly payments are automatically accrued, and when such accruals reach KRW 20 million for a specific artist, the sum is donated to the Korea Federation for Environmental Movement in Seoul to implement forestation projects under the name of that artist in the nation's capital city. Between end of June when the project was initiated and December, KRW 74 million were accrued which will go to create three forests in 2023.

EcoSeed Campaign for Environmental Improvement Fundraising

Kakao Makers is joining hands with customers in implementing its EcoSeed campaign for environmental improvement. Under this campaign, KRW 100 is donated as EcoSeed for every order placed by customers to help with forestation and marine environmental improvement. During the year of 2022, KRW 390 million were raised, which went to create forests to prevent particulate matters and collect ocean litter among others.

EcoSeed Campaign Process



E-document Green Challenge

In July 2022, Kakao Pay launched the e-Document Green Challenge to promote its e-document service and its use. Participants subscribed to the service for their credit card bills among others, and reported when paper bills were e-mailed even after their e-document subscription to directly experience eco-conscious financial services and identify areas that have the potential for e-document transition. We provided participants with green kits, stocks with excellent ESG ratings, and other gifts to encourage their effort to reduce paper consumption. We also raised funds in proportion to the level of challenge participation and donated KRW 47 million to Peace Forest. In April 2023, we initiated a tree planting donation project in Yanggu-gun along with Kakao Together and Peace Forest to help expedite reforestation in Gagnwon-do to increase carbon absorption and boost biodiversity in so doing.

1) Plants where honey bees collect honey and pollen

2) Ploving, the combination of 'plocca up' which means 'picking grains' in Swedish with 'freediving', refers to eco-conscious leisure sports to pick up ocean litter while enjoying diving.

Social

Why This Matters

Regulations are tightening in Korea and overseas to address unfair platform practices and user protection issues, and IT businesses face ever-increasing expectations on their social responsibility. This highlights the importance of preemptively understanding varying stakeholder requirements and incorporating them into business operations. Specifically, our stakeholders expect that Kakao put its services and technology to work in resolving emerging social issues and grow in step with society in the process, which underscores the need that we take responsibility as a member of the community and continue with our efforts to create social value.

Approach

We pursue shared growth with our key stakeholders — Krew, partners, users, and communities — as our core value. We take responsibility for respecting human rights in our business conduct, and create a work environment where our Krew take the lead in their growth and work safely. We also operate a host of programs to help content producers, partners and suppliers build their competitive edge while supporting the innovation of the IT ecosystem by making our open source resources widely available. Such efforts extend to the protection of user data as we work to safeguard privacy, improve service accessibility, and comply with algorithm ethics. Furthermore, we leverage Kakao platforms to engage all in our initiatives to expand the value of serving the public interest across society.

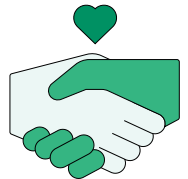
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2022 Highlights

Bolstered human rights management governance

Creating the Roundtable on Human Rights and Business and the Human Rights and Technology Ethics Team



Raised win-win partnership funds
(to be executed for 5 years from 2022)

KRW
300 billion
in total



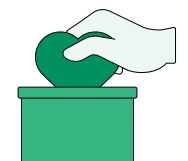
Surveyed on accessibility to Kakao services (for services with 10 million or more users)

Improving accessibility for 30 services



Supported public interest projects through Kakao Together (Jan. ~ Dec. 2022)

1,271 public interest projects
7.9 million cases of donation made
KRW **11.9** billion raised



Human Rights Management

Human Rights Risk Management

Our Approach to Human Rights Management

Kakao endorses international human rights principles set forth by the United Nations and the International Labour Organization, etc. and abides by domestic laws and regulations that reflect these principles. As such, we implement the Kakao Business and Human Rights Statement stipulated in January 2021 to embody our unique philosophy and principles for human rights management. We also joined the UN Global Compact (UNGC) to uphold its 10 principles in the areas of human rights, labor, environment, and anti-corruption that form the core value of the UN. In 2022, we joined the theme-specific Accelerator Programme led by the UNGC to help our Krew responsible for the respective areas of anti-corruption, climate change and human rights management better understand these areas. We also attended the Korea Leaders Summit 2022, a sustainability conference hosted by the UNGC Network Korea, in November 2022 to introduce how Kakao was working to fulfill digital responsibility by stipulating our Algorithm Ethics, our online child/teenager protection policy and our Principle to Counter Hate Speech.

- [Kakao's Business and Human Rights Statement](#)
- [Kakao's UNGC CoP webpage](#)

Human Rights Risk Management

Human Rights Impact Assessment and Due Diligence

We conducted a human rights impact assessment on all our Krew, subsidiaries, and suppliers working at our operations under outsourcing contract, and it mainly focused on the risk assessment of labor practices and Krew's human rights status. This identified gaps to overcome including: lack of awareness on human rights management system, the issue of overtime working in emergencies, and negative experiences in regard to workplace harassment.

Driven by our rights-based philosophy, we conduct business responsibly so that we respect each other and seek shared growth. We prevent factors that may give rise to human rights violation in the services that we operate and the operations we engage in. We do our utmost to promptly address human rights violation and to ensure fundamental resolution.

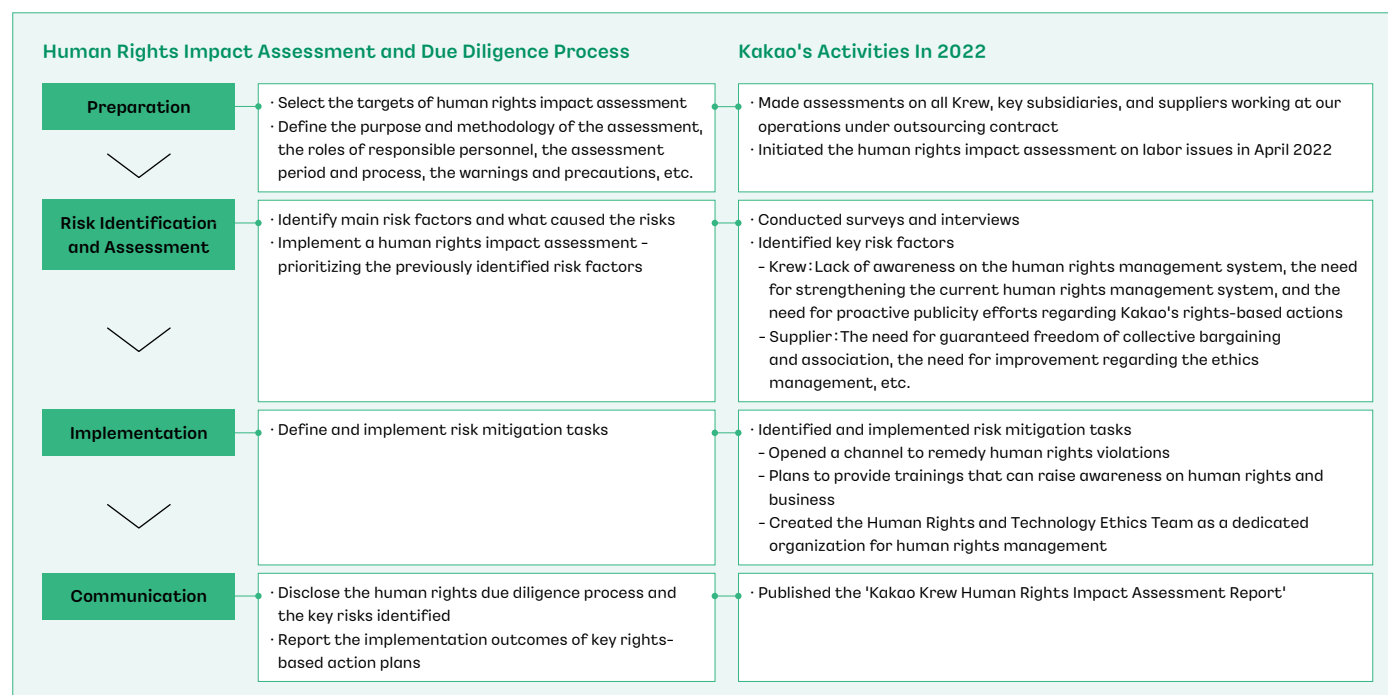
Follow-up Actions for the Human Rights Impact Assessment

To mitigate the identified human rights risks and to successfully mainstream the human rights management system across the existing business operation, not only did we improve our human rights whistleblowing channel, but created a dedicated organization for human rights management. We also published the 'Kakao Krew Human Rights Impact Assessment Report' to make our progress towards human rights management publicly available for all Krew.

Creating a Dedicated Human Rights Management Organization

To ensure the systemic and on-going management of human rights risk, we created the Human Rights and Technology

Ethics Team as a dedicated organization for human rights management. The Team is responsible for analyzing global and/or domestic trends as well as guidelines regarding business and human rights and supporting rights-based business operations that are actionable on the part of the Kakao Community. In December 2022, we established the Roundtable on Human Rights and Business, joined by officers at managerial level, to refine our human rights management system and to ensure actual implementation of rights-based action plans. The Table met for the first time in January 2023, and has since held monthly meetings to encourage the proactive participation of the Table members and to discuss preventive actions as well as prompt response for priority human rights issues within Kakao.



Human Rights Management

Bolstering the Human Rights Grievance Mechanism

Kakao operates a hotline channel for Krew, partners, users, and all other stakeholders to report the violation of their rights on anti-corruptive practices, fair trade noncompliance, and sexual harassment. Our partners may turn to the official communication channel within our PoK procurement system to report any violation of their human rights that has occurred in the business process. Users may go to the reporting channel within our customer center to submit reports on data privacy breaches, copyright infringement, etc. In December 2022, we newly added the human rights violation section to Tellme@Kakao, the existing grievance handling channel, to help Kakao members have better access to reporting their human rights concerns. We also opened a 1:1 grievance counseling channel to receive human rights violation reports both offline and online. Using the Roundtable on Human Rights and Business as an effective platform to discuss sustainable human rights grievance mechanism, we are continuously advancing our remediation and grievance mechanisms.

- [Kakao's channel to receive human rights violation reports](#)
- [Kakao's procurement system PoK](#)
- [Channel to report the violation of rights](#)

Communication-based Labor Relations

We respect the right to organize, the right to collective bargaining, and the right to collective action in accordance with the universal norms that guarantee basic labor rights as recommended by the Labor Relations Act and the ILO declarations. In August 2021, our collective agreement was renewed through collective negotiations made with our labor union, which guides our efforts to maintain and improve Krew's labor and living conditions. To facilitate effective communication, we regularly operate the Roundtable as a labor-management consultative body composed of equal number of eight labor and management representatives. Eight labor representatives are directly elected by Krew to represent

the voice of all Krew. This ensures that we discuss various topics, including the company's future strategy, HR and benefit programs and establish communication-based, trustworthy labor relations. In 2022, the Roundtable collected feedback on our welfare and HR programs and made meaningful improvements in planning for loan support and work arrangement.

Grievance Mechanisms for Krew

We operate grievance counseling and reporting channels on an on-going basis for Krew. Hotline and Tellme@Kakao channels guarantee that whistleblowers' reports and identities remain confidential following applicable laws and our internal regulations, and explicitly stipulate that whistleblowing does not result in any disadvantage. We ensure fairness and objectivity by operating a dualized implementation organization that separates factual investigation and disciplinary action from HR and advisory action. The Standing Ethics Committee convenes to deliberate on disciplinary actions pursuant to our internal regulations and to engage in in-depth discussions from multiple perspectives. The Committee is chaired by the CEO or those authorized and delegated by the CEO. Its members are appointed to ensure their balanced composition based on position, gender, and age group.

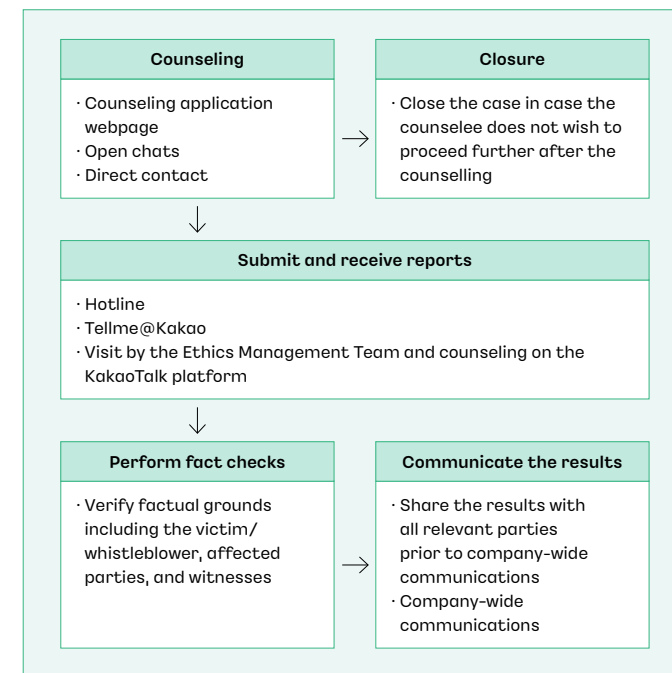
Improvement Made to Krew's Grievance Handling Mechanisms in 2022

Process improvement	· Inserted a counseling process prior to interview with the Standing Ethics Committee to ensure sufficient grievance handling and to enable effective decision-making whether to go through the actual grievance process or not
Improvement in channel accessibility	· Opened the HELP section on the intranet's main page to provide a direct link to the grievance handling channel to improve its visibility in 2022
Awareness building training	· Provided company-wide statutory training and quizzes on anti-bullying to raise Krew's understanding on our grievance mechanisms

Grievance Handling Channels

Reporting through Hotline	Report violations of the Code of Ethics Operate the grievance reporting and counseling channel for Krew to keep the identity and information of whistleblowers confidential and receive reports through e-mail, post, and our website
Roundtable grievance-handling member	1:1 grievance counseling Let Krew choose one of the three grievance handling members for 1:1 counseling, and institutional and other issues hardly resolved through counseling are raised as the agenda for regular Roundtable meetings
Time's Up Taskforce	Sexual harassment Assist Krew in the counseling, whistleblowing, and grievance handling process, and support their return to a safe workplace with the help of the taskforce team voluntarily organized by Krew to prevent sexual harassment and minimize the resulting damage
TellMe@Kakao	Bullying, other human rights violations, etc. Serve as a Krew-exclusive intranet reporting system allowing Krew to instantly report any non-compliance with the Code of Ethics or seeking counseling either anonymously or under one's name. In 2022, the human rights violation counseling section was newly added to Tellme@Kakao.

Grievance Handling Process for Krew



Human Rights Management

Diversity Policy

Kakao respects individual Krew members for their diverse backgrounds and values. We work to promote our organizational diversity and create a flexible work culture. Not only do we value diversity from the recruitment phase, but prohibit discrimination on the grounds of origin, race, nationality, gender, age, and disability.

Institutional Support for Greater Diversity

Providing More High-quality Jobs for People with Disabilities

With Linkage Lab, our subsidiary-type standard worksite for the disabled, Kakao strives to deliver greater opportunities to discover one's potential through the 'linkage' created between people with and without disabilities. Linkage Lab Krew engage in IT service work concerning accessibility, search operation, content operation, and design in an environment built with universal designs¹⁾. Our in-house cafeteria employs Krew with development disabilities who provide high-quality services, and visually-impaired individuals with government-certified masseuse/masseur qualifications help provide Health Keeper service, which testifies to our commitment to identifying jobs that could be aptly performed by people with disabilities. In 2022, we increased our recruitment of such challenged individuals to 23 persons, and Linkage Lab employed a total of 107 Krew with disabilities as of December 2022.

Operating In-house Daycare Centers

Kakao operates in-house daycare centers to create a unique Kakao culture that enables the right balance between work and family life. Currently, we run Neulyesol, Agitteul, along with Byeoleaden which opened in April 2023 at our Pangyo Office, and operate Space Dot Kids at our Jeju Office. This ranks us first among Korean IT businesses in terms of the capacity of daycare facilities which accommodates 900 children in total.

Agitteul



Byeoleaden



Institutional Support for Krew to Reduce Their Childbirth/Childcare Burden

We ensure that our female Krew are able to freely access nursing rooms within their office during work hours, and provide an exclusive space for expectant mothers within the female Krew lounge (sleeping room). We also offer legally-stipulated leave programs for both mothers and fathers, including maternity/miscarriage/stillbirth leave, parental leave, prenatal check leave, infertility treatment leave, and family care leave. In particular, all our Krew whose children are eight years old and under or in grade 2 and under are eligible for 2-year parental leave (including 1-year statutory leave). In recognition of our efforts to support Krew with childbirth and childcare and create a family-friendly corporate culture, Kakao has been certified under the family-friendly business certification program operated by the Ministry of Gender Equality and Family since 2020.

Furthermore, we provided our Krew with content produced by the Ministry on the topic of 'challenges and conflicts over roles in one's family life and parenthood, work-life balance'. Kakao Talking About, our external counseling program, also helps our Krew who face challenges for their family and childcare issues to seek assistance from external professionals.

¹⁾ Design of products, services, and facilities to make them accessible to all people, regardless of their age, gender, nationality, or disability

Enhancement of Krew Value

Talent Recruitment and Growth Support

Our Recruiting Approach

With the vision of 'creating a better world with technology and people', we fully commit to recruiting and nurturing outstanding talent who will be front and center in changing the world for the better.

Talent Pipeline Development Strategy

Internships and Open Recruitment

In line with our recruitment approach, our annual open recruitment for developers has prioritized the verification of their actual development competency rather than simply relying on the qualifications stated in their resumes since 2017. Applicants are only required to input their name and basic contact information before taking the coding test, and no other documents are screened. Since 2019, we have operated our internship program in alignment with recruitment to hire individuals with multilateral thinking, values, and unique rational and emotional qualities that are required in the rapidly shifting and evolving industries.

Kakao' open recruitment of developers in 2023



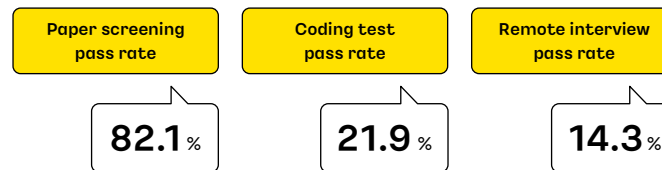
Kakao refers to our employees as Krew: this defines the identity of our Krew both as crew members who work together on the ship 'Kakao' and as colleagues who jointly navigate uncharted water. We set the right condition for Krew to take the lead in their growth journey and fully support them to unlock their potential, pursuing mutual growth between our Krew and Kakao.

Support for K-Digital Training

To respond to the surge in demand for software talent amid the spread of the contactless trend and to help nurture young software talent, Kakao operates Kakao Cloud School courses under the Digital Leading Company Academy led by the Ministry of Employment and Labor and the Korea Skills Quality Authority. We directly designed cloud developer training and cloud engineer training courses, and our incumbent Krew or Kakao-certified instructors provide these courses to help develop software and digital talent. After the completion of training, we continue to follow up on trainees for six months for their recruitment and assignment, and implemented a recruitment process for these trainees who completed their courses.

Achievements of K-Digital Training

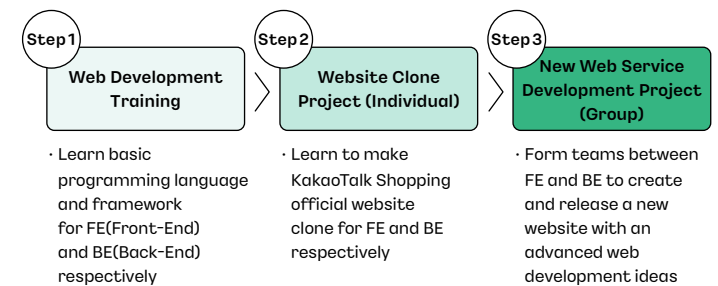
As of Jan. 2023



Kakao Tech Campus

Kakao Tech Campus was designed to make Kakao's technology available for local undergraduates to develop them into junior developers who can quickly assimilate themselves to real-world working environments with an aim to resolve the widening regional gap and labor shortages in the IT industry. Participating students follow the systemic 3-step curriculum to grow into developers with readily-applicable competencies while IT companies can promptly hire qualified talent, which goes to create a virtuous cycle across the IT industry. Following one-year preparation since 2022, this program recruited students from March 2023 and the curriculum will continue into November. In its initial phase, the program chose the Pusan National University and the Cheonnam National University taking into account their regional IT industry size, educational outcomes, and industry-academic partnership experience. Over the mid-to-long term, we will expand the program in terms of target universities, regions, and curricula. In recognition of its training outcomes, Kakao Tech Campus was selected for the 'ESG Support for Youth-friendly Businesses' project led by the Ministry of Employment and Labor in March 2023.

Kakao Tech Campus's 3-step Developer Training Program



Enhancement of Krew Value

Our Approach to Supporting Krew's Growth

Kakao provides the optimal conditions to Krew who are committed to their growth to take the lead in their growth journey. We recognize that Krew's learning pathways can't be standardized given their diverse job categories, years of service, and purpose of learning. This is why we enable Krew to decide their own growth goal and method while supporting them along the way by providing them wide-ranging systems and training programs. With the belief that Krew can grow even more when they share their knowledge and experience with other Krew, we actively encourage them to communicate their knowledge internally.

Kakao's Principles for Growth Support

- **We promote voluntary participation.**
: We help motivate Krew to take action.
- **We do not standardize nor generalize.**
: We respect the different motivations, learning styles, and situations of individual Krew members.
- **We provide processes and conditions.**
: We support Krew with continuous opportunities to try out in real-world settings as well as feedback, rather than one-off events.
- **We share and growth.**
: We grow together along with all other Krew while sharing knowledge and experience.
- **Leaders recognize learning motivations and offer opportunity.**
: Leaders pay close attention with the belief that learning forms an essential part of work.

Growth Support Programs by Type

Internal training	<ul style="list-style-type: none"> • Onboarding Program for Newly-hired Krew • Leadership Program for Leaders • Leadership Program for Office Leaders • Knowledge sharing program • Teambuilding program • Job-specific competency training
Support for growth	<ul style="list-style-type: none"> • Purchase and lending of work-related books • External training and conference attendance

Onboarding Program for Newly-hired Krew

We provide onboarding training to newly-hired Krew to help them acclimate. Prior to starting work, they are briefed on their work assignments and necessary skill sets. Once they start their work, they receive support in quickly understanding Kakao's value and work approach through our Onboarding Day program provided on the very day they join the Company and our Onboarding Monthly program. For Krew members who start their first job at Kakao, we offer them a more diverse and in-depth onboarding program. We operate a 3-month onboarding program for new developers hired through open recruitment, spanning from pre-onboarding to improve understanding on the organization and work to common training for problem-solving and collaborative capacity building as well as technical onboarding to help them learn the essential skill sets for the given job. Differentiated onboarding programs are implemented by job category for Krew hired through internships to fully assist new Krew members in opening a new chapter in their career journey at Kakao.

[How Kakao's Recruitment Team welcomes new Krew](#)

Leadership Program for Leaders

We provide our leaders with a variety of year-round programs to help bolster their leadership competency. Our newly-appointed leaders receive onboarding training. In 2022, such training was provided eight times in total (4 times for cell and part leaders, and 4 times for team leaders) to systematically assist them in fulfilling their role in promoting organizational performance and growth. We introduced the CFR (Conversation, Feedback & Recognition) program to strengthen leaders' communication skills. Our 9-session coursework assisted team leaders responsible for large-sized organizations in reinforcing their organizational management competency while cell part leaders and taskforce leaders who communicate directly with their team leaders attended

practice-focused one-day workshops to learn conversational skills. We also offered appraisal interview training for company-wide leaders and interviewer training for team and office leaders to support their acquisition of communication skills required for leaders.

Leadership Program for Office Leaders

We provided a semiannual onboarding program for newly appointed office leaders to help them fulfill their role. In January 2023, we launched the Division Leader's Table (DLT) for all our office leaders, and plan to operate this program on a quarterly basis. The DLT will serve to share insights necessary to drive our sustainable growth based on a wholesome corporate culture while learning the latest research findings and relevant cases in relation to business, leadership, and organizational culture.

Knowledge Sharing Program

We actively share our best-in-industry knowledge through internal/external knowledge sharing programs hosted in diverse formats. Our Wave and Open Studio programs were hosted six times to invite experts outside Kakao to learn from their latest business insights. Specifically, the five-week company-wide special lecture on design and branding was attended by nearly 500 enthusiastic Krew per session. Connecting Krew and Tech Talk events were held more than twice a month for our Krew to present and directly share their own professional knowledge and experience on a host of topics on work tool use methods, work practices, career growth, and response to service disruptions. These Krew members who share their knowledge and experience through internal knowledge sharing programs throughout the year are proudly called Kakao Guru, and we recognize and appreciate their contributions to ensure that knowledge sharing activities continue on an on-going basis.

Enhancement of Krew Value

Team Building Program

Kakao introduced Team Play as our company-wide team building program to help Krew resolve their difficulties experienced in team building while working at home. During the 3-month pilot period, four types (Mingling Team Play, Communication Team Play, Works Style Team Play, Leadership Team Play) of detailed programs were implemented and joined by 748 Krew members from 99 organizations. In 2023, we will closely identify organization-specific needs to launch an company-wide team building program in the latter half of the year.

Tailormade Job Competency Training and Effectiveness Measurement

We provide growth programs whose methods and content are designed to best suit the distinctive characteristics of each job category to produce optimal learning outcomes. For Krew in technology positions who are required to keep updated with the rapidly changing technology landscape, we have continued to host seminars on key technology trends and opened basic communication courses for junior developers by reflecting the needs of development positions in 2022. For service positions that prioritize data use and relationships with external partners, we opened data analytics courses (Python, SQL, Excel) while Krew in design positions received an annual series of special lectures given by theme-specific external experts to inspire their creative thinking. Meanwhile, we heed the feedback provided by Krew on our growth programs to measure their effectiveness and explore future ways forward based on the identified results. Not only this measures Krew's satisfaction, achievement, transfer of training, and performance contribution to see whether they have resulted in positive behavioral change on the part of Krew, but also this ultimately aims to facilitate Krew's engagement in their work and role and drive our business growth.

Measuring the Effectiveness of Our Growth Programs

Data Analytics Course for Service Business Positions	
Program overview	· Identify business opportunity by improving the data analytics capabilities of service planners (Course attendance in 2022: 58 persons)
Positive benefits	· Develop service data analytics skills through the use of data analytics tools · Improve the efficiency of service operations by building dashboard/automation systems · Identify user needs and improve service functionality through data analytics

Transfer of training¹⁾

4.3 points (on a scale of 1 to 5)

Basic Course for Tech: Communication	
Program overview	· Improve developers' communication skills to bolster their work execution and collaboration (Course attendance in 2022: 292 persons)
Positive benefits	· Systematically document and organize one's own work experience or knowledge · Choose and use the communication approach fit for the given situation and purpose in the collaboration process

Transfer of training²⁾

4.2 points (on a scale of 1 to 5)

Transfer of leaning³⁾

4.2 points (on a scale of 1 to 5)

Sales Communication Course	
Program overview	· Improve the communication skills of sales personnel through simulation training (Course attendance in 2022: 40 persons)
Positive benefits	· Prepare for any possible situations in real-world settings through diverse role play-based exercises

Transfer of training²⁾

3.9 points (on a scale of 1 to 5)

Training satisfaction

4.2 points (on a scale of 1 to 5)

Growth Support Programs

Our growth support programs ensure that our Krew choose their own growth pathway that can best serve their individual needs. With our external on/offline training, attendance at domestic/overseas conferences, and purchase of work-related books and e-book rentals, we assist Krew in paying for the content and trainings to elevate their work competency. In 2022, a total of 1,636 Krew members used such growth support programs on 4,567 occasions to continue with their self-directed learning journey.

Partnership with External Educational Institutions

In partnership with external educational institutions, Kakao continues to expand our growth infrastructure so that anyone working at Kakao may access high-quality education at affordable prices. We signed the first partnership with Sejong Cyber University to ensure that all our Krew take various learning courses at 50% discounts without application fees. IT department courses spanning software engineering, computer & AI engineering, and information security engineering assist our Krew in booting their work competency and expanding industry-wide networking.

Support for Book Purchases and Lending

We support Krew to individually purchase work-related books. Nearly 36% of our Krew bought over 6,000 books in 2022. We also operate the Kakao-only e-library to lend work-related e-books. This e-library is updated with new books and books requested by Krew each week to encourage our Krew to learn through reading. In 2022, nearly 40% of our Krew used the e-library to access five books on average.

1) Measure the responses made by participants on whether they were able to develop skills applicable to their work through data analytics courses (on a scale of 1 to 5)
 2) Measure the responses made by participants on whether communication skills increased as a result of training helped improve their work performance or reach the set goal (on a scale of 1 to 5)
 3) Measure the responses made by participants on whether positive benefits were created as a result of training on Krew/organizational collaboration with relevant organizations (on a scale of 1 to 5)

Enhancement of Krew Value

Community

How the Kakao Community Supports Krew's Growth

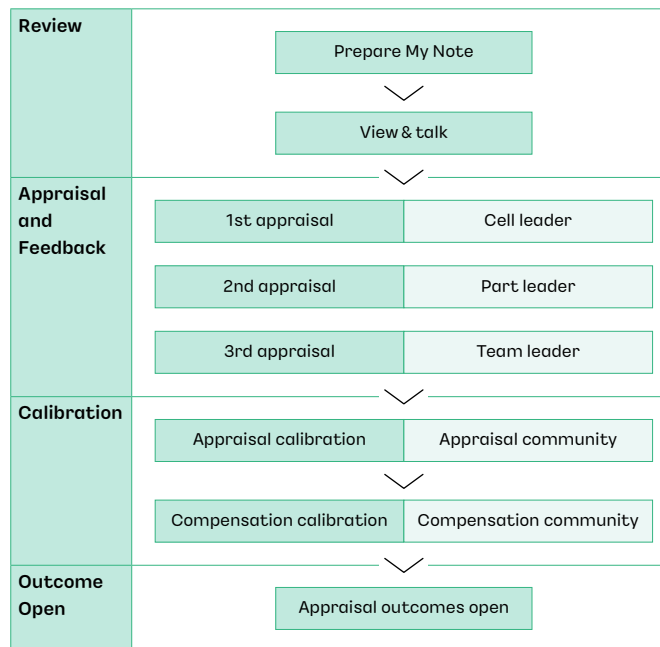
To help Krew pursue growth at their own pace, the Kakao Community develops training programs fit for their job and role and operates wide-ranging support programs.

Kakao Entertainment	<ul style="list-style-type: none"> Introduced a leadership program tailored to different job levels and positions by aligning its company-wide training system Conducted global training for expatriates and expanded the scope of special lectures provided to Krew to gain insights Implemented diverse organizational activation programs – team building workshops and campaigns – to improve its corporate culture
Kakao Games	<ul style="list-style-type: none"> Implemented a leadership program for team leaders to acquire leadership knowledge, skills, and attitudes to generate organizational performance and support Krew's growth Measured growth programs for their transfer of training and satisfaction to improve the programs
Kakao Piccoma	<ul style="list-style-type: none"> Introduced growth support grants to help Krew engage in individual capacity-building activities
Kakao Investment	<ul style="list-style-type: none"> Opened its cyber training institute in partnership with an external educational platform to support Krew to receive training useful for their work
Kakao Brain	<ul style="list-style-type: none"> Hosted the Open Seminar to invite lecturers outside the company to disseminate academic trends and gain internal research insights (11 times/year) Held company-wide, CEO-hosted mini conferences to share business approaches and key technology (10 times/year) Hosted Demo Day to share taskforce-specific development outcomes (twice/year)
Kakao Ventures	<ul style="list-style-type: none"> Provided lectures for work-related capabilities including the analysis of non-listed stocks and the preparation of investment contracts
Kakao Style	<ul style="list-style-type: none"> Supported Krew in paying for their work-related education and conference attendance Supported the operation of internal book study groups

Our Approach to Appraisal and Compensation

Our performance management system aims to facilitate the growth of Krew and their collaboration with colleagues. We operate a fair performance management system that rewards Krew for their performance and competencies. We provide the best benefits in the industry to those who work with creativity. We also offer top-performing Krew stock grants to retain qualified employees over the long term, to motivate our Krew to improve performance, and to ultimately enhance our corporate value. In May 2022, we offered 575,300 shares as stock options to a total of 3,111 Krew members to further motivate them and lay the basis for sustainable growth. Those with a service period of more than a year were granted 200 shares while newly hired Krew and those who worked more than 6 months and less than a year were granted 100 shares. They can exercise 50% of their stock options after two years of service, and 100% after three years of service.

Performance Appraisal and Compensation Process



Appraisal and Compensation Systems

Krew performance is assessed through reviews made from positive viewpoints by the Krew members themselves, colleagues, and leaders, followed by the evaluations and feedback of leaders. Leaders take the primary responsibility for this appraisal process in accordance with the Growth Stage framework, and perform achievement assessments on Krew's attainment on individual tasks and competency assessments on their knowledge, skills, and behavioral patterns. The former is closely aligned with the short-term compensation of performance bonus rates, and the latter with the long-term compensation of annual salary increase rates. Such appraisal and compensation results are confirmed through the calibration sessions attended by the appraisal/compensation community composed of the heads of office, team leaders and job boards to engage in group discussions to generate standardized results, and are then released to the Krew. Each year, full-time Krew members¹⁾ receive performance appraisals, and regular performance assessments are made once a year. In addition, we operate the Check-in mid-performance management program at least twice a year for leaders and Krew members to communicate on performance continuously.

Improving Our HR System through Krew Feedback

We recognize the need to improve our HR assessment and compensation systems and strive to operate our HR system according to the Kakao's Style. In 2022, we focused on aligning existing systems to increase their effectiveness and benefits. Incumbent assessment, compensation and benefit systems were reviewed to identify necessary improvements. They were restructured to become more Krew-friendly by making system improvements and relaxing the criteria for benefit eligibility. In 2023, we will continue with improvements, and intensively explore viable options along with Krew for the betterment of our HR system.

¹⁾ Performance assessments were made on 3,414 full-time Krew in 2022.

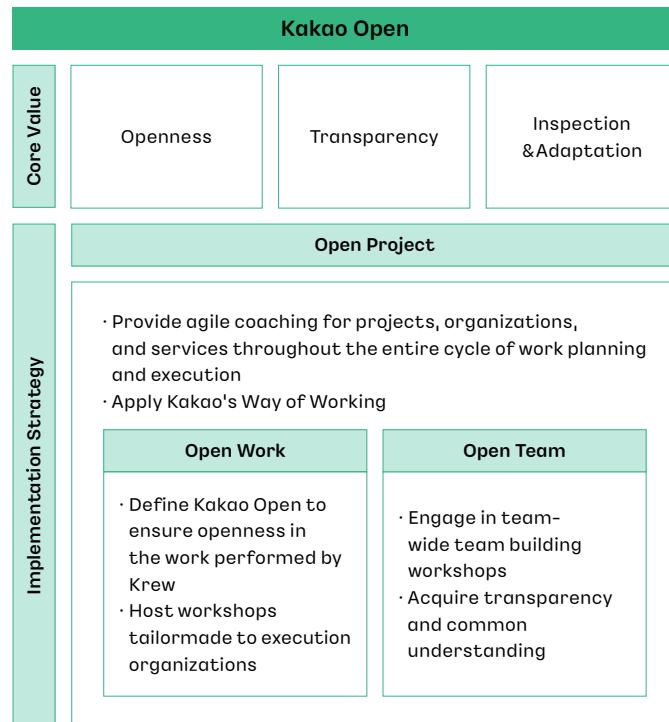
Enhancement of Krew Value

Innovative Work Methodology

Kakao Open for Agile Working

Kakao's Open Work is part of an on-going journey to build openness into our corporate culture by applying Kakao's Style to make the work of all Krew 'open' in an objective and transparent way. In 2022, we further extended this to define Kakao Open to continuously inspect and adapt our work methodology based on openness and transparency for our projects, teams, and work in their entirety. This will drive our efforts to design the work methodology fit for respective organizations, from small teams of 10 members to large-sized organizations of 100+ and provide coaching to create a mature work culture.

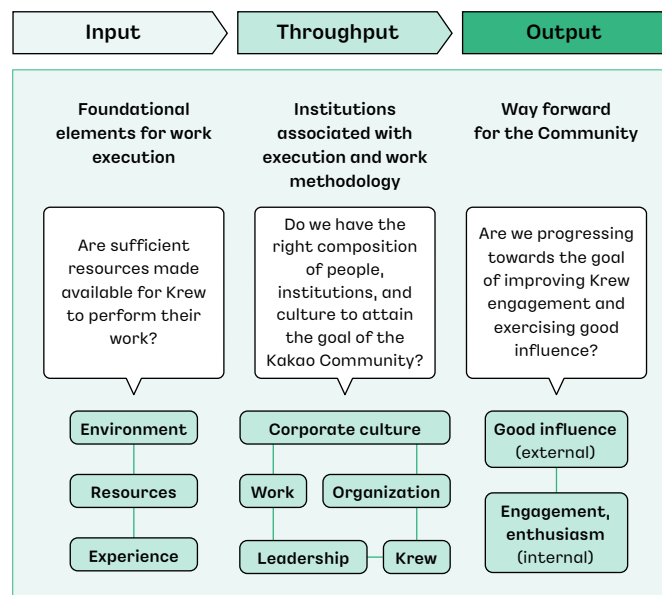
Kakao Open Framework



Employee Satisfaction and Engagement Surveys

After being realigned to better reflect our current conditions, the annual Organizational Health Survey has been conducted on Kakao and Community members¹⁾ in 2022. The framework was categorized into 10 areas from the Input, Throughput, and Output aspects, and was upgraded with 61 common questions and additional questions curated to meet the distinctive needs of respective Community members, such as work experience, purpose, and trust in leadership, etc. Newly added questions aim to measure leadership in team leader and higher positions and Krew's awareness on the company-wide pursuit of ESG. For the Organizational Health Check 2022, the response rate was 53.1% at Kakao and 59.2% at the Community level. The results helped us check the health status of respective Community members and develop improvement measures.

Kakao Community Organizational Health Check



Making Improvements Based on Survey Results

Organizational Health Check results were summarized into company-wide, organizational and leadership reports and were circulated among Community members. This was followed by the interpretation sessions held in attendance of Community CEOs and HR leaders to analyze causes and identify necessary improvements, which led to in-depth discussions over measurement results. This allowed us to prioritize tasks in need of improvement, and identify specific improvement measures fit for our corporate and organizational situations. Furthermore, results on leadership-related questions were organized into a separate report and were provided to each Community member to be used for leadership training and feedback in the upcoming years.

People Analytics for Data-based Talent Management

Kakao accumulates a range of data and leverages appropriate analytic tools to make data-based decisions on Krew. Analysis results are made available for decision-makers and stakeholders through customized reports and dashboards to support their execution when needed. For the purpose of improving work efficiency, analytics projects are being undertaken at different levels of individual Krew, teams, and companies. In the event excessive overtime work occurs, this is alerted to the concerned person and his/her leader, and monthly overtime work and time-off are checked to protect Krew from excessive work loads. In 2023, we will conduct the Pulse Survey to verify the gap between As-Is and To-Be at the organizational unit level and support individual organizations to make necessary improvements.

¹⁾ Kakao, Kakao Pay, Kakao Games, Kakao Piccoma, Kakao Investment, Kakao Enterprise, Kakao brain, Kakao Style, and Kakao Space

Enhancement of Krew Value

Health, Safety and Well-being of Krew

Health and Safety Management Policy

Kakao established a regulatory compliance system that prioritizes the health and safety of Krew and workers¹⁾, and performs annual reviews and improvements on our management policy and action plans. In March 2023, we set forth our health and safety management policy to identify and improve hazards/risks and establish a safety-first culture with all our suppliers and contractors understanding and complying with the policy for the purpose of protecting the life of Krew and workers and maintaining a pleasant workplace. The health and safety plans developed based on this policy were reported to the Board of Directors.

Kakao's Health and Safety Management Policy

- We continue to advance health and safety management.
- We strive to create a safe and pleasant work environment.
- We abide by health and safety laws and regulations.
- We work to raise awareness on health and safety in/outside Kakao.

[Kakao's health and safety management policy](#)

Occupational Safety and Health Committee

Kakao operates the Occupational Safety and Health Committee as a consultation channel to create a healthy and safe work environment for Krew. With the participation of equal number of representatives from both labor and management pursuant to Korea's Occupational Safety And Health Act and Article 57 of our collective agreement, the Committee meets quarterly to deliberate and decide on the health and safety matters of Krew. Our health and safety performance in 2022 and action plans for 2023 were reported to the Board for approval.

2022 Key Activities of the Occupational Safety and Health Committee

Response to COVID-19	<ul style="list-style-type: none"> · Created an in-house taskforce team dedicated to COVID-19 · Set up COVID-19 testing booths at office, checked temperatures through thermal imaging, and distributed self test kits and face coverings · Provided vaccination leave and COVID-19 test grant as well as mandatory sick leave and necessary supplies for infected Krew
Health and safety check on Pangyo Agit	<ul style="list-style-type: none"> · Performed health and safety inspections on air quality, emergency evacuation routes and others during the move-in to this new office building · Made on-site hazards/risks inspections to identify factors that may cause injuries concerning fire suppression devices, evacuation routes, slips, falls, collisions, and electric shocks

Office Inspections for Risks/Hazards

We initiated an office health and safety system assessment and improvement project to establish a strong health and safety system following the Occupational Safety And Health Act and to develop occupational injury prevention guides. Following the Occupational Safety And Health Act we identified key application items, analyzed our health and safety system, reviewed measures to prevent occupational injuries, and developed improvement plans. We made on-site inspections on risks and hazards within our office assisted by experts, identifying 70 improvement areas and deriving an implementation review process. In 2023, we are working on the identified improvement areas.

Investigation Process for Work-related Injuries, Illnesses, and Accidents

We receive reports on occupational injuries, illnesses, and accidents through our receptionist channel on a year-round basis. Once a report is submitted, we investigate the case and provide care, submit occupational injury investigation forms, and support the filing of occupational injury compensation insurance claims. In case of a serious accident, we immediately issue warnings and evacuation orders, activate a response system for relevant departments and organizations, and seek assistance from fire stations. Our process ensures that injured Krew are taken care of, accident details are identified on-site, and measures are taken to prevent reoccurrence.

Preventing Work-related Illnesses

Every three years, we examine risk factors for musculoskeletal illnesses that could typically occur among Krew members. We also conduct work-related stress tests to prevent stress-induced illnesses and perform on-site inspections on potential accumulated stress. In 2022, we replaced office desks with standing desks in an effort to set the conditions conducive to alleviating musculoskeletal burden and stress. We also leverage Talking About, our EAP²⁾ to provide professional counseling to Krew, to continuously assist them in managing stress stemming from work and relationships. The musculoskeletal risk inspection and job stress test initiated in December 2022 were conducted through on-site inspections and surveys on Kakao Krew and subcontractor employees, along with work environment review interviews advised by ergonomic engineers. The inspection performed on 11 tasks posing musculoskeletal burden following the notification of the Ministry of Employment and Labor revealed that no such tasks were present at both our Pangyo Agit and Jeju Office and the exposure to job stress was lower than the average of Korean workers, as it was the case in 2019.

Employee Health and Safety Training and Disaster Response Exercises

Kakao provides advanced CPR and AED training, and conducts regular disaster response exercises to check emergency evacuation routes and raise safety awareness. In Pangyo Agit, our Krew practiced evacuating to the first floor following the emergency announcement. In Jeju Office, evacuation drill was conducted and trainings were provided on the use of fire shutter emergency doors. We plan to continue our regular disaster response exercises and trainings as well as widen the range of disaster scenarios.

1) Workers include employees of all our subcontractors and labor providers
 2) An Employee Assistance Program that provides professional counseling service to help address work-life imbalance and improve work satisfaction.

Enhancement of Krew Value

Healthcare Programs for the Safety of Krew

Talkeuibogam

We operate our in-house nursing office named Talkeuibogam to provide emergency care, wound dressing, over-the-counter medications, and healthcare services for obesity or smoking cessation. Following our move-in to Pangyo Agit, the nursing office expanded its space and operates between 9am and 6pm. The Recovery Center which opened in 2022 provides stretching, meditation, aerobic exercise, and strength training to help Krew stay healthy both in terms of mind and body.

Talk Terrace

Talk Terrace serves as a meditation and counseling venue for Krew members to alleviate their stress while promoting their mental health. Krew may receive counseling to manage their stress and difficulties that arise in their relationships, work, career, and other varying issues. The counseling service was made available continuously in virtual format for Krew working from home during COVID-19.

Krew Counseling Program of the Kakao Community

Kakao Games	· Provided a professional counseling program to help deal with job-related stress and childcare issues
Kakao Style	· Introduced 'Kas-Thera(py)' as an EAP providing counseling on mental health, emotional issues, and job-related stress
Kakao Space	· Operated the mental care activity 'My Mind Report' to help Krew analyze their mental status and inclinations
dktechin	· Introduced an EAP providing counseling to support on/offline counseling to help manage emotional issues and stress

1) Including condominiums, in-house hobby clubs, Melon subscriptions, employee discounts, support for group accident insurance/medical expenses, Talk Clinic, family event support, holiday gifts, support for expectant mothers, commuter bus support, and Kakao Benefit programs

2) 60th, 70th, 80th and 90th birthdays

Work Programs that Promote Work Engagement for Krew

Kakao ON, Kakao's New Work Arrangement

We constantly strive to find the most suitable work arrangement for Kakao. From July to December 2022, we piloted a flexible work method which allowed Krew to freely choose their time and place of work while complying with the principle of 3 hours/day collaboration time (all-check-in time). This was followed by surveys, interviews, and benchmarking analyses to identify the status of our work arrangement, along with discussions with our labor-management consultative body 'Roundtable' before initiating 'kakao ON' in January 2023. Kakao ON provides full flexibility to Krew in scheduling work hours, sets designated offices as primary workspace, and allows each organization unit to choose their optimal work method. Also, last Friday of each month is designated as Recovery Day to help our Krew relax and refresh.

Work Programs for Engagement and Relaxation

Kakao Games operate various programs without pay cuts to create a immersive and relaxed work culture. This includes time-off provided every other Friday, happy hours that allow Krew to arrive 30 minutes later on Mondays and leave 1.5 hours earlier on Fridays, 1.5 hours of lunch time, and early leave for national holidays.

Wide-ranging Benefits for Krew

We operate various benefit programs available for all our Krew, and partially available¹⁾ for dispatched workers, interns, assistants, and other fixed-term workers. In 2022, we expanded loan support by easing the required service period from one year to three months and securing more partner banks. We also initiated emoticon service and network drive support programs to provide a better Kakao service experience for our Krew.

Benefits Provided to Kakao

Kakao Krew are happy	Kakao Refresh	Provide 30 days Refresh leave and vacation bonus of KRW 2 million for every three years of service
	Condominium	Provide access to company's affiliated resort facilities and varying discount benefits
	In-house club	Support monthly club expenses
	Melon subscription	Support Melon music streaming service subscription
	Employee discount	Provide discounts at Kakao Friends shops and airlines
	Emoticon/network drive support	Support Krew to use KakaoTalk's emoticons and network drive
Kakao Krew are healthy	Group accident insurance/medical expense support	Provide fee-for-service insurance plans and disease/accident insurance plans for Krew and their spouse, parents, and children as well as dental insurance plans for Krew and their spouse and children
	Health check-up	Provide annual check-ups to Krew (transferrable over to their family members during years when they are not eligible for statutory check-ups)
	Talking About	Support external counseling 8 times a year
	Talk Clinic	Support massage services twice a month
	Recovery Center	Support weight training, pilates, yoga and other work-out programs to prevent musculoskeletal diseases (operated twice a day and used by nearly 700 people a year)
Kakao Krew are looked after	Family Love support	Support insurance payment in case of Krew's death
	Family event support	Support expenses (goods) and vacations for weddings, birthdays ²⁾ funerals, and childbirth
	Holiday gift	Give KRW 300,000 on Lunar New Year's and the Korean Thanksgiving holidays
	Loan support	Offer loan support up to KRW 150 million for life stability
	In-house daycare center	Operate daycare centers in Pangyo and Jeju Offices
	Maternity care	Provide kits for expectant mothers and help pay for taxi fares
Other	Support for commuter buses	Operate commuter shuttle buses at the Pangyo and Jeju Offices
	Support for work-related reading	Provide access to work-related e-books
	Kakao Benefit	Grant welfare points worth KRW 3.6 million per year

Win-Win Partnerships

Growing Together with Content Producers

Revitalizing the Emoticon Ecosystem

Since our emoticon service debuted in 2011, Kakao has contributed to the vibrant emoticon ecosystem over the past 11 years on the back of our users, defining a whole new profession of emoticon creators along the way. In 2021, we launched our Emoticon Plus service to offer users the joy of choosing from a wider spectrum of emoticons presented by diverse creators while providing creators an added revenue stream. This service is hugely popular as one out of every three emoticon users is an Emoticon Plus subscriber, and the number of users who experienced this service amounted to over 12 million on a cumulative basis as of December 2022.

Achievements of Kakao Emoticons for the Past 11 Years



Kakao works with a wide array of partners, including but not limited to CPs (Content Producers), business partners, and IT infrastructure suppliers. We believe that when our partners grow, we grow. With this in mind, we will create a self-reinforcing ecosystem where these partners pursue win-win partnerships with Kakao to become even more competitive.

Quantitative Performance of Emoticons

As of Dec. 31, 2022

No. of emoticon creators	· 10,000 emoticon creators ¹⁾
Emoticons that generated profits	· 11 with KRW 10 billion or more in cumulative sales · 116 with KRW 1 billion or more in cumulative sales · 1,852 with KRW 100 million or more in cumulative sales

Copyright Training for Emoticon Creators and Prospective Creators

We provided online copyright training to help creators raise awareness on incidents concerning copyrights and trademarks that may arise in the digital content creation environment. Both current and future emoticon creators learned about the basic concept of copyrights and trademarks, cases of infringement, and legitimate use of copyrights and trademarks along with information required for emoticon creation with the help of lawyers with relevant expertise. We will regularly conduct such training to elevate creators' understanding on copyrights and prevent infringement and disputes.

Publishing Emoticon Research Institute Reports

We regularly publish 'Kakao Emoticon Research Institute Reports' for emoticon creators to help their creation through various data. This serves to provide such useful information as things to consider for emoticon creation and tips to become popular creators. This report is regularly updated through the notices posted by Kakao Emoticon Studio and Brunch, and supports creators to fully unleash their creative potential.

[Kakao emoticon Brunch](#)

Discovering Brunch Authors

We have launched the annual Brunch Book Publishing Project since 2015 to support authors wishing to publish their own books. In 2022, we expanded the awards given in terms of their benefits and scale on celebration of the 10th anniversary of Brunch, granting KRW 90 million in prize money and enabling 50 winners to publish their books.

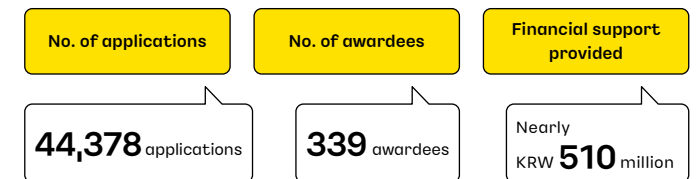
Cumulative Achievements Made by Brunch Authors

As of Dec. 31, 2022



Cumulative Achievements of the Brunch Book Publishing Project

As of Dec. 31, 2022



1) Combined estimates of emoticon creators and emoticon-based industry workers

Win-Win Partnerships

Discovering and Supporting Up-and-coming Creators

Kakao Entertainment hosts competitions including Kakao Page Stage, an open web novel publishing platform, to discover and nurture talented creators. This gives creators an opportunity to debut and producers a chance to uncover great stories.

Emerging Author Discovery and Support Program

Kakao Page Stage and competitions	<ul style="list-style-type: none"> Operated Page GO and Page ON to support emerging authors and hosted two webnovel competitions Supported nearly 140 authors thus far, and 50 of them are publishing as official authors for Kakao Page Uncover novel works across diverse genres through the 1st Keyword Competition, and 4th Kakao Page xChangbi Young Adult Novel Awards hosted with Changbi Publishers
Kakao Webtoon Competition	<ul style="list-style-type: none"> Hosted the Global Raid Kakao Webtoon Competition and provided an opportunity to publish on Kakao Piccoma (selected 5 winners) Hosted the 2022 Super Challenge Webtoon Competition (selected 7 winners)

Kakao Creative Foundation

The Kakao Creative Foundation was established in 2022 by Kakao Entertainment under the Ministry of Culture, Sports and Tourism and operates Online Creative Academy for emerging and established creators to facilitate creativity in areas such as webtoon/webnovel creation methods, law, psychology, and mental healthcare. Kakao Entertainment will contribute at least KRW 10 billion over the next five years, allocating KRW 2 billion each year, and extend to diverse cultural content creators.

Laying the Basis for Creators' Creative Activities

Ground X helps create a healthy environment to appreciate and own digital art through Klip Drops, its digital art and NFT marketplace. This assists creators in selling their NFTs and pays a portion of the profits generated through resales as royalties so that creators can continue with their creative activities and thrive, paving the way for the creator economy.

Expanding the Global Reach of Webtoons and Webnovels

Kakao Entertainment has invested over KRW 2 trillion in developing creators (CPs and authors) and IPs to secure Korea's largest pool of nearly 10,000 original IPs, using our global platform to promote K-content worldwide. Creators can profit through adaptations and other forms of secondary creation beyond their original IPs. In 2022, over 50 works published through Kakao Page and Kakao Webtoon sold their publishing rights for drama, film, and animation adaptations. 20% of the deals were made with overseas companies. Kakao Entertainment's original IP dramas performed well in Korea and abroad, revitalizing the video, webtoon, and webnovel industry. A case in point is 'Roppongi Class' produced through the joint Korea-Japan project to adapt the original Korean version 'Itaewon Class', raising K-content worldwide.

Expanding the Global Platform for Webtoons and Webnovels

- North America: Tapas, Radish, Wuxiaworld
- Asia (Thailand, Taiwan, Indonesia): Kakao Webtoon

Promoting Win-Win Partnerships with Creators and Upholding Their Rights

Kakao Entertainment announced the first improvement plan for the creative ecosystem in 2021. Since October 2022, we have been operating Partner Portal to enable creators to directly check the details of their payment. We joined the Webtoon Win-Win Partnership Council supervised by the Ministry of Culture, Sports and Tourism to engage in discussions with creators, the government, and industry officials. We contributed to drawing the 'win-win agreement', the first such agreement ever made by all members of the webtoon ecosystem, last December. We comply with the provision to 'improve the welfare of creators' under the agreement and announced an amendment in February 2023 to specify the right to pause publishing and the right to episode lengths in the contract.

Key Details of the Creative System Improvement Plan

- Fully investigated the contracts signed by seven subsidiaries (CP) and made improvement recommendations to bolster contractual transparency
- Guaranteed 60% of the payment is made in actuality for works that received upfront investment
- Increased profits for creators through the distribution of profits from viewer end advertising
- Expanded the scope of 'Wait or Pay' works and shortened the review period
- Established the 'Partner Portal' for creators to check the details of their payment

Countering Global Content Piracy

As Korea's largest IP business, Kakao Entertainment firmly responds to webtoon/webnovel piracy to protect the rights of partnering creators. Since 2016, the company has built a database of pirate websites and their activities of illegally distributing Korean webtoons and webnovels, systematically responding to them. In 2021, the 'P.CoK¹⁾' team was launched to address global content piracy to widen its efforts. Our endeavors resulted in cracking down on 9,237,802 cases of pirated content in total between November 2021 and November 2022.

Our Response to Global Content Piracy

- Took criminal action against Booktoki, Korea's largest webnovel piracy website, on charge of copyright infringement (first-ever)
- Performed internal monitoring to crack down on pirated content in Korea and overseas
- Engaged in countering global content piracy as a member of the Copyright Overseas promotion Association
- Joined the DAC(Digital Comics Anti-piracy Committee) to promote joint efforts with other webtoon platforms
- Launched 'anti-piracy campaigns' for Kakao Webtoon in Indonesia, Thailand, and Taiwan (Joined by nearly 120,000 persons)
- Published the Global Anti-Piracy Whitepapers (1st and 2nd) and shared them for free through the Copyright Overseas Promotion Association

1) Protecting the Contents of Kakao Entertainment

Win-Win Partnerships

Growing Together with Wide-ranging Partners

Kakao's Kudos for Credos Project

Kakao's Support for Kudos for Credos

As part of the 'Kudos for Credos Project,' Kakao operates the 'Kakao Support for Kudos for Credos' program to assist nationwide self-employed individuals and small business owners in securing loyal customers and expanding their marketing efforts through KakaoTalk channels. This program provides support for channel message sending costs. Any individual or corporate business with annual revenue of less than 1 billion KRW, based on National Tax Service criteria, can apply for this program. Kakao has provided approximately 13.3 billion KRW in support, benefiting over 45,000 small business owners from August 2022 to March 2023.

[Kakao's Kudos for Credos Benefits](#)

Jegaburch our Win-Win Partnership Brand for Agricultural and Fisheries Products

Kakao runs Jegaburch project to ensure that agricultural and fisheries products expected to be oversupplied are sold at their full price. The goal is to reduce producers' inventory burden and contribute to price stabilization. In 2022, we purchased large quantities of ginseng produced in Geumsan which suffered oversupply, and sold them as processed foods. We also explored sales opportunities for 'ugly produce' that are undervalued in the market due to their substandard appearance despite having identical quality. Also, we directly supported farmers, stock farms, and fishermen through workforce support and sisterhood ties, along with our special event on Farmer's Day that resulted in over KRW 700 million in transaction value.

Our Jegaburch initiative sold about 3,930 tons of agricultural, livestock and marine products and exceeded nearly KRW 20 billion in transaction value (cumulative) as of the fourth week of April 2023.

Supporting Online Sales Opportunities and Providing Growth Support Programs

Kakao leverages our commerce channel to help small business partners explore online sales opportunities and provide training necessary for their business operations. KakaoTalk Gift launched Hotplace Pass, a gift certificate redeemable at local small business stores to revitalize these locally-based businesses. KakaoTalk Store also operates growth support programs for nearly 1,000 small/mid-sized sellers every year, supporting over 3,000 products to find their customers.

Providing Financial Support for Small Businesses

Kakao Pay launched a year-end donation campaign along with Kakao Together. Participants donating KRW 5,000 or more to the Kakao Together donation box through Kakao Pay were given pay stamps, and over 5,000 stamps were accrued for Kakao Pay to directly raise funds worth KRW 150 million. The Work Together donation box was also arranged to support small businesses, and Kakao Pay donated KRW 1,000 for every action taken by users in relation to this donation box to additionally raise KRW 50 million. The KRW 200 million donated by Kakao Pay and the KRW 23 million donated by users to these donation boxes went to support small businesses to explore sales opportunities in partnership with Work Together. We also engage in a host of activities to promote small businesses through the expansion of distribution channels and promotion/marketing support.

Raising Go Together Kakao Games Win-Win Fund(Kona Venture fund III)

Kakao Games contributed to the KRW 26 billion win-win partnership funds to help small/mid-sized game creators resolve their financing challenges and to invest in small or indie

game developers for the promotion of and mutual growth with the game ecosystem. This will provide much-needed investment funds for game developers in their early phase who are less than three years old or KRW 2 billion or under in annual sales, game developers working in their early production phase prior to testing, and low-budget game developers whose total production expenses are KRW 500 million or below.

Supporting Small/mid-sized Store Partners

Kakao Style held five events joined by small businesses under the MoU signed with the Small Business Distribution Center. Over 400 small/mid-sized partners participated, and their transaction amount rose by 13% on average after the event. Kakao Style also supported its small/mid-sized partners to efficiently leverage Power Up AI Advertising offered by ZiaZag as AI-enabled advertising service.

Analyzing the Social Value of Kakao's Shopping Platforms

In January 2023, we unveiled the results of a study conducted to identify the contributions made for sellers (businesses operating on a given platform) by Kakao's shopping platforms — Kakao Makers, KakaoTalk Gift, and KakaoTalk Store. It was revealed that net increases in seller sales generated through these platforms were estimated to be KRW 23.8 trillion. Analysis of the contributions made by these platforms¹⁾ for small/mid-sized businesses found that contributions for small/mid-sized sellers (KRW 10 billion or under in annual sales) were greater than those for large sellers (KRW 10 billion or more in annual sales), which goes to demonstrate that Kakao's shopping platforms serve as an effective distribution channel for small/mid-sized sellers.

[Study on the impact of Kakao Shopping on small businesses](#)

1) Proportion of sales generated on Kakao's shopping platforms out of total sales

Win-Win Partnerships

CASE Dangol Market

As the term small business merely indicates that these businesses are small in size, Kakao instead operates the 'Kudos for Credos Project'. Kakao Impact, Kakao's corporate foundation, is specifically focusing on those operating at traditional markets and is implementing the 'Dangol Market' Program. This program aims to help traditional market merchants facing difficulties in pursuing digital transformation to properly use KakaoTalk as a channel to attract regular customers.

In June 2022, we ran a pilot program in the Sinyoung Market, and chose 10 other traditional markets nationwide. The markets worked with full-time digital tutors from MKYU, an online educational platform, who provided wide-ranging training for seven weeks to help merchants with digital transformation including online customer service and smart chats. Participating merchants received support in paying for Kakao Talk channel messaging, operational kits for the Dangol Market project, and other promotional support for market visits and regular customer recruitment. When the training was completed, best practices were shared and top-performing merchants were awarded through the performance sharing of respective markets. An open chat channel for Q&A was also operated to provide merchants with follow-up support.

Kakao will do its part in helping those operating at traditional markets cultivate digital capabilities to enable digital connectivity between their high-quality products and business philosophy and customers.



Improving the Treatment of Mobility Workers

Launching the Win-Win Partnership Advisory Committee and the Mobility Transparency Committee

In January 2022, Kakao Mobility launched the Win-Win Partnership Advisory Committee and the Mobility Transparency Committee composed of external experts to fulfill its social responsibility. These committees are operated under the direct leadership of the company CEO to ensure their independence.

Win-Win Partnership Advisory Committee	<ul style="list-style-type: none"> · Aim to promote shared growth with platform partners and fulfill social responsibility, and consist of 15 external experts on transport, labor, and consumers among others · Offer advice on the impact of its service from the social responsibility perspective and effective ways to advance win-win partnerships to promote the welfare of partners and user convenience, and represent the stakeholders (based on the new 2nd-term members)
Mobility Transparency Committee	<ul style="list-style-type: none"> · Serve to perform objective assessment on the taxi dispatch system and consist of 5 experts in the areas of big data, AI, technology, and domestic transport (based on newly-appointed 2nd-term members) · Assess the taxi dispatch system for its appropriateness, reliability, and transparency of the data handling process from the technological viewpoint of big data and AI, and explore the roles of mobility platforms in improving benefits for society and transport

Win-Win Commitment to Improve the Treatment of Taxi Drivers

Kakao Mobility is applying the cancellation fee distribution policy updated to ensure a greater portion of such fees go to Kakao T Blue drivers. It will introduce the Rear Seat Entertainment system to share advertising profits with franchise members. It also expanded the insurance plan to provide assistance to taxi drivers for any violence or injuries they may experience while operating. A collective bargaining agreement was also reached with the designated driver labor union. As to the damage caused by the service outage, it agreed on overall compensation approaches through labor-management consultations to provide support and benefits for future operations, and will take action consecutively through discussions on the scope and size of such compensation.

Startup Investment and Follow-up Support

We promote the stable growth of startups with our technology and know-how and work to realize the value of shared growth.

Kakao Enterprise	<ul style="list-style-type: none"> · Teamed up with Korea Development Bank to operate the Win-Win Boost-Up program to support startups with their digital innovation and provided 18 selected companies with cloud credits, Kakao Work services, and technology mentoring free-of-charge · Operated the Re:Born program with the Korea Institute of Startup & Entrepreneurship Development to support the growth of re-starting startups
Kakao Ventures	<ul style="list-style-type: none"> · Invested in over 240 family companies¹⁾ with KRW 359.9 billion in AUM as of December 2022 · Provide overall business support programs spanning promotion, consulting, and networking to create an environment for families to focus on their technology and service development · Host Family Day as a regular networking opportunity to build solidarity among family companies

1) Portfolio companies that received investment from Kakao Ventures

Supporting the Operations of Platform Partners

Operating the Daily Settlement System

Kakao Style operates the daily settlement system to make payments for partners on a daily basis. Compared to the previous weekly payment system, this significantly shortens the settlement cycle so that partners facing difficulties with their cash liquidity could maintain a healthy cash flow.

Training Program for ZiaZag Partners

Kakao Style operates the ZiaZag onboarding program to help partners to successfully establish their presence and boost their competitive edge by providing training on effective product registrations and sales process guides. The WITH ZiaZag seminar to support the long-term growth of partners has also been hosted annually since 2021. In 2022, four field experts from Kakao Style joined the event as lecturers to address the topic of 'growth strategy for long-run stores' and shared their working-level know-how and strategy.

Win-Win Partnerships

Shared Growth with Suppliers

Our Definition of Suppliers

At Kakao, suppliers refer to businesses that provide goods or items highly associated with Kakao's business or engage in the transaction of outsourcing services. This includes businesses who will or are currently in a business relationship with Kakao, and extends to general subcontractors in addition to subcontractors as stipulated in the subcontract law.

Kakao's Supplier Code of Conduct

We established the Supplier Code of Conduct for all suppliers to follow. We make all our suppliers consent on their compliance with the Code and select and manage suppliers in such a way that they fulfill their social responsibility. The Code dictates the responsibilities and roles of our suppliers in five areas of Human Rights Management, Safety & Health, Environmental Management, Personal Data and IPR Protection, and Ethical Management. In particular, the Code specifies that suppliers ensure and monitor their compliance with anti-corruption laws and regulations.

[Kakao's Supplier Code of Conduct](#)

Supplier Communication Channel

We receive complaints raised by suppliers through our official shared growth webpage and the Online Ethics Center, and internally operate the Dispute Settlement Committee to communicate with suppliers through wide-ranging channels. We also gather feedback from suppliers through the official communication channel established within PoK, our electronic procurement system, and our annual purchasing presentations and Partner's Day events also serve as communication channels.

Supplier Selection and Management

We updated our supplier selection criteria by incorporating

elements from the Supplier Code of Conduct. A pre-checklist was introduced to assess candidate suppliers based on their qualifications, including a review of relevant articles and internal/external whistleblowing reports. In 2022, particular emphasis was placed on human rights impact assessment when evaluating and selecting certain suppliers. For new suppliers registering in 2023, we will implement a dedicated system to screen them against our ESG self-checklist. Only suppliers meeting the established standards will be permitted to register, and they will receive training and consultation as needed.

Specifying Supplier ESG Compliance within Procurement Regulations

In 2023, we revised our procurement rules to require suspension or termination of contracts if suppliers demonstrate serious non-compliance with ESG standards and fail to improve within the given deadline. The amended regulations stipulate annual due diligence to be implemented on key suppliers for ESG compliance and preferential treatment to be provided during selection for those with outstanding ESG management. These changes were announced publicly through requests for proposal and on-site presentations to ensure fair supplier selection.

Supporting Top-performing Suppliers and Hosting Partner's Day

Annually, we recognize and honor our top-performing suppliers¹⁾ through our Partner's Day event, where we share our growth policy and vision while presenting them with appreciation plaques and gifts. In 2022, due to COVID-19, the event took place online, with 55 suppliers being selected as top performers. Exceptional partners are rewarded with incentives such as the exemption of performance and warranty bonds, bonus points during supplier selection process, and

promotional support on our publicity channels. Small/mid-sized outstanding suppliers are offered KRW 2 million coupons redeemable at Kakao Moment, our barter advertising platform, upon registering their account through KakaoTalk channels.

ESG Training for Suppliers

In December 2022, we conducted supplier ESG training during our procurement policy presentation, fostering their active engagement in our ESG initiatives. The training focused on our supply chain ESG policy and key activities and was attended by 60 personnel from 49 suppliers.

Supplier Support Programs

We offer support programs to help suppliers improve business operations and enhance employee welfare.

Financial support	<ul style="list-style-type: none"> · Make full cash payments to suppliers to support their stable business operations and liquidity supply · Make payments ahead of the set due date during national holidays and participate in government-sponsored projects with large/mid/small-sized suppliers · Provide loan support at below-market-rate interest rates to suppliers who signed the shared growth win-win partnership agreement
Training support	<ul style="list-style-type: none"> · Operate kakao.edu as our free-of-charge online training program for suppliers which offers 110 courses on key content of respective job categories · Operate Kakao Class with Partners whereby Krew who are experts in their field share Kakao's experience and knowledge
COVID-19 support	<ul style="list-style-type: none"> · Support infrastructure and the VPN (Virtual Private Network) to create a remote work environment · Provide face masks and oxygen saturation measurement devices to 61 suppliers who signed the shared growth win-win partnership agreement with Kakao
Learning platform support	<ul style="list-style-type: none"> · Provide suppliers with an account to take nearly 100 courses on online learning platforms each month · Will provide ESG management content on learning platforms from 2023 onwards

¹⁾ Suppliers who meet specific conditions, including accounts with annual purchase amounts above the set threshold, long-term suppliers, and suppliers who have no reason for disqualification (lack of integrity or substandard maintenance)

Win-Win Partnerships

Compliance with the Principles of Fair Trade

Principles of Fair Trade and the Ethical Practice Agreement

Kakao provides all business partners with fair trade opportunities and conducts business in accordance with principles. We introduced the four action agendas for compliance with subcontract regulations stipulated by the Fair Trade Commission to build trust-based relationships with suppliers. We also sign the ethical practice agreement with suppliers to commit to respect them as business partners and pursue mutual growth while engaging in transparent and fair transactions and mutual cooperation. This agreement is signed with suppliers in the initial contract phase, and in so doing, both Kakao and suppliers pledge to abide by laws and ethics and to conduct business fairly and transparently.

4 Action Agendas for Shared Growth with Suppliers

Enter into desirable contracts to promote win-win partnerships among large/mid/small-sized businesses

Kakao complies with reasonable and fair contracting guidelines to ensure that SMEs duly pursue their interests in the contract.

Select (register) suppliers in a fair manner

Kakao follows transparent and fair procedures in selecting and operating suppliers in accordance with the set guidelines.

Establish and operate the internal subcontract deliberation committee

Kakao's internal deliberation committee fairly reviews the overall process of subcontracting including supplier selection, contract signing, and pricing.

Issue and retain written documents in subcontract transactions

Kakao establishes fair transaction practices by disseminating a culture of conducting transactions in writing and implementing a policy to this effect, and issues and retains written documents in principle in signing contracts and engaging in transactions.

Ethical Practice Agreement

- Kakao and its partners abide by laws and ethics and engage in transparent and fair transactions.
- Kakao does not request or take money and valuable as well as entertainment from its partners, and does not engage in unfair practices and any other act that may undermine cooperative relationships.
- When partners report or blow the whistle on the violation of this agreement as a result of being compelled to do so by Kakao employees, Kakao will not take any discriminatory or disadvantageous actions in accordance with its whistleblower protection and anti-retaliation guidelines, and give the maximum-possible consideration to maintain reliable business relationships.
- Kakao will take disciplinary actions against its concerned employees when the reports or whistleblower reports submitted by partners turn out to be true.
- Kakao ensures that when its employees take gifts from partners, they inform the Company of such occurrences to establish a culture of transparent and fair business conduct.

[Ethical Practice Agreement](#)

Compliance Program

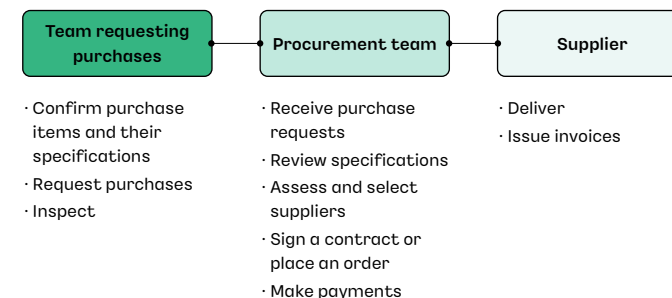
In 2023, we will amend our compliance manuals and conduct continuous and systemic compliance training to take a more systemic approach to our fair trade compliance operations. We will also reorganize our internal monitoring system reflecting of our current conditions to ensure its effective operation.

Transparent Procurement Process

We establish a transparent procurement system and work with our suppliers fairly according to the set process. Each year, we hold procurement presentations to transparently

communicate with suppliers, and our entire transaction process is governed by our electronic procurement system K-pick to ensure fairness in the supplier selection process. We continue to upgrade our procurement system to prevent any risk that may occur in procurement. In April 2023, we launched PoK (Partner on Kakao) as our next-generation procurement system to continuously collaborate with suppliers from their selection to contract signing, inspection, and payment.

Procurement Process



[Kakao's Win-Win Partnership portal](#)

[Kakao's procurement system PoK](#)

Procurement Deliberation and Dispute Settlement

Our Procurement Deliberation Committee meets at least once a month to review and deliberate on the occurrence of unfair transactions or violation of the Subcontract Act through a checklist used before and after the signing of a contract. The Dispute Settlement Committee also convenes at least once a month to proceed with settlement procedures for suppliers involved in the issues raised. Since the Dispute Settlement Committee was established in 2018, not a single case of dispute settlement has been recorded.

Win-Win Partnerships

IT Ecosystem Innovation

Our Contribution to Establishing an Open Source Ecosystem

Kakao develops and shares open software in an effort to establish a safe and efficient open source ecosystem. In 2022, we additionally unveiled our open source resources, including kafka-connect-web, varlog, and detek, and expand the application of our open software to Kakao services. Besides, we arrange open source sessions at if (kakao) developer conferences, participate in the preparation of NIPA (National IT Industry Promotion Agency)'s corporate open software governance guides, and proactively engage in training for students, businesses, and developers, thereby raising awareness on open source and improving competency across the overall development ecosystem.

Our Sponsorships for and Contributions to Open Software Development

- Presented Open Source Tutorial at the KRnet 2022 (2022)
- Undertook a research project with the open source SW license expert community of the Korea Copyright Commission
- Prepared and updated NIPA's corporate open software governance guides (2021~2022)
- Served as a lecturer for NIPA's Open Software Management Academy (2021~2022)
- Served as a lecturer for KOSSA WISET's open source SW coordinator training course (2021~2022)
- Participated in the Open Chain KWG and made presentations (2019~2022)
- Served as a lecturer on open source development methodology for Jeju National University's Kakao Track (2015~2022)

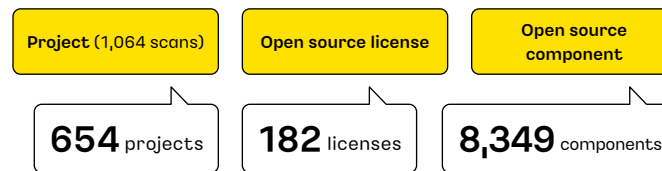
Expanding the Functionality of OLIVE Platform

In 2021, we unveiled OLIVE Platform as our open source management service to make open source readily available for more developers. Since its launching, we have further upgraded its service offerings by providing services in English, diversifying authentication methods, launching OLIVE CLI, and adding analytics functionality. Our OpenChain Project was certified to the ISO/IEC 5230:2020 international open source standard, and we will build on this achievement to widely share our open source management capabilities and contribute to the advancement of the development ecosystem.

[OLIVE Platform website](#)

Utilization of OLIVE Platform

As of Dec. 31, 2022



Functions Added to OLIVE Platform

- Make services available in English and provide users with English documents
- Support social log-in by way of Kakao, Google, GitHub, and Facebook accounts
- Create project addition and scanning functions through GitHub alignment and file uploads
- Launch CIL (Command Line Interface) tools to enable the use of OLIVE Platform functions in the user's personal computer environment to ensure the safe use of the platform even when web services are not available for security reasons or the exposure of source code is suspected
- Add the Code Snippet analytics function to improve the scope of verification and accuracy along with dependency analytics made available to comply with open source license obligations

Expanding and Sharing Our Open Source Database

OLIVE Platform is distinguished for its automated open source verification made possible through open source database development. This improved on issues with conventional open source analytics tools which required a huge amount of human resources and expenses for open source data input. This platform supports analytics for 13 package managers, a group of software tools that automate the entire process from program installation to upgrade and deletion, and will scale the size of the open source database available to cover the entire data of package managers and provide them through the Open API (Open Application Programming Interface) as well. We will continuously upgrade OLIVE Platform to support more diverse repositories and improve its accuracy.

Win-Win Partnerships

Hosting the developer conference if (Kakao) dev 2022

Kakao hosts the if (kakao) conference each year to promote win-win partnerships with developers and drive the wholesome growth of the overall industry. In 2022, the 3-day conference served to share ideas on topics that span the entire industry, including finance, mobility, webtoons, games, and AI. This also allowed us to discuss causes for the service outage that occurred in October 2022, technology improvements to be made, and measures to prevent its reoccurrence.

if (kakao) dev 2022

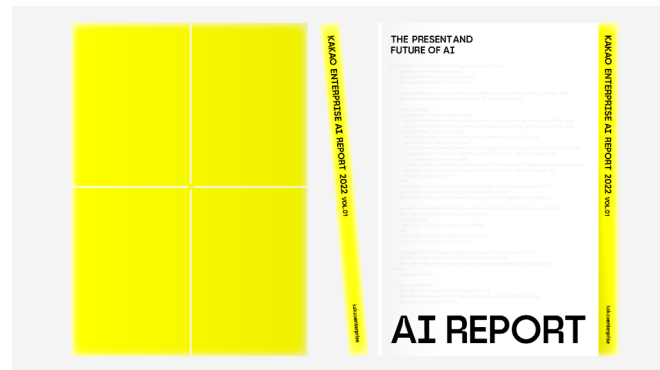


[if \(kakao\) dev 2022](#)

Kakao Enterprise Publishing its AI Report

Kakao Enterprise unveils the technology deployed for its services and relevant papers through technology blogs and the GitHub open source community. In December 2022, the company published the Kakao Enterprise AI Report to outline technological challenges and R&D outcomes, including the latest AI trends, innovations achieved by employing AI across multiple industries, and core technology for each of its services. The company also published 23 papers for the year 2022 at international AI conferences to gain recognition for its AI technology. Kakao Enterprise was honored to provide oral presentations at NAACL, EMNLP, and INTERSPEECH and other conferences globally acclaimed in the areas of natural language processing and voice research to widely disclose its practical research outcomes.

Kakao Enterprise AI Report



[Kakao Enterprise AI Report](#)

Unveiling Our AI Image Model Open Source

In December 2022, Kakao Brain released its independently developed AI model Karlo 1.0 as open source through GitHub. Karlo is our AI artist created by evolving an ultra-large image generation AI model into a persona in its own right. Trained on Coyo image-text datasets already disclosed by Kakao Brain, Karlo understands the given context and directly generates images in a variety of painting styles. Meanwhile, B^Discover, a platform to leverage Karlo to generate and share images, registered a list of banned words that could be used to generate harmful content to prevent the posting of such content and promote AI ethics. In January 2023, the API (Application Program Interface) of Karlo was made publicly available on Kakao Developers, a developer-only website, so that creators, designers, and authors explore versatile applications of Karlo for their creative work.

Images produced by entering keywords to Karlo



[Kakao Brain's AI artist Karlo](#)

Win-Win Partnerships

Building an Inclusive Ecosystem Together with Kakao

Creating an inclusive ecosystem that enables co-existence and shared growth for all is made possible when the impact of Kakao and the Community is put to work to pursue sustainability across our society. This is why Kakao, along with our Community members, will raise win-win partnership funds worth KRW 300 billion in total and invest these financial resources over the next five years starting from 2022. The funds will go to support small business and local partners (KRW 100 billion), digital content and performing arts creators (KRW 70 billion), mobility platform workers (KRW 50 billion), startups and social innovators (KRW 20 billion) and communities and mobility/digitally underprivileged group (KRW 60 billion) so that we seek shared, sustainable growth in ways that Kakao can do best. Going forward, we will tirelessly explore the social role that Kakao and its Community can assume to create an inclusive ecosystem and deliver on the promises we make to society.

Kakao's Win-Win Partnership Funds Programs

Area of Partnership	Target Value (KRW)	Key Projects in 2022	Leading Member
Small business and local partners	KRW 100 billion	<ul style="list-style-type: none"> Implemented the Dangol Market program to provide traditional market merchants with an opportunity to bolster their digital capabilities Provided Kudos for Credos with on-site training and customized online learning content Undertook the Teen & Youth Digital Supporters project to select digitally-competent teens and youth to revitalize the small business economy Operated support programs for small businesses nationwide to send messages free-of-charge on the KakaoTalk channel Helped expand sales opportunities through Jegaburch our win-win partnership brand for agricultural and fisheries products Supported small businesses to subscribe to storm and flood insurance plans along with the Ministry of SMEs and Startups and the Korea Federation of Micro Enterprise 	Kakao Kakao Pay Kakao Games Kakao Impact
Mobility platform workers	KRW 50 billion	<ul style="list-style-type: none"> Assisted taxi drivers in paying their out-of-pocket medical expenses (use KRW 2.2 billion out of the KRW 10 billion allocated for mobility workers) Adjusted the fee distribution ratios to improve profits for taxi drivers and designated drivers Will provide free health check-ups for designated drivers and extend their scope (express delivery drivers and on-foot delivery workers, etc.) Launched the Heroes on the Road campaign to recognize taxi drivers for their contribution to society and communities with a plaque and prize money 	Kakao Kakao Mobility Kakao Impact
Digital content and performing arts creators	KRW 70 billion	<ul style="list-style-type: none"> Established the Kakao Creative Foundation and opened a free online creative academy (will contribute at least KRW 10 billion for the next 5 years from 2022) Hosted Kakao Webtoon, Kakao Page, and Kakao Stage competitions and Melon's Track Zero project to identify new artists, discover emerging authors and indie artists, and facilitate the domestic creative ecosystem Opened Partners Portal to improve transparency in making payments to authors Paid creators advertising profits generated from their Viewer End ads Operated the Go Together Kakao Games Win-Win Fund(Kona Venture fund III) to invest in and support small-sized, indie game developers in Korea 	Kakao Entertainment Kakao Games
Startups and social innovators	KRW 20 billion	<ul style="list-style-type: none"> Supported domestic social innovators through Kakao Impact Fellowship Operated the KDB X Kakao Enterprise Win-Win Boost-up program to help promising startups in Korea stabilize their operations early, accelerate their growth, and pursue digital innovation 	Kakao Kakao Enterprise Kakao Impact
Communities and mobility/digitally underprivileged groups	KRW 60 billion	<ul style="list-style-type: none"> Executed KRW 13.4 billion donations and contributions through the win-win partnership programs designed to resolve social issues through Kakao's platforms including Kakao Together, Act Together, and Harmonious Digital World Raised funds worth KRW 390 million for environmental improvement under Kakao Makers' EcoSeed program and donated all the proceeds generated through the Saegaburch project Opened Kakao Tech Campus to nurture technology developers in collaboration with local universities Operated the 'Seodaemun Hope Car' service to support mobility-challenged individuals living in Seodaemun-gu Launched the e-Document Green Challenge to shift from paper mails to their electronic counterparts Launched the Forest:Streaming project to donate 2% of the Melon subscription fees to create forests Operated 'Friends Game Land That Comes to You' and launched user-engaging donation campaigns Signed MoUs for industry-academia cooperation with AI labs at 7 domestic universities to conduct joint research for 3 years, and supported research funds and the use of Brain Cloud 	Kakao Kakao Mobility Kakao Entertainment Kakao Games Kakao Pay Kakao Brain Kakao Impact

Improvement in Service Accessibility

Convenient Service for All

Barrier Free Initiative

We ensure that our services are made available for all regardless of physical or environmental barriers. In 2022, we became the first Korean IT business to appoint the Digital Accessibility Officer (DAO) and have since launched our Barrier Free Initiative to make our services barrier-free. To support the convenient use of KakaoTalk in varying user conditions, we strengthened our assistive technology to provide greater assistance for the PC zoom-in program and braille information terminals, improving accessibility of our services in various ways. We plan to publish our accessibility report within 2023 to provide stakeholders with an overview of the concept of accessibility as we defined it at Kakao, our activities implemented thus far and our goals for the future.

[Kakao's legitimate efforts towards a barrier-free world](#)



Appointing the DAO and Operating a Dedicated Organization

Digital Accessibility Officers (DAO) at Kakao and the Kakao Community head our overall digital accessibility operations to create an environment where Kakao users are not excluded nor discriminated against in using our digital services. In 2022, we systematically ensured that each Community member's accessibility quality assurance work was performed through Kakao's DAO organization. While the previous system made it rather difficult to take stock of Community members for their operations and lacked consistency in how the work was performed, integrating accessibility channels allowed

Kakao considers service accessibility as an essential feature that we should systematically embed into our business, rather than a mere convenient option available in the short term.

us to further facilitate accessibility operations. Our DAO organization also appointed leaders in UI/UX positions at each Community member to take a practical approach to improving accessibility.

The accessibility team that we operate through our subsidiary Linkage Lab serves as a dedicated accessibility organization where Krew with and without disabilities work together. The team reviews difficulties that users with disabilities may face in using Kakao's web and app services to make them accessible for all. Linkage Lab also supports the overall process of identifying and resolving accessibility issues collected through our customer center and the National Human Rights Commission.

Activities Undertaken to Improve Service Accessibility

- Took the accessibility approach to updating the KakaoTalk app in 2022
- Made electronic certification more accessible for KakaoTalk app's Wallet
- Made KakaoTalk Gift more accessible
- Added support for assistive screen zoom technology to the KakaoTalk PC app for users with low vision
- Made the Melon app more accessible for people with disabilities
- Kakao's customer center achieved Web Accessibility Mark for e-signature certification
- Provided new Kakao hires with accessibility training

Kakao Service Accessibility Survey

In January 2023, we conducted an accessibility survey on 30 services with 10 million or more users to assess them for accessibility and identify necessary improvements. This served to test success rates in service use for each of the key frequently-used functions and comprehensively go over the limitations specific vulnerable groups may face in using our services. We will take action in the areas of improvement going forward.

Creating Accessibility Checklists by Job Category

We create and distribute accessibility checklists by job category for our Krew to refer to in improving the accessibility of our services. Such checklists were created through collaboration with experts from respective job categories – planning, design, development, customer service, content management and others – as well as our DAO organization to help identify, manage, and improve accessibility issues across different job categories, and are circulated accordingly.

Providing Internal/External Accessibility Training

We provide accessibility improvement training through wide-ranging internal programs to help our Krew producing content for our services properly understand and ensure accessibility. Such training is included in our new hire training program so that our new Krew members recognize accessibility right upon their joining Kakao and develop competency to embed accessibility into our services. Our internal seminar themed 'Kakao's Accessibility Story' also served for existing Krew working as planners, designers, and developers to understand our on-going accessibility efforts. Furthermore, Kakao's approach to accessibility was introduced at if (kakao) 2022 for external stakeholders.

[Kakao's perspective on accessibility presented at if \(kakao\) 2022](#)

Achieving Web Accessibility Mark


Our efforts to improve accessibility earned us Web Accessibility Quality Certification Mark for our official corporate website in 2021. KakaoTalk Wallet's e-signature certification service and the desktop and mobile versions of our customer center website also achieved Web Accessibility Mark in 2022.

Improvement in Service Accessibility

Providing Alternative Texts for KakaoTalk Emoticons

We provide alternative texts for all our emoticons to ensure users with visual impairments understand their meaning. Alternative texts elaborate on the meaning and intended use of content for visually-impaired individuals, and are announced by screen readers. While this alternative text service was available for KakaoTalk's basic emoticons only, this was extended to all emoticons used in KakaoTalk chatrooms since January 2023.

Alternative Texts for KakaoTalk Emoticons



Before	After
<p>1 [chatroom] Received emoticon</p> <p>[🎧] Sender, Kakao emoticon, 1:07pm</p>	<p>1 [chatroom] Received emoticon</p> <p>[🎧] sender, music listening, cat, duck, Choonsik Friends 2, moving emoticon, 1:07pm</p>
<p>2 [chatroom] Sent emoticon</p> <p>[🎧] Kakao emoticon, 1:09pm</p>	<p>2 [chatroom] Sent emoticon</p> <p>[🎧] Thank you, sweet potato, cat, Choonsik Friends 2, moving emoticon, 1:09pm</p>

Assisting Partners with Alternative Text Input

We developed OCR¹⁾ automation functionality for Kakao and Daum channel content providers to include alternative texts in uploading card news, ads, event banners and other images. Kakao Commerce also makes this functionality available for sellers on our KakaoTalk Gift and KakaoTalk Shopping platforms so that they can conveniently add alternative texts in uploading images as part of their product information. To ensure content and shopping experience is made equally accessible for all, we informed partners of our alternative text input guidelines and encouraged their use. Pre-input alternative texts are announced by screen readers for visually-impaired individuals to easily understand the corresponding image. Specifically, Kakao Style provides alternative text input guidelines on registration-type products within ZigZag's platform partner center to encourage partners' participation.

KakaoMap Providing Information on Subway Station Platform Gaps and Elevations

Kakao signed an MOU with Seoul Metro to help mobility-challenged people use the subway more conveniently. To this end, we made available information on platform gaps²⁾ and elevations at 275 subway stations in Seoul from Line 1 to Line 8. The information is found in 'Transport Information for Mobility-Challenged People' at the bottom of KakaoMap's subway station information section. This new service will help direct passengers with special mobility needs towards platform doors with a narrower gap and ensure their stroller or wheelchair does not get stuck to prevent safety accidents.

[KakaoMap's subway transport information for mobility-challenged individuals \(video clip published by KakaoNow\)](#)

Conducting Accessibility Quality Tests on Melon

Kakao Entertainment's music platform Melon has conducted regular accessibility quality tests each month since the first half of 2022 to improve its service accessibility. The improvements made include high-contrast designs, player alternative texts, voice messaging for changing the play option, screen reader functionality for improved usability, and user flow improvement. Melon will continue to pursue accessibility improvements across its overall services including new offerings and fan activity support in addition to the basic service of music playing.

Kakao Page Adding TTS Functionality

Kakao Page added Text-to-Speech (TTS) functionality to its content viewer, especially for its key content of webnovels, to improve service accessibility for users with visual impairments.

Improving Easy Payment Functionality for the Visually-Impaired

Kakao Pay considers various issues early on that people with visual impairments may face in using its services. Voice assistance is provided in using the password keypad, choosing from the payment options registered with Kakao Pay (bank account, credit card, etc.), or redeeming points. The increased color contrast on its service page also improved accessibility, and the addition of vibration-applied haptic functionality on top of visual feedback methods such as keypads allowed Kakao Pay to better perceive user responses. To make its services more accessible for elderly and low-vision individuals, its UX (User Experience) system allows users to enlarge the basic text size.

1) Optical Character Recognition: Technology to convert character images handwritten or machine-printed into machine-readable characters through scanning
 2) Distance between a train and the edge of a platform

Data Privacy and Information Security

At Kakao, we always do our utmost to strike the right balance between data connectivity and data privacy. In our efforts to make a better world through connectivity, we value users above all else and safeguard their privacy as fundamental human rights.

Privacy Protection and Security Maintenance

User Privacy Protection System

To comply with domestic and overseas laws and to protect user privacy, we embrace Privacy by Design as the overarching principle for our data privacy and information security operations. We follow this principle in protecting user data and corporate data assets. We perform personal data impact assessments throughout the entire service lifecycle from planning and operation to change and termination to eliminate risk factors before service launching. We conduct preventive reviews such as vulnerability checks, security coding and code reviews, and take technical and managerial protection measures such as technical vulnerability reviews and 24/7 security monitoring.

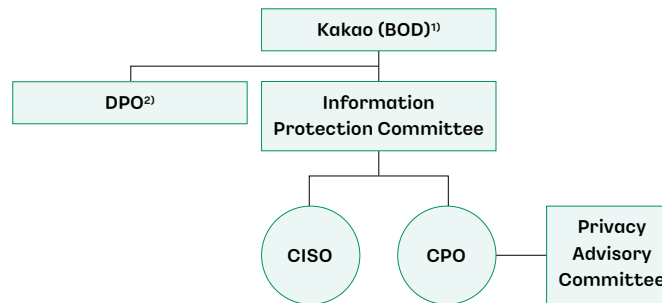
Data Privacy Governance

We separate CPO (Chief Privacy officer) and CISO (Chief Information Security Office) roles, responsible for heading our data privacy operations and information security operations respectively, to ensure we deal with data privacy issues professionally and systematically. The CPO position is assumed by the head of the department (executive) organized for data privacy operations following the Personal Information Protection Act and our internal regulations to ensure his/her qualification for overseeing data privacy operations. The CISO is appointed for expertise on data privacy and information technology following the Information Communications Network Act.

The Information Protection Commission chaired by the CISO is composed of the CPO and the heads of relevant teams at the executive level to deliberate and decide on pertinent issues. Our Board of Directors manages and oversees data privacy and information security matters. We have been operating the Kakao Privacy Advisory Committee composed of

Korea's privacy experts since 2014. The third such committee, comprising experts with backgrounds associated with data privacy and security including law and academia, was launched in 2022. The committee held regular advisory meetings to identify regulatory trends related with domestic/overseas privacy issues and provided well-informed advice to our privacy policy directions.

Data Privacy Governance



Activities Undertaken by the Information Protection Commission and the Privacy Advisory Committee

Information Protection Commission	<ul style="list-style-type: none"> · Deliberated/decided on vulnerability analyses and assessments in accordance with electronic finance supervisory regulations · Deliberated/decided on vulnerability analyses and assessments on electronic financial infrastructure following electronic finance supervisory regulations · Deliberated/decided on the internal risk assessments made on an exception to network separation for electronic finance · Developed information technology plans and deliberated/decided on such plans
Privacy Advisory Committee	<ul style="list-style-type: none"> · Launched the 3rd committee and added new privacy protection provisions to the Kakao Algorithm Ethics · Consulted on Kakao's data privacy agendas for 2022 · Discussed desirable ways to achieve consent on personal data processing and ways to create a wholesome environment to provide online personalized advertising

Operating the Data Privacy Policy Organization and Community CPO Meetings

Our data privacy policy organization has been up and running since 2018 to safeguard user data and provide better services in so doing. This organization develops Kakao's data processing policy on the back of practical data processing capabilities and deep understanding on data privacy regulations while disseminating data privacy regulations across working-level organizations. The CPOs at Kakao and six Community³⁾ members meet regularly on a quarterly basis to share our data privacy philosophy and principles and discuss the key policies and issues of respective members. This ensures consistency in developing and implementing data privacy policies across Community members.

Information Security Certification

Our information security system is certified by domestic and international certification bodies for user data privacy. We achieved the ISO/IEC 27001 international standard information security certification on our infrastructure operations as the industry's first in 2006, and then were certified to the ISO/IEC 27701 privacy information certification and the ISO/IEC 27017 cloud service information security and data privacy certification. All our services have remained certified under the ISMS-P domestic information security certification.

Kakao's Information Security Certifications

1) The Board of Directors manages and oversees matters associated with data privacy and information security.
 2) Data Protection Officer
 3) Kakao, Kakao Entertainment, Kakao Pay, Kakao Games, Kakao Mobility, KakaoBank, Kakao Enterprise

Data Privacy and Information Security

Developing Our Information Security Policy and Guidelines

We operate our information security policy and guidelines to protect users and maintain internal information security.

These guidelines present necessary principles and standards as well as behavioral rules considering different roles — Kakao Krew, infrastructure operators, service operators, service developers, and information security personnel — to ensure Kakao Krew handling data can securely perform their work.

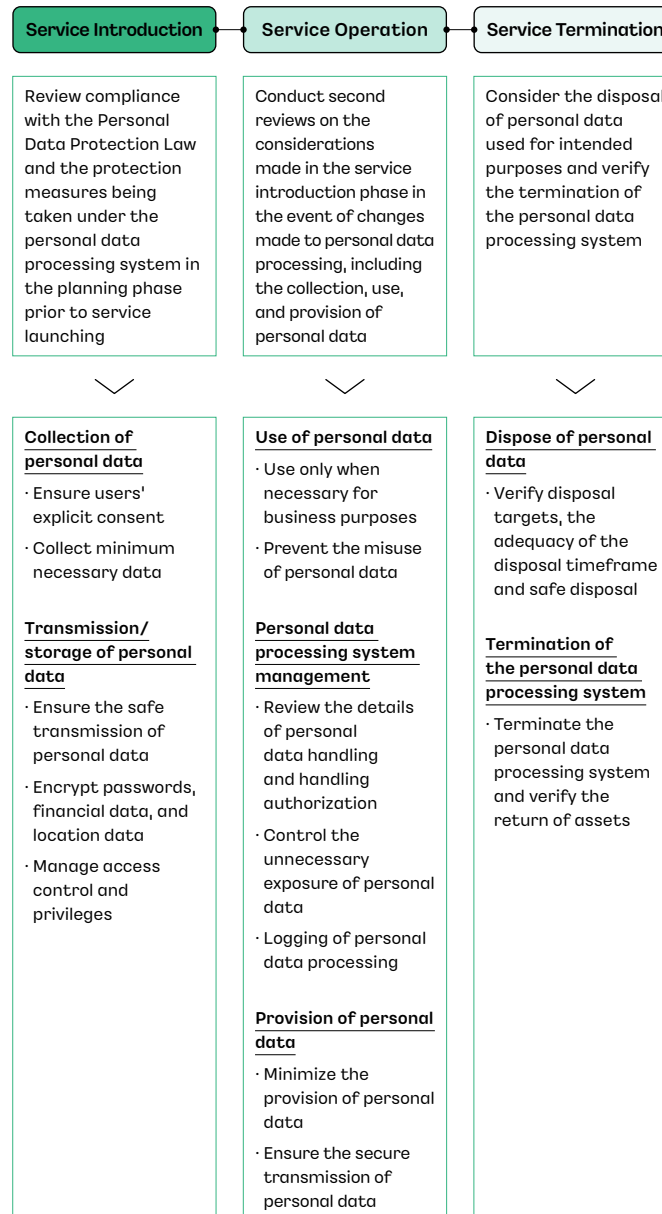
Kakao's Information Security Policy and Guidelines

- Information security policy
- Information security guidelines for Kakao Krew
- Information security guidelines for infrastructure operators
- Information security guidelines for service operators
- Information security guidelines for service developers
- Information security guidelines for information security personnel

Data Privacy System

We operate data privacy programs for the secure handling of users' personal data. Personal data impact assessments are performed through the entire service lifecycle following the Privacy by Design principle to ensure the secure processing of personal data. We review our compliance with applicable laws, including the Personal Information Protection Act, from service planning to change and termination while closely evaluating impact on users' data privacy to eliminate risks in advance. Our data privacy review and management system is in operation as a follow-up process to assess whether privacy protection activities are properly implemented. The service checklist covers matters on information security certifications and user privacy protection as well as for regulatory compliance concerning the Personal Information Protection Act and the Location Information Protection Act. Our personal data handling personnel management system enables the integrated status management of our personal data processing system, personal data handling personnel, and personal data handling operations.

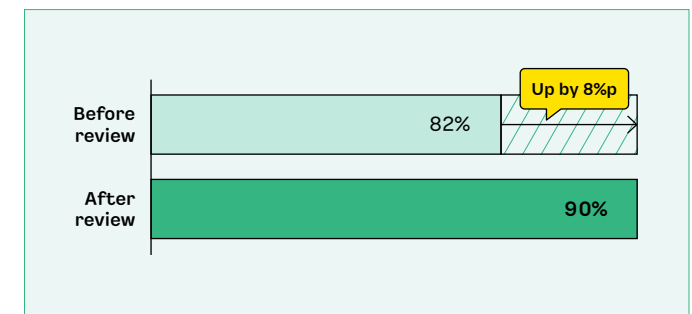
Personal Data Impact Assessment Phases and Review Items



Managing and Reviewing Outsourcing Companies for Data Privacy

Kakao ensures that subsidiaries, suppliers, and other third-parties ('outsourcing companies' hereinafter), to whom we contract out our personal data processing operations, implement data privacy measures on par with those of Kakao. We enter into written contracts with these outsourcing companies to stipulate that they abide by the Personal Information Protection Act and Kakao's data privacy policy, and perform regular reviews on their data privacy operations to ensure they protect data privacy in accordance with the contract signed and applicable laws. To this end, we developed an outsourcing company checklist in line with relevant laws to verify their data privacy policy and protection activities and make sure improvements are made if any non-compliance is identified. Such reviews are followed by comparing the data privacy levels of outsourcing companies before and after improvement to evaluate the effectiveness of such improvements, and the results are reflected in the following reviews to be made when deemed necessary. In 2022, we reviewed our product delivery outsourcing companies and made improvements on the identified vulnerabilities, which led to improvement in data privacy levels from 82% before review to 90% after improvement.

Assessing Outsourcing Companies for their Effective Data Privacy Activities



Data Privacy and Information Security

Personal Data Processing Procedure

We collect, use, and provide personal data in accordance with the user consent given, and our personal data processing procedures consist of collection, use & provision, and disposal. We collect only minimum necessary personal data for service subscription, use, and access, and use such data for intended purposes only. Specifically, user data is immediately disposed of when their purpose is fulfilled, and user data in electronic file format is safely deleted through technical methods that prohibit their recovery or reproduction. Kakao provides personal data processing infographic to help users easily understand our personal data processing procedure, along with our easy-to-understand privacy policy for children.

- [Kakao's personal data processing procedure infographic](#)
- [Easy-to-understand privacy policy](#)

Response to User Data Breaches and Information Guidance

As user data breaches may still occur in spite of our best efforts to implement thorough proactive/reactive control activities, we are developing manuals to respond to personal data breaches, and are establishing our personal data breach response procedure to inform users of such incidents and report to competent authorities in accordance with applicable regulations. This procedure includes notifying users of the incidents that occurred and our reporting to authorities as well as the actions we take to respond to such incidents, contact information for counseling, and remedies available to minimize user damages, ensuring that we effectively address any unexpected events.

- [Measures to ensure the security of personal data under the privacy policy](#)

Data Breach Response Procedure

Reporting and verification	Step 1.	Occurrence and reporting of actual or suspected data breaches	Actual response	Step 6.	Organizational and regulatory response (notice, reporting)
	Step 2.	Receive reports		Step 7.	Eliminate vulnerabilities and take technical measures
	Step 3.	Perform factual checks and take emergency action		Step 8.	CS response
	Step 4.	Report to the CPO and create a response organization		Step 9.	External response
	Step 5.	Develop response plans	Follow-up measure	Step 10.	Develop measures to prevent reoccurrences and take follow-up measures

CASE Guarantee of Users' Right to Informational Self-determination

We prioritize to protect users' right to informational self-determination. This means our users, as the subject of data, should be able to check their own data and its processing status and to access, modify, and delete their own personal data. We enable data management function at the Privacy Center located within our privacy policy website to provide a single convenient touchpoint for users to check their own data. In 2022, we created labeling icons for our data privacy to help users better understand our policy and duly exercise their right to informational self-determination. To facilitate intuitive interpretation on the part of the subject of data, we established and applied the design principles of Universal, Obvious, and Flexible in the design development process.

Our privacy policy was made more understandable by summarizing six key personal data processing labels and elaborating on them in the following text. This ensures users properly understand our personal data handling procedure and delve into necessary details concerning the rights of children 14 years or under and their legal representatives, exercising of such rights, and our team dealing with personal data grievances to help exercise their right to informational self-determination.

Privacy Self-management Made Available by Kakao

Status of personal data use	<ul style="list-style-type: none"> Details on the collection and use of one's personal data (mandatory/optional collection items) Details on personal data provided to third-parties based on the user consent given (third-parties, provision items, purpose of provision) Status of the outsourcing of personal data processing (outsourcing companies, details of outsourcing)
Status of service connectivity	<ul style="list-style-type: none"> Details on services currently used through the connection established by way of one's Kakao account (including the date of account connections made) Details on connections among Kakao-affiliated services and even with external services
Consent setting for personal data use	<ul style="list-style-type: none"> Status of consent for the collection and use of personal data Options to withdraw one's consent that has been given on additional collection of profile data, collection of delivery address information, and use of one's data for event and marketing purposes

- [Kakao Privacy Center](#)
- [Labeling for Kakao's privacy policy](#)

Data Privacy and Information Security

Operating the Privacy Policy Website

We operate the privacy policy website to provide information on our privacy policy philosophy, the composition and roles of our internal information security organization, and personal data impact assessments made for the safe management of users' personal data. The website also illustrates our preventive activities and data access control principles to maintain our security performance, monitoring conducted through the 24/7 security operation center, and responses made in the event of user data breaches. The Privacy Policy Brunch Also serves as a channel to share with stakeholders news on our privacy policy, domestic and international privacy trends and other diverse information.

Disclosing Our Transparency Reports

In the event of a governmental or judicial agency request, Kakao follows legally appropriate procedures in conformity with warrant requirements, and discloses statistics concerning user data requested by governmental organizations for the purpose of investigation and others through our transparency report. In so doing, we navigate uncharted waters as we boldly uphold the rights of our users and proudly commit ourselves to thoroughly protecting user data in accordance with due processes. When overseas governmental agencies or private sector organizations request user data, this is not directly handled by Kakao and we call for cooperation with the Korean government or judicial agencies when deemed necessary. We do not respond to any request for user data made by domestic organizations or individuals without following the set official procedures.

[Kakao's transparency reports](#)

Data Privacy Activities for Children and Teens

We engage in a variety of activities to help children and teens become aware of the importance of data privacy and develop capacity to keep their own personal data safe in their daily life. In 2022, we developed our Privacy Protection Guides along with the Teen Advisory Group joined by nine junior and high school students to ensure children and teens protect their personal data in their daily routine. The Guides illustrate 12 rules made in reflection of feedback from the Advisory Group to help children and teens protect their privacy in different situations.

[Kakao Privacy Protection Guides for teens](#)

Data Privacy Training and Labeling Distribution for Small/ mid-sized Businesses

Kakao supports capacity-building for small/mid-sized business who often find it difficult to accurately understand data privacy regulations or can't afford to implement user data privacy activities. In 2022, we provided data privacy training in conjunction with the Korea Internet & Security Agency to small/mid-sized businesses interested in data privacy as well as our business partners. This training was conducted on Kakao's business seminar platform in online live format to increase its accessibility, along with a real-time Q&A session. We also distributed the privacy data labels we developed to small/mid-sized business free-of-charge: these businesses may apply the label images to their own data privacy policy or post them on their offline documents or delivery boxes. Kakao will continue to support small/mid-sized businesses for their user data processing efforts.

Raising Awareness on Data Privacy

Kakao engages in a host of activities to raise Krew's awareness on personal data and privacy protection.

Regular training	<ul style="list-style-type: none"> · Company-wide training: Provide training to all Krew, including workers under indefinite-term employment, contract workers, and part-time workers, and have them sign the information security pledge · Training for Krew in charge of handling personal data: Provide regular training to Krew handling personal data and working at our customer center
Year-round training	<ul style="list-style-type: none"> · Training on data handling policies and protective measures since 2017
Awareness building campaign	<ul style="list-style-type: none"> · Publish weekly data privacy newsletters and the quarterly Data Privacy Magazine to introduce key data privacy issues and implications in Korea and abroad and rules for Krew to follow

Data Privacy and Information Security Training for Krew and Partners

We provide annual information security training to all our Krew including workers under indefinite-term employment, contract workers and part-time workers as well as employees of our partners who work at our operations under outsourcing contract with us. Such training targets all employees who directly or indirectly access information assets, including Krew, part-time workers, and employees of outsourcing companies. In 2022, 3,247 Krew members and 379 partner employees attended our information security training titled 'Kakao's Daily Life Security Tale'. In addition, 340 information security personnel responsible for electronic finance business at Kakao and 70 information security personnel complete all statutory training required by electronic finance supervisory regulations (9 hours or more for information technology personnel, 12 hours or more for information security personnel), and separate executive security training is provided to 19 executive-level Krew members. All information security training is followed by feedback collection and such feedback is reflected in designing the following year's training program.

Data Privacy and Information Security

Information Security Campaign

We launch a range of information security campaigns for our Krew to effortlessly recognize and implement security activities in their day-to-day work. Each year, we designate Information Security Day (Kakao S day) to raise security awareness, and commemorated Information Security Day along with the Kakao Community in 2022. Posters, videos, and leaflets were produced to introduce basic information security rules and were made available both online and offline. Wide-ranging information security events were held, including the 3rd security competency mock test, information security commitments, acrostic poetry writing on information security, and finding MBTI information security matches to encourage Krew's active participation.

The quarterly information security magazine covers information security practices to follow at Kakao and security issues that made news externally in easy-to-understand formats such as quiz and card news.

Operating the Bug Bounty Program

We operate the Bug Bounty Program to reward external vulnerability reports. Under this program, anyone who identifies a bug or a vulnerability within Kakao's web and app services is entitled to awards according to the set criteria, which allows us to take necessary measures before security vulnerabilities occur. In 2022, we opened an internal vulnerability reporting website to receive 67 vulnerability reports from 30 people, granted monetary awards to those whose reports proved to be valid.

Information Security Management System

Kakao safely manages corporate information assets through various proactive/reactive management systems. Risk analyses are performed on our services and systems subject to information security management and follow-up measures are charted on identified risk factors to make necessary improvements. These analyses are conducted by identifying assets according to the predefined risk management guide, analyzing and assessing asset-related risks to calculate their ratings, and selecting risk management measures based on the ratings. Assessment results base our efforts to provide training on our information security management system to our own Krew and partner employees working at our operations under outsourcing contract.

Security Development Lifecycle

Training	<ul style="list-style-type: none"> · Online/offline developer security training · Provide security guides (100 or more)
Planning and design	<ul style="list-style-type: none"> · Plan and design services and review their security features · Define security requirements · Encryption and encryption protocol design guides
Application	<ul style="list-style-type: none"> · Provide development security guides · Support DevSecOps tools
Verification	<ul style="list-style-type: none"> · Service/system security checks · System security hardening (system and network security)
Release and monitoring	<ul style="list-style-type: none"> · Security monitoring and penetration testing · Perform regular security assessments on services, systems, infrastructure, and platform at least once a year · Operate the Bug Bounty program

Security Development Lifecycle

Our security support system spans the entire development process from service planning and design to development, release, and operation. We conduct security reviews and checks across major development phases to reflect security requirements while eliminating security vulnerabilities. In the service development and release phases, we provide SAST (Static Application Security Testing), DAST (Dynamic

Application Security Testing), and system reinforcement tools that are readily available for developers to support security automation. Our services and infrastructure currently under operation receive regular security assessments at least once a year, and our services and systems that are publicly open are also subject to regular security scanning and monitoring to mitigate potential risks.

Proactive/Reactive Information Security Management System

Preventive review activity	<ul style="list-style-type: none"> · Perform annual, regular preventive vulnerability reviews along the entire lifecycle of Kakao's services to maintain their security level above regulatory requirements · Take appropriate improvement measures when identifying vulnerabilities, and document and manage review results through internal groupware
Robust access control	<ul style="list-style-type: none"> · Impose access controls on our personal data processing system and member database so that only the minimum number of pre-authorized users can access them · Grant access rights when access is evidently required within the scope of work, constantly monitor authorized personnel, and monitor the anti-intrusion system to detect unauthorized access attempts · Install, manage, and operate server firewalls to safeguard critical data
Employee control	<ul style="list-style-type: none"> · Perform log analysis and monitoring on personal data access and handling · Retain the history of access right request, change, and deletion and regularly review the history to immediately delete unnecessary right · Have all employees sign the information security pledge, provide data privacy training at least twice a year, and implement a PC program to detect and address malicious codes
24/7 security monitoring	<ul style="list-style-type: none"> · Implement a dual monitoring system to perform internal monitoring in parallel with monitoring conducted by specialized security vendors to operate a 24/7 security control center · When detecting specific IPs making excessive access attempts and other abnormal signs, immediately verify their causes and respond accordingly
Security incident tabletop exercise	<ul style="list-style-type: none"> · Conducted one round of APT e-mail simulation exercise to alert our Krew to e-mail hacking scams, and another round of exercise involving server hacking scenarios to improve our preparedness against intrusions in 2022 · Conducted one round of awareness-building and response exercise involving artificially triggered DDoS attacks to build stronger preparedness against such incidents

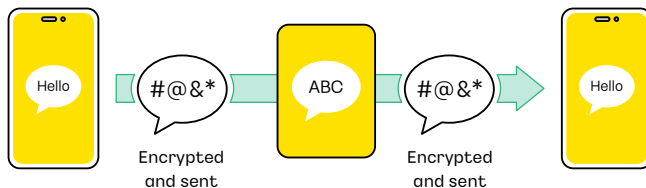
Data Privacy and Information Security

Applying Strengthened Information Security Technology

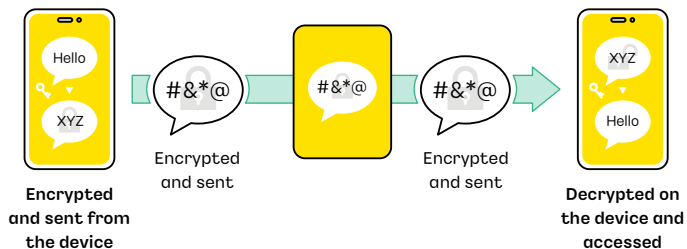
KakaoTalk's secret chats deploy end-to-end encryption technology to provide stronger user data protection. This technology transmits encrypted messages and stores decryption keys used to decrypt such messages only at individual terminals. This fundamentally prevents the decryption of user data encrypted and stored in our server unless the terminals are directly analyzed. Also, Kakao Enterprise deploys its independently developed E3 (Enterprise Endpoint Encryption) system to all Kakao Work chatrooms to effectively protect and manage customer data. The E3 system made up for weaknesses of conventional end-to-end encryption all while retaining its strengths. This generates and stores message encryption/decryption keys on the device, and messages are sent encrypted to the server to be accessible only by senders and receivers to prohibit their access by service providers and third-parties and allow for robust security as a result.

General Chats vs Chats Protected by End-to-End Encryption

General chat



KakaoTalk's Secret Chat & Kakao Work Chat (with end-to-end encryption)



Community

Kakao Community's Data Privacy and Information Security Activities

The Kakao Community works in various ways to fully safeguard users' personal data and maintain service security. All Community members are aligned with Kakao's information security system and activities in establishing responsible organizations, developing policies, achieving certification, operating websites, and providing statutory training.

Kakao Games	<ul style="list-style-type: none"> · Deploy access controls on key information processing systems including security equipment, solutions, and personal data for data security · Send alerts when detecting abnormal logins to protect the user's account · Apply two-step verification for key services, and provide a unique device registration service to prevent user accounts from illegal use or takeover
KakaoBank	<ul style="list-style-type: none"> · Physically separate its customer data and banking system network from external networks · Operate an information security system to prevent security breaches and perform 24/365 monitoring on abnormal signs · Create an information security incident response organization and operate an integrated security control center for prompt response to security incidents
Kakao Healthcare	<ul style="list-style-type: none"> · Acquired ISO 27001 & 27799 (Information Security Management Systems and Information Security Management in Health) certification · Deploy NAC (Network Access Control) on the internal network based on business terminal verification and Krew authentication · Develop EDR (Endpoint Detection and Response) solutions internally to address virus and novel attacks
Kakao Style	<ul style="list-style-type: none"> · Operate the Bug Bounty program to reward service vulnerability reports in collaboration with the Korea Internet & Security Agency
dktechn	<ul style="list-style-type: none"> · Perform security checks and abnormal behavior detection monitoring to prevent security incidents from affecting its services

Technology Ethics

Ethical Technology Development

Algorithm Ethics

Kakao complies with the Kakao Algorithm Ethics which conceptualize our principles and philosophy. All members at Kakao take greater responsibility for our AI services and products, strive to elevate ethics awareness, and fulfill social responsibility and commitment to algorithm development and operation. We keep our Algorithm Ethics up to date with the shifting technology and social landscape by adding provisions on inclusive technology (1st amendment) in August 2019, on children and teens (2nd amendment) in July 2020, and on privacy protection (3rd amendment) in August 2022.

Algorithm Ethics

Operating the Tech for Good Committee

In July 2022, we established the 'Tech for Good Committee' of the Kakao Community to review the business operation of entire Community from the technology ethics perspective, striving to advance technology ethics along with the societal change. The Committee examines the safety of our services and pursues systematic improvement to comply with the Algorithm Ethics, to review potential and actual risks, and to bolster algorithm transparency. To review existing technology ethics policies and proactively respond to internal/external risks, the Committee is planning to build sustainable governance and develop guidelines for responsible AI. It involves monthly meetings where 8 CTOs¹⁾ representing Kakao and other Communities sit together to share core values and reflect them in the services. The Human Rights and Technology Ethics team, newly set in 2022, organizes regular meetings of the Committee and provides policy support to ensure its discussions on technology ethics and its operations are guided by the framework of human rights management while focusing on establishing a systemic governance for technology ethics.

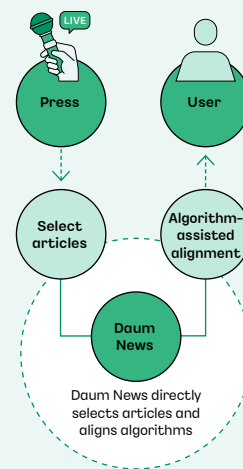
Kakao explores ways to create a wholesome digital culture shaped by technology and people together. Our algorithm development and management are fully aligned with the ethical principles of our society, and this drives our efforts to create a convenient and flourishing life for all through the technology and services that we deliver.

CASE Reorganizing Daum News for convenient yet balanced news consumption

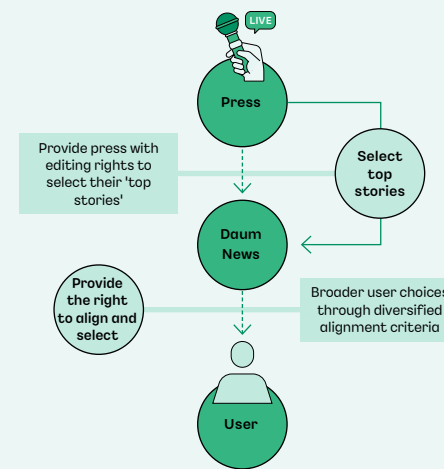
Since initiating its service back in 2003, Daum News has taken seriously convenient and balanced news consumption for users. That is why the company decided in August 2022 to embrace a highly advanced news alignment model all while maintaining the quality of articles and user convenience. The previous alignment model deployed recommendation algorithms to show articles in a way tailor-made to user interests. While this was certainly convenient, concerns were raised about how Daum News selected articles and aligned them through its recommendation algorithms. Kakao accepted such concerns sincerely and started looking for better alignment methods for users. We consulted and collaborated with members of the News Transparency Committee comprising media and academic experts, and employed a new alignment method which enables broader choices for news consumers and greater editing rights for media outlets. This new approach allows media to push the top stories of their own choosing on the landing page, and display articles by three alignment options of 'latest news', 'personalized news', and 'most read news' rather than a single alignment option, to ensure consumers are exposed to the whole spectrum of news. Users may improve their alignment options or add new ones if necessary. We also fully disclose Daum News' alignment criteria and components, along with instructions produced from the viewpoint of users. This shows how much Kakao is committed to our promise to 'provide explanations on algorithm' as specified in our Algorithm Ethics.

Daum News Alignment Instructions

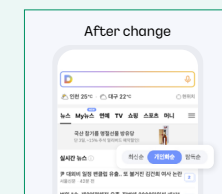
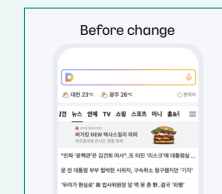
Existing Alignment



New Alignment



Landing page changes along with broader alignment choices



1) Kakao, Kakao Entertainment, Kakao Pay, Kakao Games, Kakao Mobility, KakaoBank, Kakao Enterprise, Kakao Brain

Technology Ethics

Content Ethics

Efforts to Ensure Diversity in Service Content

We take the diversity of the content that we provide to users seriously, and strive to respect and protect the diverse personalities of users. As such, our service operation policy makes it very clear that we prohibit any and all act of undermining one's human dignity, inciting violence or encouraging discrimination or prejudice on the grounds of country/region of origin, race, appearance, disability, disease, or its lack thereof, socioeconomic conditions and status, religion, age, gender, sexual identity and orientation or other identity factors.

Our Commitment to Counter Hate Speech

Kakao established the Principle to Counter Hate Speech to ban hateful expressions in postings within our services and included it in our operational policy. Our work continues to explore detailed standards and action plans in line with this principle. To this end, we formed the self-initiated hate speech regulation research group composed of experts recommended by academic institutions, the National Human Rights Commission, and the National Institute of Korean Language to engage in a variety of activities to eliminate hate speech. In January 2022, we developed 'emoticon ethics guidelines' to set standards concerning discriminatory and hateful expressions that apply to emoticons within Kakao's services. Since August 2022, we have been producing our Coding Book to respond to hate speech. This Coding Book will serve as guidelines that set out definitions, principles, and decision-making criteria to refer to when converting collected data into their analyzable forms, and are expected to help us determine hate speech within our technology and service.

We also integrated the 'voluntary hate speech policy guidelines' announced by the Korea Internet Self-governance Organization (KISO) in April 2023. These guidelines are the result of the 8-month in-depth consultations made by KISO's hate speech deliberation committee along with media and Korean language, social, and legal experts from August 2022, and cover the definition of hate speech, the scope of application, duties of KISO members and users, and decisions & actions.

Guidelines for Ethical Emoticon Creation

While we fully support our emoticon creators in their free and creative expression, we also set and provide a minimum set of ethical standards so that their creations do not hurt users nor bring adverse impact on society. In January 2022, we added criteria for what constitutes discriminatory and hateful speech to our emoticon ethics guidelines through discussions with our self-initiated hate speech regulation research group. We also established the Mandatory Guidelines on Ethics, Business and Copyright and shared them with all creators of our Emoticon Studio. Those who run counter to these guidelines or could potentially violate the rights of others are banned from joining our Emoticon Studio.

The research group specified in our ethical standards that any decisions made on discriminatory or hateful expressions are to be made based on the complete meaning that the concerned content comes to manifest, considering that certain emoticons could convey discriminatory or hateful intentions targeting specific groups depending on the context where they are used and cultural trends. This ensures that our ethics guidelines are balanced not to impose excessive restrictions on the creativity of emoticons all while guarding against discriminatory remarks.

Guidelines to Ensure Diversity in Emoticons

We believe that the emoticon content distributed on our KakaoTalk platform should be made available within a diverse and inclusive ecosystem. We make sure that emoticon creators abide by the moral and ethical standards that we present, and strictly ban any act of violating copyrights or trademark rights. We also analyze the diversity of emoticon creators and the emoticon content being serviced to ensure that emoticons embrace pluralistic values in the digital environment.

Mandatory Guidelines on Ethics, Business and Copyright for Emoticons

Technology Ethics

Advertising Ethics

Advertising and Content Ethics Policy

Kakao publicly discloses ethical standards for advertising through the Advertisement Screening Guide within our business guides. The Guide provides guidelines and compliance requirements to be followed for advertising placement, including specific details on adhering to relevant laws and ethical standards. It also clearly stipulates actions that may damage users. Additionally, when necessary, the ERM committee reviews and reports on advertising ethics-related risks.

[Kakao Ad service operational policy](#)

[Kakao Moment screening guides](#)

Advertising and Content Ethics Governance

Kakao has a dedicated Advertising Policy Part that creates and enforces policies for evaluating the ethical suitability of Kakao's advertising content. The Part also develops and implements Kakao advertisement customer service and restriction policies.

Functions of the Advertising Ethics Organization

Advertising Policy Part	<ul style="list-style-type: none"> · Manage the quality of advertising content · Perform analyses on laws, trends, and media characteristics on advertising ethics · Support stakeholders to comply with obligations specified in the Articles of Incorporation, operational policies and guides · Apply our phase-specific restriction policy for non-compliance with advertising ethics requirements and additional issues
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Advertising and Content Ethics Management Process

Kakao has implemented a process to manage advertising ethics and takes sanctions based on our advertising service operational policy for any violations. Advanced technology is used to block unethical advertising content, employing filters for offensive language, explicit or illegal texts and images. Kakao also introduces age verification technology and measures for protecting minors from inappropriate messages and content postings.

Advertising Content Registration and Screening

Advertisers must register materials that meet our advertising operational policy and screening guides through individual platforms. Kakao reviews the registered materials and decides whether to approve or permit their execution. Violations may result in modification requests, campaign suspension, or service restrictions. The review process occurs during registration, modification, and monitoring stages, following Kakao Moment advertising screening guides and service operational principles. However, the final approval does not guarantee suitability. Advertisers are responsible for understanding and complying with Kakao's advertising policies, terms, and laws.

Taking Action against Harmful Advertising and Content

Kakao Ad service operational policy specifies provisions that provide evidence for our restriction actions, including Article 3 Creation and Management of Advertising Accounts, Article 6 Execution of Advertising, and Article 12 Restriction on Use. They base our decision to impose restrictions for non-compliance.

Operating an Information Webpage for Personalized Ads

Kakao's personalized advertising ensures reduced users' exposure to unnecessary ads while offering useful ones. We communicate to our users the types and features of personalized ads, methods for permitting and blocking such ads, and behavioral information collected and provided to third-parties through the relevant webpage, along with reporting and remedy mechanisms for users who experienced any damage.

[Kakao personalized advertising](#)

Stakeholder Engagement concerning Advertising Ethics

Kakao opened the Advertising Damage Reporting Center in March 2022. By December, around 400 inquiries had been received. Internal staff reviewed the inquiries and implemented appropriate measures to prevent harm to advertisers and users. Results were reflected in our screening and management policy to prevent future incidents. Kakao also operates a customer center, including the integrated inquiry board, and provides consultation services through designated internal personnel. Inquiries regarding advertising ethics receive step-by-step updates on review progress and detailed guidance for improvement areas. Stakeholders can provide supporting documents or ask detailed questions about sanction measures.

[Kakao's Advertising Damage Rereporting Center](#)

[Kakao's information webpage for reporting advertising-induced damage](#)

User Protection and Satisfaction Management

User Protection

User Protection Policy

Our user protection policy aims to create a safe internet environment for all. In conformity with Article 32 of the Telecommunications Business Act which governs user protection, we developed our user protection vision and plans and made them widely available on our website for transparent communication with stakeholders. We protect our users from all illegal or malicious data, and take legally-appropriate measures against abusive language used to slander, insult, or belittle others, any language that discriminates or demeans any individual on the grounds of place of origin, disability or gender, and behaviors that hurt the feelings of others.

[User protection policy](#)

Our Vision for User Protection

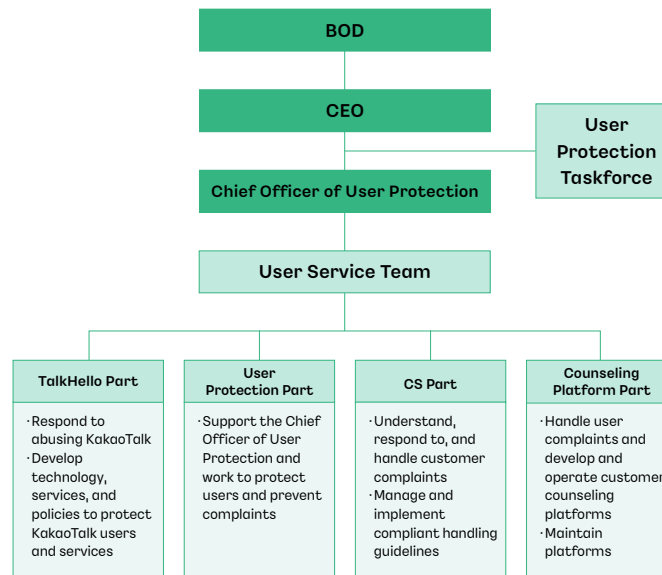
- We work to develop wide-ranging protection mechanisms to prevent user damage.
- We go the extra mile to handle reasonable feedback and grievances raised by users.
- When such feedback or grievances can't be immediately handled, we inform users of their reasons and handling schedules.
- We work to provide an online environment for all users to access services safely and conveniently.

User Protection Governance

The Risk Management Committee created in February 2022 reviews risks associated with user protection, and any risk identified is immediately escalated to the Board of Directors or the ESG Committee. The User Service Team, dedicated to user protection for our Talk Service, also reports relevant issues directly to the CEO. The head of the User

Service Team assumes multiple roles in protecting users, ensuring compliance with user protection regulations, taking responsibility for customer service, protecting teens, and preventing the distribution of illegal video content. We also created the User Protection Taskforce as a compliance advisory group for user protection to keep our users safe across overall search, media, content, and service areas. The taskforce consists of 13 personnel from user protection-related functions, and serves as an emergency response consultation body along with personnel from key service operation teams when any urgent issue arises concerning user protection.

User Protection Governance



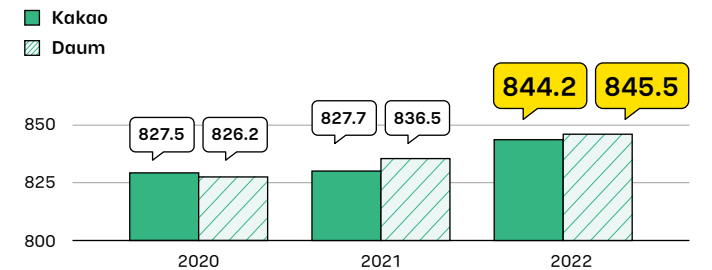
To ensure all our users safely enjoy our services, we keep harmful content, digital crime, and any other adverse impact at bay while consistently launching digital safety campaigns. Furthermore, we reach out to stakeholders through wide-ranging channels, make our services more accessible, and improve users' satisfaction with our services.

User Protection Work Assessment

Kakao is subject to user protection work assessment pursuant to Article 32 of the Telecommunications Business Act, and works on multiple fronts for user protection by developing our vision and plan for user protection. Specifically, we perform regular user protection work assessments to monitor the effectiveness of our user protection efforts. In 2022, our assessment score improved from the previous year (16.5 points up for Kakao, 9 points up for Daum), which is attributable to achieving Web Accessibility Mark for our corporate website and creating a text-based ARS to protect vulnerable groups from any possible damage, improving safetbot technology as AI-enabled comment filtering function, and bolstering user protection training. In 2022, we provided 738 personnel from Kakao and our customer center, operational center, and report center with training on 'understanding teen protection guidelines and technical measures for illegal videos'. We will continue to bolster necessary training based on trainee satisfaction measurement (4.6 points out of 5 points).

User Protection Work Assessment Scores

Unit: Point



User Protection and Satisfaction Management

Disclosing Data on User Protection

We ensure that users' freedom of expression as their fundamental right is not restricted, and fully disclose the requests made by users and governmental organizations to delete specific postings. Disclosures mainly concern the result of handling reports made by users in relation to copyright/trademark/image right infringement, data breaches, and defamation charges as well as corrective and deletion requests made by governmental agencies and their handling outcomes, along with the results of handling requests made by the Korea Internet Self-governance Organization and regulations and use restrictions imposed on postings and replies following user reports. Such disclosures are compiled and made twice a year in the first and second half respectively.

[User protection data](#)

User Protection Management System

Harmful Content Report Center

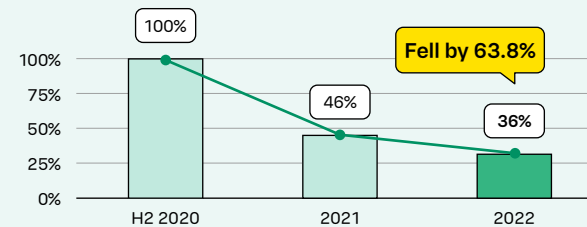
We operate the harmful content report center 24/7 to keep teens and users safe from harmful content and help them safely navigate the internet environment. Submitted reports are reviewed in real time on their harmfulness: action is taken against harmful content and handling outcomes are notified to its publisher. Such publishers, when having objections against the action taken, have 30 days to submit their reposting applications. When their objections turn out to be valid as a result of reviews, their posting is immediately reinstated, and if not, it is permanently deleted.

[Harmful Content Report Center](#)

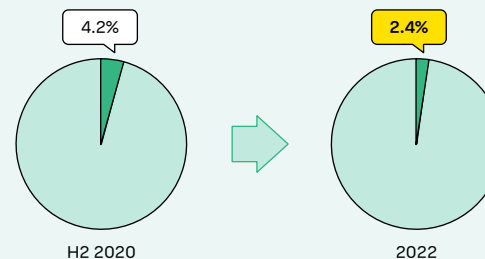
CASE Achievements of Safebot Deployment

We deployed safebot V2 with improved accuracy and performance in 2022, and found that comments hidden for their inclusion of insult or slang declined to 1/3 of those identified in the latter half of 2020. In addition, the proportion of insulting comments reported by users dropped from 4.2% in the latter half of 2020 to 2.4% in the latter half of 2022, and insulting comments deleted through user reports plummeted by 91.7% or to 1/12 during the same period. Driven by our goal of resolving social issues through technology, we will further advance the performance of safebots, and will accumulate training data to determine hate speech and feed such data to our safebots.

Comments containing insult and slang



Proportion of insulting comments reported by users



AI Technology to Block Harmful Content

We leverage our AI technology to analyze, learn, and automatically regulate harmful content. It is worth noting that we develop and use safebots for AI-enabled comment filtering to promote responsible practices in posting comments. With the help of AI technology, these safebots analyze and determine comments that run counter to our posting policy, including insult, slang, vulgar remarks, and banned keywords, and automatically report such content. Safebots are turned on by default, and users may choose to use this functionality in their configuration settings.

Machine Learning Technology to Block Harmful Content

Kakao is developing and leveraging AI technology designed to promptly block harmful images. Building on the method of automatically processing images sharing the same hash with existing ones, we are extending the scope of processed images to train our technology. We developed our adult (spam) image recommender system by harnessing the ensemble machine learning method which uses multiple models to obtain better performance than could be obtained from any of the constituent model alone.

User Protection and Satisfaction Management

User Damage Compensation Process

Any user, who suffered any damage incurred on the part of Kakao during his/her use of services delivered by Kakao, is able to report through wide-ranging channels and is entitled to damage compensation provided by Kakao in accordance with applicable laws and regulations and service terms & conditions. When such damages occur during e-commerce transactions, users can easily apply for remedies via the 'e-commerce remedy application agency' system, by filling out the dedicated form. If the use of Kakao's service leads to the infringement of users' rights including but not limited to privacy violations, defamation, or postings that infringe upon copyrights, such damages can be remedied through our Rights Infringement Notice Channel. When those whose rights have been violated submit their concern with documented evidence through the reporting channel, the responsible team verifies the details and notifies the party who uploaded the concerned content of the post's takedown. If their rights are vindicated through the due explanation process, the content can be re-posted, and if they fail to do so, a permanent ban is imposed on the posting of the concerned content. In principle, both parties — the submitter of the report and the publisher of the content — are notified of the handling outcomes within five business days.

[Rights Infringement Report Channel](#)

Kakao's Teenager Protection Policy

Kakao implements the teenager protection policy to keep them safe from harmful content and create a safe internet environment for them. We apply authentication tools on content that may do harm to teens so that they are not exposed to such content without any protection, and pursue preventive measures in this regard. We also designated keywords that are harmful to teens as banned words and expand their application to a host of services.

[Kakao's teenager protection policy](#)

Digital For Kids

Kakao considers it a primary responsibility to protect children and teens who are future members of our society from harmful internet environments. We develop annual business plans to safeguard teens from accessing harmful content, and appoint the Chief Officer of Youth Protection and youth protection personnel for more systemic protection. As digital technology plays a bigger role in society, we aim to remain vigilant and respond to issues involving children and teens. We engage in activities in line with our Digital for Kids initiative. We identify topics associated with teen protection in line with shifting external conditions and conduct training. In 2022, we provided 783 personnel working in related areas, from service to customer/operation centers, with training on understanding teen protection work guidelines and technical measures taken for illegal videos.

[Digital For Kids](#)

Guaranteed Freedom of Expression

To ensure the protection of users' freedom of expression as their fundamental rights, we developed our policy regarding users' right to know and freedom of expression through the User Protection Taskforce. We have been a member of the Korea Internet Self-governance Organization (KISO) since 2009 to make joint efforts with other internet companies to promote self-regulations. Since 2022, we have also joined KISO's linguistic dictionary advisory committee: we reviewed nearly 10,000 entry words from linguistic dictionaries that are associated with region, religion, disability, race, country of origin, gender, age, and profession, and marked some 690 words with the warning which goes 'This word may have discriminatory or demeaning connotations and its use requires your caution' to alert users of such words. When clicking on the warning, users are directed to the Understanding Discriminatory Expressions campaign webpage.

CASE

Stakeholder Cooperation and Communication for a Safer Digital World

To evolve into a wholesome internet platform for all users to safely and freely put forward their view, Kakao partners with varying stakeholders and explores better ways to keep users safe. We strive for the betterment of our digital environment while communicating with governmental agencies, research institutions and NGOs.

Producing hate speech guidelines	<ul style="list-style-type: none"> Joined KISO's hate speech deliberation committee to produce 'guidelines to determine and handle hate speech' Will reflect the guidelines when completed in our operational policy and will develop damage prevention and remedy procedures
Making an insults database available free-of-charge	<ul style="list-style-type: none"> Made our independently created database of insults and slang words freely available for KISO Our insults database was reflected in the KISO Safeguard System (KSS) open to internet service companies in taking voluntary technical protection measures
Performing voluntary operational status reviews regarding user protection	<ul style="list-style-type: none"> Developed and implemented our teenager protection policy as a company subject to mandatory chief officer of youth protection operational status review Submit our transparency reports outlining our efforts made to prevent the distribution of illegal videos to the Korea Communications Commission at the end of January each year.
Preemptively abiding by the Nth Room Act	<ul style="list-style-type: none"> Preemptively completed the application of technical and managerial measures to prevent the distribution of illicit videos irrespective of the 6-month grace period granted following the enforcement of the Act
Operating the Safe Digital World webpage	<ul style="list-style-type: none"> Provided a range of information to protect users from harm through the Safe Digital World webpage created by Kakao
Joining UNICEF's child protection policy proposal presentation	<ul style="list-style-type: none"> Attended the child protection policy presentation titled 'children's rights in the digital world' hosted by UNICEF Korea in January 2022 to commit to improving the digital environment

User Protection and Satisfaction Management

Improving Digital Literacy¹⁾

[Kakao Safety Campaigns](#)

Kakao launched our Kakao Safety Campaigns in August 2022 to provide useful safety information for users to promote the safer use of KakaoTalk in their everyday life.

[KakaoTalk Safety Guide](#)

[Launching Digital Safety Campaigns](#)

We launch a wide range of digital safety campaigns to keep our users safe from financial scams and phishing. Daum portal's webpage on the emerging financial fraud prevention campaign provides users with tips on preventing and responding to financial fraud that may occur online. Our anti-messenger phishing campaign also provides guidance to prevent and address ill-intentioned practices from obtaining one's data under the identity of his/her acquaintance or a public organization on messenger platforms to accessing account information by way of events or loans or extorting money and valuables by recording pornographic video chats and threatening to circulate such content. The 'How to Safely Use KakaoTalk' campaign disclosed on our Kakao Brunch channel helped introduce common incidents that require Kakao accounts with ill intentions and a range of damages that may occur through stolen accounts so that users can take proper countermeasures.

Reinforcing the Protection of User Rights Concerning Our Comments Service

We are keenly aware of how online comments that undermine individual human rights and dignity result in adverse impact. As such, we are reinforcing our existing regulations to protect user rights and minimize the violation of rights that may occur due to comments while adding new protection functionalities.

1) Ability to understand and properly use digital technology and content

Preventing the Distribution of Illegal Videos

Kakao bears the mandatory responsibility to take technical and managerial measures to prevent the distribution of illegal videos, and takes such actions 24/365 to prohibit the circulation of illicit video content. Furthermore, we deploy ARGOS, a comparison and identification system, to check any attempt to post content containing videos that trigger identification or posting restrictions. When determined to be illegal video content, the video is deleted and restricted from posting. We also elaborate on how to report and address the circulation of illicit video content on our customer center website.

Activities Undertaken in 2022 to Prevent the Circulation of Illegal Videos

- 24/7 reporting and deletion: Applied to a total of 36 services
- Restriction on search results: Applied to a total of 14 services
- Prior warning: Applied to a total of 14 services
- Log keeping of actions taken: Applied to a total of 36 services
- Identification and posting restriction: Apply to a total of 14 services

[Activities to prevent the distribution of illegal videos](#)

Expanding the Operation of the Roundtable on Financial Customer Protection

In response to the user needs for reliable financial transactions that are gaining prominence recently, we decided to expand the operation of the Roundtable on Financial Customer Protection in December 2022. The Table has been meeting regularly each month since 2023, and gathers together Chief Technology Officers and service-specific working-level Krew from KakaoBank, Kakao Pay and other Community members conducting financial business as well as Kakao to discuss ways to preemptively address risk to ensure service reliability and user data protection.

Activities to Protect Financial Consumers and Improve Accessibility

KakaoBank engages in activities to protect the rights and interests of users and improve accessibility to digital finance.

Transfer warning service	<ul style="list-style-type: none"> • Detected high-risk money transfers to prevent scams aimed at second hand shopping and display warnings on the screen • Extended the scope of warnings to include transfers to illegal gambling websites or fraudulent accounts and practices that may damage others • Displayed warnings for a total of 168,075 transfers at increased risk for legal non-compliance, and 13,672 of them (8.1%) were canceled • Newly applied a model to prevent transfers involving drawback fraud, displayed warnings for a total of 7,240 transfers suspected of drawback fraud, and 527 of them (7.3%) were canceled.
Anti-financial fraud campaign	<ul style="list-style-type: none"> • Sent app push alerts to caution 15.70 million customers against voice phishing committed by impersonating KakaoBank • Produced and circulated promotional videos on hidden camera experiments with voice phishing scams as well as webtoons on the prevention of fraudulent online proxy purchasing of gift certificates • Displayed pop-ups to caution against face-to-face voice phishing scams • Sent push alerts to introduce its malicious app detection service
Capacity building for the digitally underprivileged	<ul style="list-style-type: none"> • Provided seniors 60 years or older in Seongnam City with capacity-building training to help use digital devices as well as anti-financial fraud training • Donated 100 laptops to the Korea IT Welfare Agency to help narrow the digital divide for information have-nots
Digital financial support service for teenagers	<ul style="list-style-type: none"> • Operated 'mini' as a prepaid electronic payment service for teens aged between 14 and 18 who find it difficult to open their bank account to sign up for the service simply with mobile phone self-verification • Joined by nearly 1.61 million as of January 2023 (3 out of every 5 teens in Korea are members)

User Protection and Satisfaction Management

Improving User Satisfaction

User Satisfaction Management System

We operate diverse communication channels to gather user feedback on their service experience. Collected feedback is handled at our integrated Customer Relationship Management System (CRMS). Issues that can be immediately resolved are addressed through counselors, and those that are not readily solvable are promptly routed to the team in charge of service planning and development. This significantly contributes to developing service modalities and formats which would otherwise not have been considered by service planners and developers. We also perform 'counseling satisfaction surveys' on customer inquiry channel users. In 2022, the satisfaction rate was 77.2%, up by 2.6%p from 74.6% in 2021. This allows us to regularly monitor users' overall satisfaction with our services, and reflect their feedback on any inconveniences experienced in our counselor training program and job testing while reviewing best answers, registering new instructions and making functional improvements.

Expanding Stakeholder Communication Channels

KakaoTalk user discussions were initiated in 2022 to directly heed the candid feedback and suggestions from users and integrate them into our service improvements. This started with collecting the inconveniences they experienced in relation to KakaoTalk, team chats, open chats, and the customer center, along with suggestions for improvement and others through e-mail surveys. We then held discussions in virtual conference format, taking into account social distancing rules imposed amid COVID-19. Nearly 80 suggestions collected as such were classified into our list of improvements, and will be fully reflected in our service improvement efforts in consultation with relevant teams.

User VOC Handling Process

Service improvement requests and suggestions submitted through multiple channels are handled promptly and accurately in accordance with our VOC (Voice of Customer) handling process. This process is primarily led by the customer center, service planning and development teams, and the CS Part, and VOCs are gathered and managed at the enterprise-wide level through the integrated CRMS. Work is on-going to review and improve this process to expedite our VOC handling process with increased accuracy.

Strengthening User-centered Services

AI-powered Customer Center

Our 'counseling chatbot', available through our customer center's KakaoTalk channel, is the first in Korea to deploy machine learning-based technology to analyze questions and recommend answers. Powered by AI's machine learning analytics, our chatbot analyzes concerns for which customers may require assistance and the relationship between identical or similar questions and chosen answers, and engages in self-initiated learning to recommend more accurate answers. This also ensures that our users can conveniently initialize their verification, change their e-mail address, and handle such work that involves complicated procedures and the sizable input of manpower with the help of chatbots. Leveraging Kakao's advanced AI technology, we will continue to deliver upgraded functionalities to support our customers just as they wish at the time and under conditions of their own choosing.

Text-based ARS

Kakao and Daum's customer centers provide counseling through chatbot, Counseling Talk, and inquiries on the KakaoTalk platform, and also deploy the phone-based ARS for counseling. In fact, the conventional ARS is voice-activated in nature and this posed difficulties for hearing-impaired individuals, seniors, and digitally-underserved groups as they were able to use the keypad only when voice instructions were completed. To resolve such user inconvenience, we introduced the text-based ARS so that users could select their desired menu on the smartphone screen.

Achieving Web Accessibility Mark for Our Customer Center

We strive to make our customer center (PC web, mobile web) more accessible to provide equal service access opportunity to people with disabilities, elderly, and other digitally-underprivileged groups. Such efforts allowed both PC and mobile websites of Kakao's customer center to pass the Web Accessibility quality assessments conducted by WebWatch, a quality certification body designated by the Ministry of Science and ICT. The certification is valid for one year, and we will receive surveillance audits each year to maintain and monitor the quality of our web accessibility operations and deliver convenient customer center experience to all our users.

Giving Back to Society through Social Impact Creation and Service

Kakao creates social impact by connecting the dots among users, technology, and value.

Disseminating Social Value through Our Platforms

Our Social Impact Approach

We assist those who step up to resolve social issues in their own distinctive ways by providing them with platforms, funds, content, and technology to help create social impact. 'Kakao Together' serves to create meaningful connections with users through 'With Kakao Fundraising' and 'Act Together' initiatives. We raise funds and work together with the Kakao Impact Foundation in undertaking Kakao Impact Fellowship and Dangol Market projects to support people, organizations, and businesses to make a better world and pursue impact every step of the way.

Social Impact Governance

We operate a dedicated social impact organization under the ESG Head to leverage our innovative ideas and business capabilities to help resolve a range of issues. To take the Kakao Style approach to creating social impact, this organization engages professionals capable of undertaking social impact projects through the use of technology and platforms. We also collaborate with innovative and professional partners from outside Kakao for diverse project undertakings.

Kakao Together

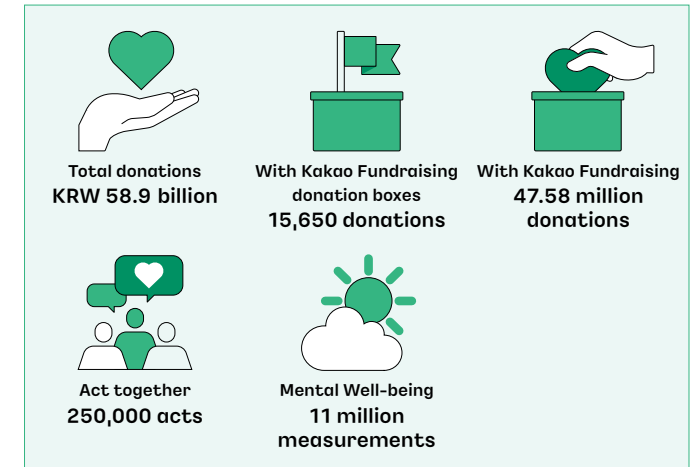
Launched as Kakao's CSR platform in December 2007, Kakao Together commits to making this world a better place together with users. 'With Kakao Fundraising' welcomes anyone to propose and help operate donation boxes to serve the public interest while communicating with other donating users. Kakao also does its part by making donations in response to user support, comments and sharing. 'Act Together' encourages people to take action today for a better world tomorrow: participants work with 'Action Speakers' to promote a range of public interest topics and targets (children, teens, elderly, people with disabilities, society, global community, those in need, animals, environment) and prove their action taken. Our 'Mental Well-being' service provided in conjunction with the Seoul National University Center for Happiness Studies to examine and measure well-being of one's own and of our society also boosts our role as a platform serving the public interest. As of the end of December 2022, a total of 47.58 million donations were made to raise funds worth KRW 58.9 billion, and Act Together reached nearly 250,000 actions taken thus far since its launching. Under our Mental Well-being index program, over six million users tested their well-being at least once for the past five years and four months as of December 31, 2022, which translates into nearly 11 million well-being measurements.

[Kakao Together](#)

▶ [Kakao Together | Act Together for Green Digital Campaign](#)

Change Made Possible with Kakao Together

As of Dec. 2022, on a cumulative basis



Public Interest Projects Undertaken by Kakao Together



Giving Back to Society through Social Impact Creation and Service

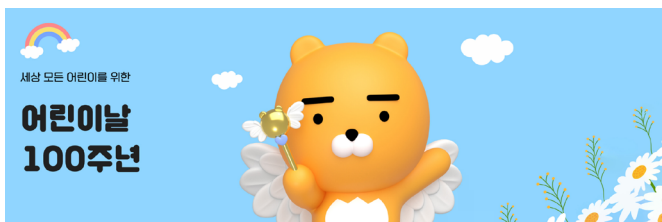
Kakao Together | With Kakao Fundraising

Under Kakao Together's With Kakao Fundraising initiative, users directly make donations or Kakao donates KRW 100 for each user who supports and shares the cause or post their comments and KRW 1,000 for each user who makes their comments on the campaign webpage, which enables users to choose from a broad array of options to give to society.

As of Dec. 31, 2022

Emergency fund-raising for forest fires	<ul style="list-style-type: none"> Launched emergency fund-raising to help recover from the forest fires that occurred in March 2022 Raised KRW 2.58 billion in total (KRW 650 million to restore affected forests, KRW 1.93 billion for displaced people) Joined by 1.14 million people
Emergency fund-raising for Ukraine	<ul style="list-style-type: none"> Launched emergency fund-raising to help Ukraine Raised KRW 980 million in total Joined by 420,000 people
Emergency fund-raising for torrential downpours	<ul style="list-style-type: none"> Launched emergency fund-raising for people affected by torrential downpours and typhoons Raised KRW 2.21 billion in total Joined by 92,000 people
Disability Day x Good Company	<ul style="list-style-type: none"> Launched a fund-raising campaign in the social economy area on Disability Day Selected six donation boxes with varying themes, Kakao made special donations worth KRW 1 million for each box Raised KRW 24 million in total Joined by 37,000 persons
Fund-raising to celebrate the 100th anniversary of Children's Day	<ul style="list-style-type: none"> Launched a fund-raising campaign to guarantee the basic rights of children in celebration of the 100th anniversary of Children's Day Raised KRW 34 million in total Joined by 53,000 people

With Kakao Fundraising's fund-raising for the 100th anniversary of Children's Day



Kakao Together | Act Together

Act Together makes a difference in our society through the sum of actions taken together. This initiative encourages users to take action across a wide spectrum of areas to raise funds and disseminate a positive culture.

Safety for All project	<ul style="list-style-type: none"> Keep people safe from man-made/natural disasters and provide information to ensure safety Support area: Emergency support for firefighters Project: 4 things to know about fire safety, Take a Heartwarming Photo and Say a Heartwarming Word
Support Korea project	<ul style="list-style-type: none"> Participants join the project by running and setting their Talk profile in remembrance of the Aug. 15 Independence Day, and Kakao donates KRW 815 to descendants of independence movement activists. Support area: Provide residential support for descendants of independence movement activists Project: 815 Run to run and donate, posting the Korean flag sticker in one's KakaoTalk profile
Together with Small Business project	<ul style="list-style-type: none"> Participants support small businesses fatigued amid the prolonged pandemic and provide proof of their store visits and purchase receipts, and Kakao makes donations in response to disseminate a culture of supporting small businesses Support area: Improve the business environment of small business owners

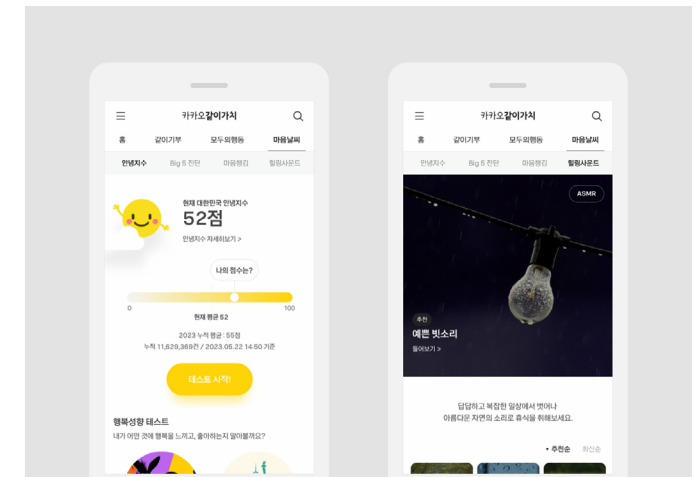
As of Dec. 31, 2022



Kakao Together | Mental Well-being

Our Mental Well-being service allows users to check their mental status and receive a range of content to promote their Mental Well-being. The Mental Well-being Index, the Big 5 personality test, mental wellness meditation, and healing sounds all help users get away from their hectic routine for a moment and focus on the present. Notably, healing sounds provide sounds of nature to help take a break from one's busy, bustling everyday life. In 2022, we unveiled six sound offerings produced based on books dealing with the topic of the climate crisis and co-existence between human and nature in celebration of the 50th World Environment Day in partnership with the KBS TV broadcast '100 People's Reading Show — Read the Earth'.

Mental Well-being



Giving Back to Society through Social Impact Creation and Service

Kakao Impact

Kakao established the Kakao Impact Foundation in 2018 to take a more systematic and professional approach to generating social impact. In line with our vision 'making a better world with technology and people', we harness our technology and platforms to bring positive impact across our society while exploring ways to resolve social challenges to help shape a better future.

Mission of Kakao Impact

- 1. We lay the basis to disseminate a culture of serving the public interest.**
We build and operate diverse platforms that serve the public interest to disseminate a climate of giving and create a culture of community based on consensus and communication.
- 2. We create a wholesome and equitable digital environment.**
We enable the convenient and safe use of digital technology and access to their benefits for all.
- 3. We build a technology ecosystem that serves the good of society.**
We connect and support technology and social impact so that technological advancement benefits society.








Kakao Impact Fellowship

Our Kakao Impact Fellowship supports social innovators who commit to resolving social challenges and shaping a better future. Through its joint operation with the Brian Impact Foundation, the Fellowship's seed money was raised to KRW 3 million per month since 2022 and its support period was extended to upwards of four years. In 2022, 15 innovators joined this project as Season 3 fellows, bringing the cumulative number of Kakao Impact fellows to 39 persons in total as of December 2022. Going forward, Kakao will continue to support these social innovators to make their voices heard.

 Kakao Impact Fellowship

CASE Kakao Impact Fellowship's Contribution to Attaining the UN SDGs

Kakao Impact Fellowship assists diverse social innovators in creating social impact and in so doing, contributes to achieving the UN's Sustainable Development Goals (SDGs).

SDGs	Area of Activity	Social Innovator (Season)	Activity
	Psychological healing	LIM JONG JIN, CEO of gongam i (Season 3)	In line with the value of 'placing people first in photography', engage in 'behavior-centered therapeutic photography' to heal individual wounds and social suffering generated from man-made/natural disasters and government-sponsored violence through the act of photography
	Educational innovation	Ham Eui-yiung, CEO of Peach Market (Season 3)	Produce content for slow learners to understand and acquire at their own pace to improve the practical literacy for these people with developmental disabilities and their access to content
	LGBT rights	Edhi Park, LGBT rights activist (Season 3)	Engage in media interviews, counseling, and other activities as a transgender person to protect the human rights of LGBT teens who are not respected for who they are
	Disability rights	Dohyun Kim, researcher at the Nodeul Disability Studies Institute (Season 2)	Engage in research at the Institute to drive social discourse on the disability rights movement, and publish 'B-mior' as an alternative media outlet making the voices of people with disabilities heard
	Migrant rights	Sagang Kim, researcher at the Migration & Human Rights Institute (Season 2)	Study migrant rights status to address the issues of migrants discriminated against on the grounds of nationality, race, and language, and form solidarity with other actors to improve migrant policies and advocate their human rights
	Disaster relief	Isan Kim, CEO of Life-line Korea (Season 2)	Operate Life-line Korea to propose training and policy solutions for disaster safety based on his over 20 years of experience in working for disaster relief in 24 countries to ensure joint community response to emergency situations
	Firefighter support & upcycling	Seungwoo Lee, CEO of 119REO (Season 3)	Sell fashion products made by upcycling used fire suits and donate 50% of the proceeds to firefighters receiving treatment for cancer and launch campaigns for institutional improvement in support of firefighters to protect the work-related health and rights of firefighters with cancer
	Zero waste	Keumsook Ko, co-CEO of Almag Market (Season 1)	Operate the zero waste shop Almag Market which provides product refills only without packaging and launch plastic-free campaigns for traditional markets to offer easy-to-join, everyday solutions to help the environment and create an eco-conscious life style in the process
	Climate change adaptation	Borim Kim, activist at Youth4Climate Action (Season 2)	Operate general matters required for network-based climate action as a standing activist at this nation-wide organization created to bring meaningful change in addressing climate issues through the voice and action of teens
	Marine ecology study	Sojin Jang, Miyeon Kim, researcher at Marine Animal Research & Conservation (Season 2)	Conduct research on the ecological characteristics of marine animals, including Indo-Pacific bottlenose dolphins, sea turtles, and porpoises, and engage in marine ecology preservation efforts based on research data as a researcher working at Korea's first dolphin behavioral ecology research institute
	Legal support for minorities	Yewon Kim, head of the Disability Human Rights Center (Season 3)	Operate the Disability Rights Advocate Center(DRAC) to provide free legal service for social minorities, and serve as a lawyer for people with disabilities, women, migrants and other minorities as a person with visual impairments herself
	Fight against digital sex crimes	Seo-Hui Choe, CEO of PROJECT ReSET (Season 1)	Operate the non-profit PROJECT ReSET to eliminate digital sex crimes along with diverse anonymous activists, engaging in collecting evidence, cooperating with investigation for digital sex crimes, catering to victims, and joining policy briefings

Giving Back to Society through Social Impact Creation and Service

Tech for Impact

Tech for Impact pairs technology experts with social problem solvers in impact areas to explore solutions through technology for a better world. Non-profits can have access to technology-driven solutions, and technology experts can see an opportunity to utilize their technology for the social good. Kakao Impact connects these two distinctive domains, offers resources necessary to create solutions, and translates the outcomes generated as such into use cases so that even more people can join on our impact journey to bring technology and impact together.

Impact Technology Support Program

Kakao Impact provides technology support to non-profit organizations. We assess non-profits' their technology capabilities so that resources are put where they are most needed. Technology analysis reports are issued to propose and execute necessary solutions. Partnering with Linkage Lab, Modulab, and other partners, these non-profits and their activists are given a chance to make greater impact.

Tech-for-Impact Campus (with KAIST)

We provide undergraduate courses to enable students majoring in computer science, AI, and other technologies to learn about impact areas and propose their solutions. In 2023, Kakao Impact fellows will work with computer science majors at KAIST to accelerate the transformation these fellows are seeking through the power of technology. The prototype solutions proposed in the courses will be commercialized through internship programs and impact technology.

Financial Convenience and Security for All

Kakao Pay and KakaoBank aspire to deliver financial services that benefit all through technology innovation and work in various ways to cater to the financially underserved.

Outcomes of KakaoBank's Inclusive Finance

As of Dec. 2022

CD/ATM fees waived	CD/ATM transactions made	Right to request interest rate cut recognized	Early repayment penalties exempted
KRW 61 billion	78 million transactions	164,123 cases	KRW 19.89 billion

Win-Win Initiatives for the Financially Vulnerable

Kakao Pay, driven by its corporate philosophy of 'Finance Beneficial to All,' engages in a wide array of activities closely associated with its distinctive business characteristics by offering platform-based support to the financially vulnerable and small business owners, providing financial services in cooperation with subsidiaries, and reinforcing communication with communities.

Kakao Pay's Win-Win Initiatives

Raising funds for youth leaving their shelter and small business owners	<ul style="list-style-type: none"> Donated KRW 400 million to the Beautiful Foundation in October 2022 to support the self-reliance of youth leaving their shelter to stand on their own and small business owners who are often financially vulnerable <u>Supporting learning for youth</u> <ul style="list-style-type: none"> Donated up to KRW 5 million per person until 2023 to provide personalized support for 25 youth aged between 18 and 29 year old who are either leaving their shelter soon or left their care facility early Worked to establish a support system through personal psychological counseling and peer networking Provided financial education on the prevention of voice phishing and the operation of self-reliance funds <u>Help Self-reliant Enterprises Project</u> <ul style="list-style-type: none"> Helped 35 self-reliant enterprises in Seoul to pay for rents, labor expenses and other operational expenses Supported youth leaving their shelter with the Personal Cyber Insurance Provided financial and career education for teens and youth leaving their shelter
Supporting small businesses	<ul style="list-style-type: none"> Supported small business owners through Pay Stamp event Held social media events in celebration of Small Business Day Helped purchase storm and flood insurance plans

Financial Literacy Education for Teens

KakaoBank provided teens with customized training so that they can avoid financial scams. KakaoBank's anti-money laundering

team visited Kwangsung and Kyungshin High School to introduce emerging financial scams that target teens and communicated how to respond to and prevent such crimes. We recognize the importance of preventive education since teens often unknowingly fall for financial scams, and will continue to prevent financial crime targeting teenagers and minimize the resulting damage.

Establishing a Platform-based Financial SafetyNet

KakaoBank pursues innovation in technology, products, and services to generate social benefits by leveraging our platform. We let users to easily identify their unclaimed deposits and insurance benefits together with the Korea Inclusive Finance Agency. We support secure financial transactions by preventing erroneous transfers through KakaoTalk's easy money transfer, fraud in trading secondhand goods, voice phishing, and fraud accounts.

Partnership to Establish a Financial Social SafetyNet

KakaoBank donated KRW 200 million to the New Hope Healing Funds of the Credit Counseling & Recovery Service, which supported the victims of financial scams and underprivileged groups to take out loans and to operate civil watchdog groups to eliminate voice phishing and other illegal financial practices. We also donated KRW 1.2 billion to the Fintech Center Korea to support fintech startups that have anti-financial scam technology. These contributions will help undertake the 'fintech growth support project' project and host 'Hackathon' and 'Demoday' events to fight against rising financial fraud.

Achievements of Our Dormant Deposit/Insurance Benefits Identification Service

As of Dec. 2022

Dormant deposit/insurance benefits claimed	Dormant deposit/insurance benefits paid
282,000 cases	KRW 8.01 billion

Giving Back to Society through Social Impact Creation and Service

Narrowing the Digital Divide

Teen & Youth Digital Supporters

Between March and December of 2022, KaKao Games teamed up with the Seongnam City Youth Foundation to launch the Teen & Youth Digital Supporters program to contribute to community development and narrow the digital divide for digitally-underserved small businesses. These supporters produced videos promoting traditional markets in the city and shared them through the Foundation's YouTube channel, and planned game content and events associated with traditional markets and encouraged the participation of customers to revitalize these markets.

Friends Game Land That Comes to You

Kakao Games' Friends Game Land is a Friends-themed mobile game amusement park to bring its distinctive game culture encompassing Kakao Friends' character IPs and Kakao Games' gaming technology to people with disabilities and people living in remote islands or mountainous areas who often lack access to game experience. A variety of programs were provided, including '4D VR Game Bus' for exciting amusement park experiences, 'Braille Block Game', 'Ball Pool Game', and 'Photo Time' Starting with Seongeun School which offers special education in October 2019, Friends Game Land went on to visit Seongnam City, Jangheung-gun, and other locations nationwide to enable nearly 6,500 people to experience a unique game culture.

Kakao's Efforts to Ensure Safety for All

Kakao's Activities for Safety in Our Daily Life

Even amid the pandemic, Kakao continued to engage in a host of activities to keep everyone safe in their daily lives with the technology and services that we have to offer. Since we published our first COVID-19 Whitepaper to outline our achievements in September 2020, we unveiled its second edition in May 2022 to present data on the use of our key services. In so doing, we aim to look back on the efforts we made along with varying stakeholders to return to normal and progress ahead in making our everyday life healthier and safer.

Creating a Safe Work Environment for Our Krew

Kakao operates a range of programs to keep our Krew safe in their workplace and support their stable operations. For Krew who come into contact with their infected colleague at work and thus need to receive a test, we fully pay their test expenses, and self-test kits are always made available in our office. We also provide up to two days of paid leave for each round of COVID-19 vaccination. While the mask mandate has been lifted, we still recommend Krew to wear their mask in closed and crowded areas such as elevators, small meeting rooms, and commuter buses. For Krew who have suspected COVID-19 or came into contact with those who have suspected or confirmed COVID-19, they are instructed to keep wearing their face covering for two weeks starting from the date of contact.

[Kakao's COVID-19 Whitepaper, Its Second Edition](#)

Kakao's Efforts to Respond to COVID-19

Approach	Leverage data and services at our disposal to support successful digital disease prevention and engage in fund-raising and support for vulnerable groups
Key Activities	<p>Providing public support for the general public Provided Kakao's platforms and data for digital disease prevention to provide services worth KRW 9.35 billion free-of-charge, including leftover vaccine booking system and service deployment and provision of simple authentication within the vaccine booking system</p> <p>Raising funds and supporting vulnerable groups Integrated varying COVID-19 fund-raising activities into a single platform to effectively raise funds through Kakao Together, and donated COVID-19 supplies including daily necessities, masks, and meal boxes</p> <p>Publishing the Kakao COVID-19 Whitepaper Communicated how our lives and behaviors changed through service data analyses to cope with the New Normal in addition to delivering accurate information on the virus</p> <p>Expanding support for financial loans Expanded loans since early 2021 for customers with mid/low credit ratings who are financially strapped amid COVID-19</p>

Kakao's Achievements in Responding to COVID-19

As of May 2022

 <p>Provide COVID data</p> <p>COVID-related data inquiries 2,297,309,797 inquiries</p> <p><small>*서비스 신청비 포함하여 PV 금액에의 상당 건수 기준</small></p>	 <p>Public service support</p> <p>COVID-related public service linkage 4,318,376,636 cases</p> <p><small>*서비스 신청비 포함하여 이용횟수 제외시 발주건수</small></p>	 <p>Small business support</p> <p>Support provided to small businesses KRW 22.34 billion</p> <p><small>*재물지원, 이사 지원금에 등 포함</small></p>
 <p>COVID-19 fund-raising</p> <p>Funds raised to counter COVID-19 KRW 5,881,054,062</p> <p><small>*카카오 공동체 및 이용자 기부 합산</small></p>	 <p>Safe mobility support</p> <p>Disease prevention support for mobility workers 100,800 people</p> <p><small>*카카오(자율 차량 1명), 대리(택시/자전거 대여차량), 택시/자전거 10명 기준</small></p>	 <p>Virtual communication</p> <p>COVID-related content views 10,149,088 views</p> <p><small>**코로나19 관련 이벤트/특시 및 콘텐츠 조회 횟수</small></p>

Giving Back to Society through Social Impact Creation and Service

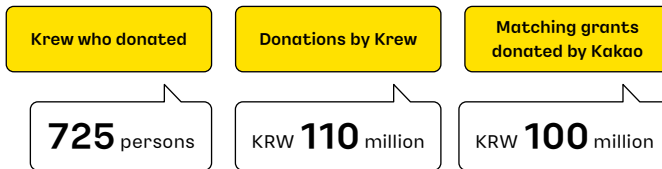
Partner Cooperation

Together Fund

Kakao launched 'Together Fund' as a donation program engaging our Krew, with partner organizations to implement seven CSR projects. Our Krew donated for the project of their choice by setting aside a set portion of their wage, and Kakao matched the donations. Together Fund projects were undertaken until June 2022. In 2022, a total of 725 Krew members joined Together Fund to donate KRW 114.55 million for the year, and Kakao matched the donations to additionally donate KRW 102.37 million.

Achievements of Together Fund

As of Dec. 2022



Together Fund Project Area

Self-sufficiency support for children from low income families	We teamed up with ChildFund Korea to forge ties with nearly 60 children from low income families in Korea and provided financial and emotional support for their education and self-sufficiency.
Educational support for children overseas	We partnered with Global Vision to donate digital devices for virtual learning to children from vulnerable families in Laos who could not receive in-person education amid COVID-19.
Residential support for seniors	In conjunction with Habitat Korea, we renovated the old residences of two senior households in Gangwon Province to provide a cozy and comfortable living environment.
IT education for underprivileged teens	We teamed up with Youth Voice to provide 30 culturally-underprivileged children with education on digitally-enabled fun and safe media with the topic of 'the way I am'.
Environmental and ecological preservation	We monitored the habitats of endangered wild animals and operated an exploration team together with Green Korea United, and launched civic campaigns to protect wild birds from colliding into soundproof walls
Rehabilitation support for children with disabilities	In cooperation with the Purme Foundation, we provided 22 children with disabilities with rehabilitation treatment and emotional support programs that are essential for their daily lives.
Support for children from low income families in Jeju	We provided livelihood and educational expense support to eight low income households in Jeju to help them continue with childcare and education in partnership with the Jeju Family Support Center.

CASE Harmonious Digital World

Harmonious Digital World is the digital citizen education program launched by Kakao and the Blue Tree Foundation since 2015. This aims to help our teens who learn their world through the lens of digital devices to cultivate a set of essential values so that they are able to think responsibly and develop digital citizenship in a safe digital environment starting from their elementary school years. Students receive education driven by play and participation on data privacy, the notion of cyber violence, and necessary responses while teachers develop their competency through training to provide digital citizenship education to students in their daily routine. In 2022, Harmonious Digital World was operated across the nation. Its flagship program 'Digital Citizenship Education' reached 52,520 students from 2,313 classes, and 109 teachers attended its training program. To bring this program to an even broader student body, we selected 48 additional lecturers. Meanwhile, research is on-going on the effectiveness of our education program, along with the efforts to create its website to publicize Harmonious Digital World and increase participation from stakeholders. We also produce and use virtual education content to ensure the continuity of this program irrespective of shifting external conditions. In 2022, the number of students attending Digital Citizenship Education more than doubled from the previous year in line with relaxing COVID-19 lockdowns, which resulted in a sizable increase in its quantitative social value measured.

Social value created through Harmonious Digital World in 2022 KRW **2,355** million

Measured value	Prevention of cyber violence ^{1) 2) 3)} KRW 1,878 million	Improvement in awareness on data privacy ⁴⁾ KRW 67 million	Improvement in digital literacy ⁵⁾ KRW 346 million	Improvement in awareness on copyright protection ⁶⁾ KRW 63 million
Expected benefits	<ul style="list-style-type: none"> · (Individual) Developed awareness on cyber violence and built competency to prevent and respond to cyber violence on one's own · (Society) Reduced social costs through the prevention of damages caused by cyber violence among teens 	<ul style="list-style-type: none"> · (Individual) Understood appropriate ways of managing personal data to improve teens' competency to protect their own data · (Society) Prevented personal data leaks through improved data privacy awareness and reduced associated social costs 	<ul style="list-style-type: none"> · (Individual) Developed communication skills needed in the digital world to identify and apply appropriate information with discernment in acquiring digital data · (Society) Improved teens' digital literacy to elevate digital citizenship 	<ul style="list-style-type: none"> · (Individual) Improved understanding on copyrights over creation and competency to protect such rights · (Society) Improved understanding and compliance awareness on copyrights to prevent the use of pirated work and reduced associated social losses

1) Cyber Violence Survey 2022, Korea Communications Commission
 2) Cyberbullying, Mental Health, and Violence in Adolescents and Associations With Sex and Race: Data From the 2015 Youth Risk Behavior Survey
 3) Open data from the National Health Insurance Service (2017)
 4) Information Security Status Survey Report 2021, Ministry of Science and ICT & Korea Information Security Industry Association
 5) 'Status Online' Programme SROI Report
 6) Annual Copyright Protection Report 2022, Korea Copyright Protection Agency

Giving Back to Society through Social Impact Creation and Service

Animal Welfare Campaign

Donation Promotion on International Cat Day (with the Korean Organization for the Protection of Cats)

Kakao Makers launched a collaboration project with the Korean Organization for the Protection of Cats (KOPC) and Illustrator Choi Jin-young in celebration of International Cat Day. Choi's artworks created with cats as their motif inspired the design of apparel and merchandise that were made to order and sold accordingly. The entire proceeds of this project — nearly KRW 20 million — were donated to the KOPC and were used to treat and protect street cats.

Promotion to Help Abandoned Animals (with the Korea Animal Rights Advocates)

Kakao Makers launched the O-Ku day project in celebration of Pet Adoption Day. O-Ku day was designated by the Korea Animal Rights Advocates (KARA) and a campaign is launched on May 9 each year to encourage the adoption of animals rescued with their own story to tell under the slogan 'call me by my name, not by my breed'. Kakao Makers directly photographed animals waiting for adoption and produced apparel and merchandise out of these photos. These products were made to order and sold accordingly. The entire proceeds of this project — nearly KRW 17 million — were donated to KARA and went to purchase supplies for 185 abandoned animals.

Support for the Underprivileged

Seodaemun Hope Car Service (with Seodaemun-gu)

Kakao Mobility formed a partnership with Seodaemun-gu in Seoul in April 2022 and has since provided the Seodaemun Hope Car service to help mobility-challenged individuals living in the area. Anyone living in Seodaemun-gu may use this service upon their submission of documentary evidence irrespective of the degree of disability. This caters to all forms of mobility

challenges, some of which often go unnoticed in conventional services for the mobility-challenged, such as elderly just over 50 years old and those who are temporarily challenged due to injuries. Kakao Mobility made donations to facilitate its operation and supported overall promotion and marketing activities.

Supporting Children Raised by Grandparents (with Fruits of Love)

Kakao Makers initiated a donation project with Fruits of Love in 2021. In 2022, nearly 10,000 badges manifesting Fruits of Love were produced with Choonsik on them which was chosen through user voting. All of these badges were sold, and the entire proceeds were used to purchase bags of rice containing 20kg of rice each. These rice bags were donated to 689 households where children are raised by their grandparents.

Sponsoring Content for Hearing-impaired Teens (with the Seoul Association of the Deaf)

In September 2022, Kakao Entertainment teamed up with the Seoul Association of the Deaf to donate Kakao Page gift cards to hearing-impaired teens living in 25 areas in Seoul. This provided these teens with an opportunity to enjoy our webtoons and webnovels free-of-charge.

Peace in Ukraine (with UNICEF Korea)

Kakao Makers initiated the Peace in Ukraine project to support children and families suffering amid the Russia's invasion of Ukraine which broke out in February 2022. All the proceeds generated from its made-to-order products were donated to UNICEF Korea, which were sent to spread the message of peace across wide-ranging areas, including mental health and psychosocial support, healthcare system, safe drinking water, hygiene supplies, learning, and education materials.

Kakao Community

Cooperation with partners to create social impact across the Community

The Kakao Community takes innovative approaches to reach out to the less-fortunate and create an inclusive digital society.

Kakao Entertainment	· Donation for teens from low-income families (with Seongnam City): Donated Kakao Page gift cards to 400 low-income households in Seongnam City
Kakao Brain	· Donation on World Animal Day (with artist Koh Sang Woo): Made the works created through collaboration between Kakao Brain's AI artist Karlo and artist Koh Sang Woo available exclusively for Kakao Makers, and donated the proceeds to the WWF (World Wildlife Fund) · Donation of Karlo-generated works (with artist Do Min): Sold the works created through collaboration between Karlo and artist Do Min through Art Together, an art marketplace, and donated a portion of the proceeds to the Kakao Creative Foundation
Kakao Ventures	· Krew's briquette donation (with the Warm Korean Peninsula Love Briquette Sharing Movement): All Krew members volunteered for briquette donation to help vulnerable groups
Kakao Style	· ZUPZUP campaign: Launched a plogging campaign to pick up litter in the Han River park near Jamsil (attended by nearly 40 Krew members)
Kakao Space	· Digital infrastructure support for teens (with the Stump Foundation for Youth): Donated 50 PCs and laptops for teens' digital education
dktechn	· Improvement of the work environment for people with disabilities: Developed and supplied an enterprise information system tailored to Bear.Better, a company which contributes to the continued employment creation for people with disabilities

Giving Back to Society through Social Impact Creation and Service

Shaping a Better Future for Community

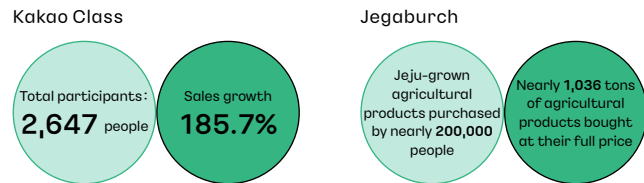
Publishing the Jeju Relocation Whitepaper

In January 2023, Kakao published Jeju Relocation Whitepaper titled 'Our Efforts to Shape a Better Future for Jeju' in celebration of the 10th anniversary of relocating to Jeju. It summarizes our activities and efforts to help resolve social issues in Jeju and for talent development, along with our achievements in helping partners on digital transformation through technology and services while working with wide-ranging partners, from local farmers to small businesses and startups.

A Decade of Achievements to Shape a Better Future for Jeju

Changing Together with Jeju People

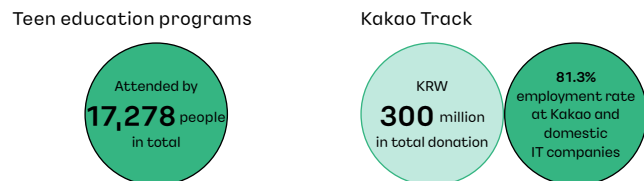
As of Dec. 2022



Growing Together with Jeju People



Progressing towards a Better Future of Jeju



[Kakao's Jeju Relocation Whitepaper](#)

Cooperation with Jeju Local Partners

Kakao Class

Kakao Class is our lecture program under the MoU signed with the Jeju Center for Creative Economy & Innovation to help prospective small businesses and creators better use Kakao's service platforms. Since 2022, its scope extended in line with our ESG management to include startups and small businesses nationwide who face difficulties in identifying sales opportunities in the wake of COVID-19. Kakao Krew and professional lecturers serve as mentors to share their practical know-how, and promotional support is provided, including Kakao Moment's advertising platform, Kakao's emoticons, pre-screenings in joining KakaoTalk Store, and exhibitions, so that class participants may safely try out their digital transformation on Kakao's platform. The curriculum was designed to meet the specific needs of local startups and small businesses to cover understanding of KakaoTalk Store, product management, and sales management to facilitate small businesses in exploring their digital business opportunities. Such efforts were recognized as Kakao Class was introduced as a successful small business training program at the OECD's Digital for SMEs Initiative (D2SME) conference.

Supporting the Creation of a Startup Ecosystem in Jeju

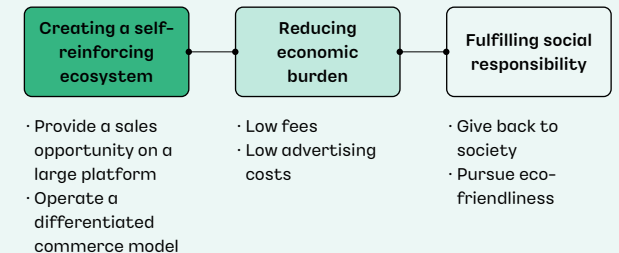
Partnering with the Jeju Center for Creative Economy & Innovation and the Industrial Bank of Korea, we contribute to the creative finance win-win growth funds for startups in Jeju with exceptional technology and competitive edge. The funds, valued at KRW 30 billion, provide up to KRW 1 billion of low-interest rate loans per company, along with a 2.43%p interest rate cut. In 2022, we contributed KRW 300 million in the No.1 Jeju-Vision Venture Capital to help revitalize the startup ecosystem in Jeju. We plan to invest KRW 300 million in the Center's funds each year by 2024 to take the lead in making a positive impact in the Jeju's local startup ecosystem.

CASE

Kakao Class' Digital Transformation Training for Small Businesses

To identify the outcomes of Kakao Class' digital transformation training provided to small businesses over the past seven years, we teamed up with Chungnam National University Consumer Behavior & Media Lab and Seoul National University Center for Retailing and Living to study the effectiveness of this lecture program. This revealed that during Season 2 when training was conducted mainly in virtual setting after the outbreak of COVID-19, small businesses that attended Kakao Class saw their sales surge by 185.7% for the year after completing the program¹⁾. In-depth interviews with participants also demonstrated that Kakao Commerce created social value in creating a differentiated distribution ecosystem for its low fees and advertising costs.

Kakao Commerce's Social Value Seen by Kakao Class Participants



Achievements of Kakao Class' digital transformation training for small businesses

¹⁾ Sales growth data were calculated only for those businesses who generated sales for one year before and after training out of all small businesses which attended Kakao Class between 2020 and 2021

Giving Back to Society through Social Impact Creation and Service

Guaranteeing the Right to Mobility for the Mobility-Challenged
 In September 2022, Kakao signed an MoU with the Jeju Special Self-Governing Province to guarantee the right to mobility for the mobility-challenged. Under this MoU, Jeju provides the data required to upgrade its services, including data from its barrier-free 'Wheel Navigation' tourism, along with content support for the mobility-challenged. Kakao puts such data to work in digitalizing mobility support services for the mobility-challenged and improve data access in so doing. Wheel Navigation provides wheelchair-bound travelers with information on the routes and locations easily accessible by wheelchairs through the satellite communication terminals installed on their wheelchair, and was launched in August 2022 in Jeju as the first such service in Korea. We plan to accumulate transport data for these mobility-challenged individuals and initiate relevant services.

Fund-raising Campaign to Make Gotjawal a Public Asset
 In partnership with the Gotjawal Trust of Jeju, Kakao is committed to preserving Gotjawal, the lung of Jeju and a flourishing lava forest. Gotjawal refers to a place where forests, bushes and a variety of vegetation are intertwined together along the irregular topography created through the flow of lava from volcanic activities. While Gotjawal is noted for its diverse values, including underground water content, intact volcanic topography, and local cultural heritage, it is being destroyed due to privatization and reckless development. Kakao supports the Trust in its continued activities to raise funds to make Gotjawal a publicly-owned asset and purchase Gotjawal to ultimately preserve this unique geographical feature.

Creating the Value of Togetherness with Jeju People
Dolharbang on the Internet of Kakao
 Dolharbang on the Internet of Kakao is our CSR program that fulfills the wishes that serve the public interest made by individuals and families residing in Jeju as well as social welfare and non-profit organizations located in Jeju. As of the end of December 2022, 508 individual wishes and 232 group wishes were realized, with total donations reaching nearly KRW 970 million. As part of this CSR initiative, we also provided the 'thanks to you' program for the self-development and emotional well-being of social workers who take care of teens, elderly, and women among others to prevent their burnout and strengthen their vocational qualities. Participants were able to take a much-needed break and tend to their own needs while taking a family trip, attending a forest experience program with co-workers, watching a movie, and enjoying a meal.

 **Dolharbang on the Internet of Kakao**

Jeju Impact Challenge
 Jeju Impact Challenge is open to any residents in Jeju who are interested and committed to solving local challenges. They may propose project ideas for any local issues in the areas of environment, education, youth community, safety, culture, and economy. This year's challenge chose 10 finalists and they engaged in their project implementation for five months. Participating teams advanced their project through problem-solving workshops and mentoring based on design thinking¹⁾ and received subsidies ranging from KRW 2 million to KRW 4 million. Outstanding projects will be eligible for follow-up support. Going forward, Kakao will support the continuity of this pleasant transformative journey of Jeju people taking interest in their own local issues and resolving these issues themselves while exploring diverse ways to pursue win-win partnerships with communities.

Jeju Impact Challenge Projects

Education	<ul style="list-style-type: none"> ·Late Bloomers: Provide social skill training for teens with ADHD to help resolve conflicts ·Odolddagi: Support and facilitate the experience of playing for elementary school students who had fewer opportunities to play during COVID-19
Environment	<ul style="list-style-type: none"> ·Musapachi: Promote wonky agricultural products online and raise funds for 'Pachi Kit' ·Amitie: Produce products by upcycling discarded Tyvek tangerines ·In the knowhow: Host environmental events to raise awareness on waste responsibilities ·Super Farmers: 'Refurbish' wonky agricultural products and engage in farmcombing ·Ploving Korea: Clean-up Jeju waters through ploving and improve environmental awareness
Youth/Community	<ul style="list-style-type: none"> ·Idge Jeju: Implement the 'thirteen fleamarket' program for prospective/early-stage youth creators residing in Jeju to present their items ·First Penguin: Support youth challenged in their preparation for a self-reliant life to gain self-esteem in a way that is specific to Jeju ·OUTSIGHT: Operate a pen pal program for youth to share their feelings and concerns for empathy and comfort

1) A problem-solving approach to define the 'true problem', identify the 'right' solution and swiftly apply such solutions

Giving Back to Society through Social Impact Creation and Service

Kakao Supporting Jeju for Its Better Future

IT Education for Teens

Kakao bolsters software education for teens in Jeju to help them proactively cope with the shifting information and knowledge paradigm in society, and operates career experience programs to pursue their desired paths forward.

Unplugged Day	Assist in learning computing principles through play-driven education provided at Kakao's Jeju Office
SW Value Dissemination	Provide on-site AI and coding education to students in digitally-underserved areas
Show me the IT	Experience Kakao-related career options and IT service workshops
Remote video career mentoring	Provide remote career mentoring for junior/high school students in Jeju and nationwide
Harmonious Digital World	Provide education to elementary school students in Jeju to develop their digital citizenship

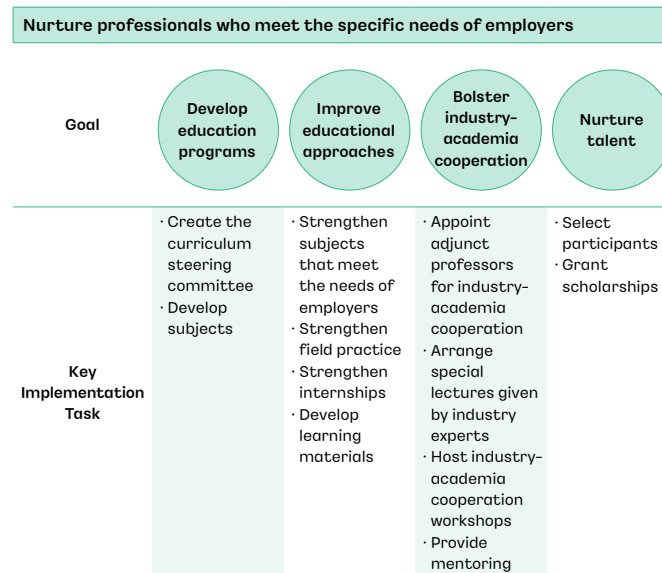
As of Dec. 2022

SW Value Dissemination <ul style="list-style-type: none"> · Provided to schools in Gapado, Udo, and Chujado islands · Attended by 51 students 	Show me the IT <ul style="list-style-type: none"> · Provided to 12 schools · Attended by 792 students
Remote video career mentoring <ul style="list-style-type: none"> · Provided 29 times · Attended by 2,771 students 	Harmonious Digital World <ul style="list-style-type: none"> · Provided to 132 classes at 31 schools in Jeju · Attended by 2,845 students

Kakao Track

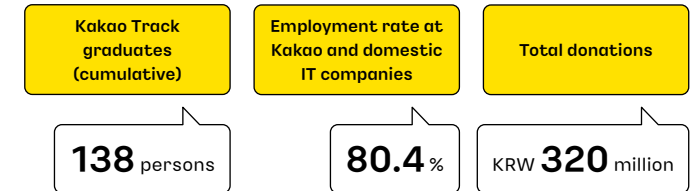
Kakao has been undertaking the Kakao Track project for 16 years since 2007 under the industry-academia partnership signed with Jeju National University's Center for Innovation in Engineering Education to nurture professionals with a focus on employer needs. This tailor-made, employer-centered, and fit-for-purpose education program produces talented individuals who can be assigned to work immediately after graduation. This partnership also helps establish an educational system in cooperation with the University's Department of Computer Engineering and Department of Computer Education and enable field-based engineering education and curriculum improvement. Junior and senior students among Kakao Track participants are provided with a four-week winter field training opportunity while being supported through mentoring offered by our Krew. We have continued to donate KRW 20 million in scholarships to 20 students each year to motivate students to join our Kakao Track program.

Vision of Kakao Track



Achievements of Kakao Track

As of Feb. 2023



Identifying Female Talent with Science and Engineering Majors

Kakao works together with the WISET project group of Jeju National University to nurture and effectively support female scientists and engineers to contribute to advancing science and technology in Jeju and identifying female talent in this field. This project provides science and engineering major experience programs to encourage female junior and high school students to choose science and engineering majors. The self-directed female undergraduate activity group operated under this program helps identify female science and engineering talent, along with tailor-made industry programs and education specialized in female talent. Kakao's education covers topics that help these competent female talents better understand IT companies and emerging business trends and motivate them to develop their career in science and engineering and become more confident about their job outlooks.

Governance

Why This Matters

Building advanced governance is essential in ensuring balanced growth with wide-ranging stakeholders along with elevating shareholder value. Furthermore, establishing a set of right principles and means of implementation for ethical business conduct lays the foundation to build trust with stakeholders, and businesses should uphold this as the underlying value for their operations. Building integrated risk management capabilities and implementing preemptive response strategy in the rapidly-shifting business landscape is key to increasing corporate value over the long haul.

Approach

At Kakao, all decisions are made based on their impact in disseminating positive value among stakeholders, with our Board of Directors advancing management accountability as the highest decision-making body. To this end, we establish transparent governance on the strength of our professional, independent, and diverse Board of Directors while preemptively managing financial and non-financial risk that may occur in our business conduct with the ESG Committee leading the charge. Members of the Kakao Community share our ethics philosophy in line with the Kakao Code of Ethics, and implement our ethical management process established to conduct business in the most ethical way possible.

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2022 Highlights

Bolstered ESG-driven decision-making

Setting ESG performance metrics for the CEO



Reinforced the independence and diversity of the Board

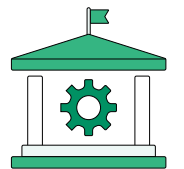
Appointing an independent director as the Board Chair, along with four female directors (57%)



Established integrated risk management governance at the Community level

Creating the

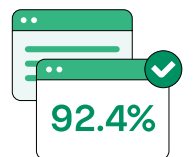
ERM Committee



Improved Krew's awareness on ethical management

Achieving

92.4% in training completion



3,608 Krew members subject to training in 2022

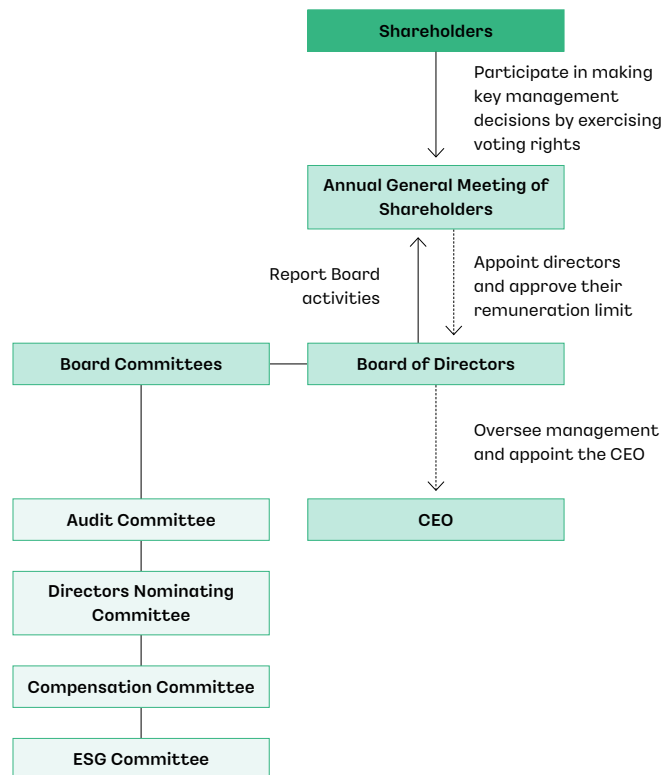
Corporate Governance

Shareholder-friendly Management

Shareholder-friendly Management

Kakao has established rational and transparent decision-making and governance to ensure reasonable business operations and deliver greater shareholder value. We set our mid/long-term shareholder return policy, fully disclose our capital and stockholding structure, and proactively engage in IR activities and disclosures, prioritizing the rights and interests of our shareholders in the process.

Kakao's Decision-making System



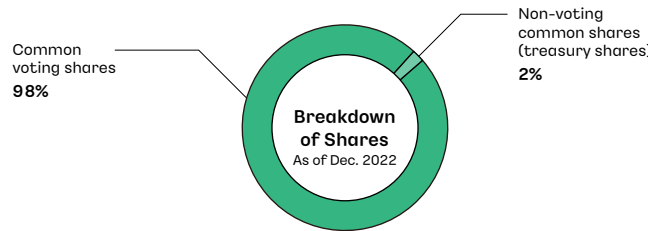
Assign responsibilities for the efficient operation of the Board

Kakao strives to establish transparent governance by building expertise, independence, and diversity into our Board of Directors. To fuel our sustainable growth and increase shareholder value, we ensure our Board of Directors and its committees are operated in a reasonable manner and transparently disclose our standards and operational status associated with governance.

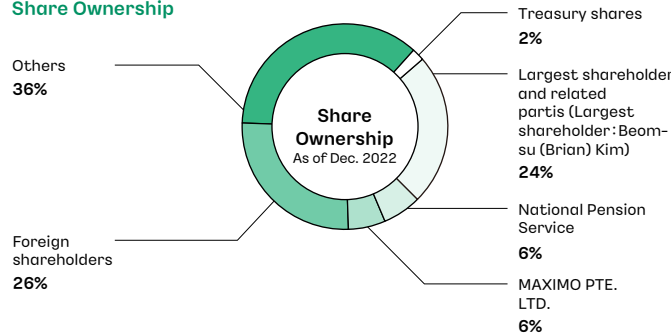
Stock and Capital Structure

Kakao follows the One Share One Vote principle. As of December 31, 2022, there were 436,699,062 common shares carrying voting rights, and 8,724,627 treasury shares that have no voting rights pursuant to the Commercial Act.

Breakdown of Shares



Share Ownership



Shareholder-friendly Policy

We implement electronic voting and proxy solicitation for our shareholders to exercise their voting rights without physically attending the Annual General Meeting (AGM) of shareholders. Since 2017, when setting the date of our AGM, we have been avoiding the period when such meetings are concentrated as published by the Korea Listed Companies Association. We also joined the Association's compliance program since 2018 to promote equal distribution of annual general shareholder meetings.

Stipulating Regulations on Executives Selling Stocks and a Preliminary Risk Review Process

In 2022, we set detailed standards to implement our regulations that restrict Kakao Community executives in their stock trading. These executives are prohibited from collectively selling their shares. Executives except for CEOs are banned from selling their shares for one year following their listing, and two years for CEOs. Executives who resign are also subject to these regulations for one year. Furthermore, executives who sold their shares in accordance with these regulations are still obligated to give prior notice on the number of shares and the timing of sales to the CAC (Corporate Alignment Center), and are also required to undergo the risk review process following their notice.

Establishing a Mid/long-term Shareholder Return Policy

In February 2022, we announced our first mid/long-term 3-year shareholder return policy which took effect from the 2021 fiscal year to bolster our shareholder return policy and elevate shareholder value. We will allocate 15~30% of our non-consolidated free cash flow generated from advertising, commerce and other KakaoTalk platforms to shareholders for three years: 5% will go to make cash dividend payments and another 10~25% will be used to repurchase and retire our treasury shares. We plan to maintain a minimum level of dividend per share and make additional dividend payments in proportion to our corporate growth for the next three years. In the 2021 fiscal year, our retired shares amounted to KRW 300 billion in total, combining shares retired based on our shareholder return policy and shares retired under our special buyback plan. In the 2022 fiscal year, our retired shares accounted for nearly 25% of our adjusted free cash flow or KRW 120 billion.

Corporate Governance

Board Composition

Independence and Efficiency of the Board

As of March 28, 2023, Kakao's Board of Directors (BOD) consisted of 7 directors, with 4 independent directors (57% of total), exceeding the requirement stipulated in the Commercial Act. Regulations of the Director Candidate Recommendation Committee and the Corporate Governance Charter specify the criteria to evaluate the independence and transparency of directors following domestic commercial law, fair trade law and other regulations. We consider expertise, diversity, and independence of the Board in the director nomination process. Our Board appointed an independent director as its Chair on March 30, 2023 for the first time, ensuring its independence from top management and controlling shareholders. Independent directors should not have significant interest in Kakao. In the appointment process, our independent directors are mandated to prepare documents confirming their understanding of and compliance with our independent director qualifications, and submit data on other current corporate positions outside Kakao as well as their stock ownership in writing. We transparently disclose data on our independent directors through corporate governance reports, including their previous positions at Kakao and its affiliated companies, transactions entered into between them (or companies where they are the largest shareholder) and Kakao and its affiliated companies, and transactions entered into between companies hiring them as employees and Kakao and its affiliated companies. Independent directors are prohibited from holding more than two positions following applicable laws to ensure they fulfill their role at the Board. In case any of our independent directors serves as an executive at companies other than Kakao, this should be approved by the Board according to Article 10-(1) 4 of the BOD Regulations.

[Kakao's Corporate Governance Charter](#)

Principles of Diversity and Expertise for Directors

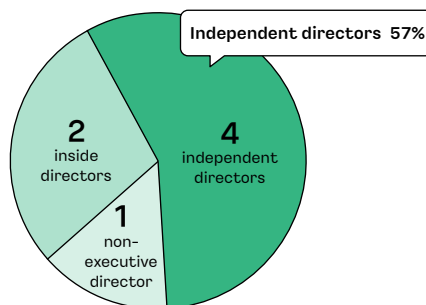
Our Corporate Governance Charter endorses the 'diversity principle' in the composition of the Board of Directors to ensure that the expertise of directors do not overlap and that directors do not represent specific interests. Regulations of the Director Candidate Recommendation Committee also specify that the nomination of director candidates should factor in the expertise and diversity of the Board in terms of gender, age, religion, nationality, race, ethnicity, and cultural backgrounds among others. We ensure our Board consists of diverse, professional, responsible, and competent directors so that the Board, as our highest decision-making body, engages in making important decisions with competitiveness and accountability. As of March 30, 2023, all four independent directors were experts in their field — finance, media, law, and technology — and their diverse backgrounds and expertise contribute to high-quality discussions on the agenda items submitted to the Board and efficiently monitoring the work of senior management. There are four female independent directors (57% of total) and this helps improve the gender diversity of our Board. Kakao introduced the Board Skills Matrix to communicate to stakeholders information on our Board members in terms of their expertise and gender/age breakdown as part of our continued efforts to ensure the expertise and diversity of the Board.

Board Skills Matrix

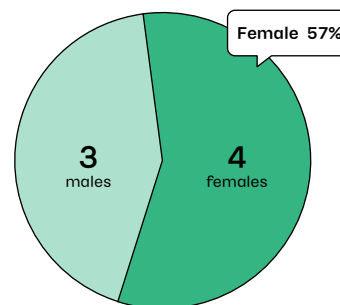
As of Mar. 30, 2023

Experience and Expertise	Eun-taek Hong	Jae-hyun Bae	Shina Chung	Seok Yun	Se-jung Choi	Sun-kyung Shin	Sae-rom Park
Law/regulations, policy				✓		✓	
Business management/investment	✓	✓	✓	✓		✓	
Finance/accounting		✓	✓	✓			
Digital/technology/security			✓				✓
Brand/communication	✓	✓	✓		✓	✓	✓
Risk management/stakeholder response	✓			✓	✓		
ESG	✓	✓			✓		✓

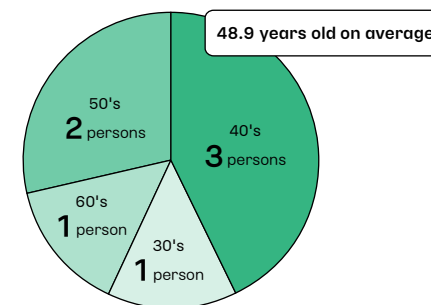
Board Composition



By Gender



By Age



Corporate Governance

Board Composition

As of Mar. 30, 2023

Director	Name	Gender	Tenure	Career	Responsibility	
Inside director	Eun-taek Hong	Male	Mar. 2022 ~ Mar. 2024	<ul style="list-style-type: none"> · Oriental History, Seoul National University · Chief Business Officer, Kakao · Executive Vice President, Kakao Social Impact · CEO, Kakao Makers 	<ul style="list-style-type: none"> · CEO, Kakao Commerce · (Current) Board, Kakao CA Council · (Current) CEO, Kakao 	<ul style="list-style-type: none"> · CEO · Member of the ESG Committee · Member of the Director Candidate Recommendation Committee
Inside director	Jaehyun Bae	Male	Mar. 2023 ~ Mar. 2025	<ul style="list-style-type: none"> · Business Management, Sogang University · Director of Future Strategy Office, CJ Corp · Leader of Big Deal Team, Kakao 	<ul style="list-style-type: none"> · Head of Investment Strategy Department, Kakao · CIO, Kakao · (Current) General Representative of Corporate Investment, Kakao 	-
Other non-executive director	Shina Chung	Female	Mar. 2023 ~ Mar. 2025	<ul style="list-style-type: none"> · French and French Literature / Business Administration, Yonsei University · Marketing, Master of Business Administration, Yonsei University · MBA, University of Michigan · Consultant, The Boston Consulting Group 	<ul style="list-style-type: none"> · Manager of Strategy and Business Development, eBay APAC HQ · General Manager, NHN · Managing Partner, Kakao Ventures · (Current) CEO, Kakao Ventures 	-
Independent director	Seok Yun	Male	Mar. 2023 ~ Mar. 2025 (Reappointed)	<ul style="list-style-type: none"> · Business Management, Yonsei University · MBA, NYU · Managing Director, head of equity research, Credit Suisse Korea · Managing Director, head of wholesale business/ head of research, Samsung Securities · CIO (Executive Vice President), Samsung Asset Management 	<ul style="list-style-type: none"> · CEO, Samsung Active Asset Management · Advisor, Samsung Active Asset Management · (Current) CEO, Yun & Co · (Current) Professor of Business Administration, Sookmyung Women's University 	<ul style="list-style-type: none"> · Chair of the Board · Member of the Audit Committee · Member of the Compensation Committee
Independent director	Se-jung Choi	Female	Mar. 2023 ~ Mar. 2025 (Reappointed)	<ul style="list-style-type: none"> · Ph.D. in Mass Media (Advertising), Michigan State University · Assistant Professor/Associate Professor, Department of Advertising, The University of Texas at Austin · Vice President, Korea Advertising Society · Outside director, JTBC Mediacom 	<ul style="list-style-type: none"> · (Current) Professor, School of Media and Communication, Korea University · (Current) President, Korea Media Management Association · (Current) Editor-in-chief, Korean Journal of Advertising and Public Relations · (Current) Outside director, GIIR Corporation 	<ul style="list-style-type: none"> · Chair of the ESG Committee · Chair of the Director Candidate Recommendation Committee · Member of the Audit Committee
Independent director	Sun-kyung Shin	Female	Mar. 2023 ~ Mar. 2025	<ul style="list-style-type: none"> · College of Law (LL.B.), Seoul National University · Judicial Research & Training Institute (30th class, passed the 40th Korean Bar Examination) · Graduate School of Law, Seoul National University · Stanford Law School (LL.M.) · Qualified New York State lawyer · Shin & Kim LLC (Finance Partner) 	<ul style="list-style-type: none"> · Leading Individual, Chambers Asia-Pacific, Capital Markets · (Current) Present Partner, LIWU Law Group · (Current) Member of the Finance Dispute Mediation Committee, Financial Supervisory Service · (Current) Member of the MBC personnel committee · (Current) Member of the Seoul Administrative Appeals Commission 	<ul style="list-style-type: none"> · Chair of the Compensation Committee · Member of the Director Candidate Recommendation Committee · Member of the Audit Committee
Independent director	Saerom Park	Female	Mar. 2023 ~ Mar. 2025 (Reappointed)	<ul style="list-style-type: none"> · Doctor of Science in Industrial Engineering, Seoul National University · Researcher, Industrial and Mathematical Data Analytics Research Center, Seoul National University 	<ul style="list-style-type: none"> · Assistant Professor of Department of Convergence Security Engineering, Sungshin Women's University · (Current) Assistant Professor of Department of Industrial Engineering, UNIST 	<ul style="list-style-type: none"> · Member of the ESG Committee · Member of the Compensation Committee

Director Appointment Process

Our directors are appointed through the Annual General Meeting of Shareholders, and director candidates are nominated to the Meeting following in-depth reviews by the Director Candidate Recommendation Committee. The Director Candidate Recommendation Committee is primarily mandated as stipulated in regulations to nominate independent director candidates and preliminarily review the qualifications of inside director candidates. Work is underway to develop internal review standards and perform close reviews to nominate director candidates and Audit Committee member candidates in accordance with Article 9-2 and Article 9-3 of these regulations respectively.

Independent Director and Audit Committee Member Nomination

Independent Director	Audit Committee Member
<p>Article 9-2 of the Regulations of the Director Candidate Recommendation Committee</p> <ol style="list-style-type: none"> 1. Expertise and diversity of the Board of Directors (such as gender, age, religion, nationality, race, ethnic group, cultural background or other various factors); 2. Independence in operating the Board of Directors (the ratio of composition of outside directors); 3. Risks of damaging the corporate value or violating the shareholders' rights and interest (whether the candidate has been subject to a final judgement due to one's embezzlement or breach of trust for the past 5 years, or whether the candidate is liable for damaging the corporate value and violating the shareholders' rights, interest, etc.); and 4. For an outside director, whether the candidate satisfies the qualification prescribed by the applicable laws and regulations, including Article 382 and Article 542-8 of the Commercial Act. 	<p>Article 9-3 of the Regulations of the Director Candidate Recommendation Committee</p> <ol style="list-style-type: none"> 1. The Committee shall select candidates for Members of the Audit Committee among the directors or director candidates in consideration of the matters prescribed by the applicable laws and regulations, including Article 542-11, Article 542-12, etc., of the Commercial Act.

Corporate Governance

Board and Committee Operation

Board Operation

As the BOD Regulations stipulate, our Board meets regularly every quarter and holds ad-hoc meetings when deemed necessary. Decisions are made by the Board with a majority of the directors present and a majority of the attending directors voting for or against, unless otherwise stated in applicable laws and regulations. Our BOD Regulations and committee regulations are subject to periodic annual reviews to continuously make necessary improvements with the view to promote the efficient and reasonable operation of the Board. To assist independent directors in making decisions, we ensure they have access to support from outside experts when necessary as specified in the BOD Regulations and committee regulations.

Board Operation in 2022

- Regular meeting: 11 meetings
- Ad-hoc meetings: meetings
- Attendance: 98.9% for inside and independent directors
- Major agenda: 59 decisions items and 11 information items including stipulating risk management regulations and CEO succession regulations, in-kind investment, paid-in capital increase, and granting stock options

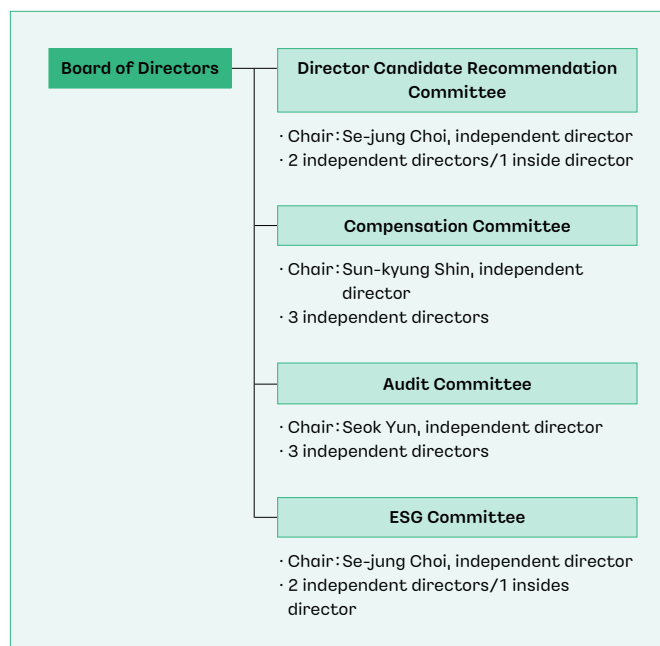
Board Committees

Under the Board are four committees of the Director Candidate Recommendation Committee the Compensation Committee, the Audit Committee, and the ESG Committee to aid in the efficient operation of the Board. Independent directors account for a majority of all these four committees. The Director Candidate Recommendation Committee the Compensation Committee, the Audit Committee, and the ESG Committee are all chaired by independent directors to enhance their independence and management oversight.

Specifically, the Audit Committee and the Compensation Committee are solely composed of independent directors to ensure their independent decision-making as expert committees.

Committee Composition

As of Mar. 30, 2023



ESG Committee Operation

Kakao operates the ESG (Environmental, Social, Governance) Committee under the Board of Directors. The Committee is responsible for examining the strategic direction of our ESG management and for managing and overseeing relevant achievements and issues to perform final review and grant approval on the annual 'Kakao Commitment and Responsibility Report'. Besides, the Committee presents non-financial issues and countermeasures concerning ESG, non-financial risk

review outcomes, domestic and international ESG evaluation outcomes, and issues in need of support for ESG capacity building and internalization. In 2022, such agenda items as Kakao and Community's win-win partnership projects, Net Zero commitments, and non-financial risk management status and plans were reported for approval.

ESG Training for Independent Directors

We provide regular ESG training to independent directors to help bolster their ESG competency. In 2021, ESG risk training was conducted for the Board of Directors that serves as the highest decision-making body for company-wide risk management as well as for independent directors. In 2022, training was provided on our environmental strategy 'Active Green Initiative', attended by all independent directors.

CEO Candidate Nurturing Program

We implement training programs in diverse formats to help CEO candidates develop business insights and leadership skills. Management workshops are held for CEO candidates to share ideas and engage in discussions concerning their individual roles and responsibilities to better understand Kakao's overall business operations. In 2022, such workshops were hosted twice for our Heads of Group and Department. Since 2023, we have provided training to CEO candidates to address key areas where they need to develop their competency. Quarterly special lectures are given on a broad range of topics including cognitive biases and illusions affecting leaders and the impact of leadership actions to help training participants gain multi-faceted business and leadership insights.

Corporate Governance

Board

Board and Committee Assessment

We are building a performance assessment system for our Board of Directors and its committees to improve their operational efficiency. Periodic annual self-assessments are performed on the operation of the Board and its committees: the Board is assessed for its operational efficiency and each committee for their activities. A self-assessment process was established for independent directors in December 2022, and this was implemented in January 2023 along with Board and committee assessments. The assessment results were analyzed by the Compensation Committee to provide mutual feedback on the performance of the Board and its committees, and were reported to the Board later on. The feedback generated from Board assessments informs our improvement efforts to support the efficient operation of the Board and its committees.

Board, Committee, and Independent Director Assessment Results in 2022

- Board's operational efficiency: Excellent in general
- Board committee activities: Excellent in general
- Independent director self-assessment: Excellent in general

Management Performance Review

In reviewing the performance of top management including the CEO, their contribution to our financial performance and attainment of strategic goals, the growth of corporate value, and internal/ external business conditions are comprehensively considered. To ensure our CEO fulfills his/her social responsibility, we included metrics associated with bolstering ESG management in determining CEO's bonus pay (15%) to further strengthen the trust our society places in Kakao.

ESG Performance Metrics Set for the CEO

Area	2022-2023 Goals	Performance Metric
Environmental	Set carbon emissions reduction goals and implement the roadmap for climate change adaptation	<ul style="list-style-type: none"> · Make our 2040 Net Zero commitment and develop climate change adaptation strategy · Achieve the RE100 through phased-in renewable energy transition · Develop and implement green building certification guides (LEED, etc.) · Develop user-engaging carbon reduction programs
Social	<p>Create an inclusive ecosystem with partners</p> <p>Promote inclusion and diversity through improved digital accessibility and literacy</p>	<ul style="list-style-type: none"> · Operate a support center for Kudos for Credos · Implement the Dangol Market project · Expand sales opportunities for agricultural/livestock/fisheries products through the Jegaburch project · Appoint the Digital Accessibility Officer · Make KakaoTalk and KakaoMap more accessible for people with disabilities · Develop programs to help Krew bolster their accessibility competency and raise awareness · Support communication with users with disabilities and reliable assistive technology
Governance	Advance the company-wide integrated risk management system and further stabilize services	<ul style="list-style-type: none"> · Stipulate risk management regulations and advance the management system · Establish a compliance management system · Expand infrastructure investment to provide reliable services

Board Remuneration

The remuneration limit of directors including the CEO is set through the decisions made at the Annual General Meeting (AGM) of shareholders, and compensation is made through the Compensation Committee in conformity with our executive compensation regulations. Compensation for inside directors consists of fixed base pay and bonuses aligned with one's performance. Base pay is calculated based on the value of the work performed and individual competencies, and bonuses are determined by comprehensively taking into account one's contribution to the Company's business performance and attainment of strategic goals, the growth of corporate value, internal/external business conditions, and external competitiveness in compensation. In addition, we provide benefits to promote the welfare of our Board members and the CEO, and grant stock options as approved by the AGM to hold top management accountable for our long-term corporate value growth. Our independent directors receive base pay only without other additional compensation such as bonuses and stock options. Compensation for individual directors and auditors that exceeds the KRW 500 million threshold is disclosed through our business reports to transparently share details on director compensation.

Director Compensation in 2022

Unit: Persons, KRW million

Director	No. of Directors	Total Compensation	Average Compensation per Person
Registered director (excluding independent directors and Audit Committee members)	3	7,570	2,595
Independent director (excluding Audit Committee members)	1	48	48
Audit Committee Member	3	144	48

Risk Management

Risk Management System

Risk Management Governance

Our Board of Directors (BOD), the ESG Committee, and the Audit Committee are responsible for integrated risk management, headed by the ERM (Enterprise Risk Management) Committee. The Compliance Management Division is responsible for non-financial risks and the Finance Group for financial risks to ensure appropriate risk response. The ERM Committee reviews our risk management operations and analyzes risks for their impact on our business operations while reporting its key findings and results to the ESG Committee, the Audit Committee, or the BOD. In 2022, we reformed our risk management governance by transitioning from the Risk Management Officer system to a Committee-based system, namely the ERM Committee, which is composed of decision-makers from the key functions of the Company.

Risk Management Organization by Function

Board of Directors	<ul style="list-style-type: none"> Head the management of financial and non-financial risks Review and oversee potential risks and develop policies
ESG Committee	<ul style="list-style-type: none"> Head the management of non-financial risks Delegated by the Board to manage non-financial risks
Audit Committee	<ul style="list-style-type: none"> Head the management of financial risks Delegated by the Board to manage financial risks
ERM Committee	<ul style="list-style-type: none"> Created for the integrated management of non-financial and financial risks to share the status of risk management through monthly regular meetings Head our company-wide risk management as a risk management committee specified under risk management regulations, and assist the Board of Directors and the ESG Committee and report key issues to the Board
Responsible Department	<ul style="list-style-type: none"> Support and manage risk-based business operations including risk management status review, response, control, policy development and progress review

Our Approach to Risk Management

To advance our risk management, we have institutionalized the Risk Management Committee and its supporting

Kakao is building an integrated risk management system, and reviews and addresses financial and non-financial risk that may occur in the course of our business conduct on an on-going basis. We efficiently manage the entire risk management process, from risk identification and analysis to assessment, monitoring, response, and follow-up management in line with our risk management regulations.

organization, detailed operational procedures, and the Board reporting system. In line with risk management regulations, the Board, the ESG Committee and the Audit Committee analyze the impact of potential losses that may occur due to changing internal/ external conditions while implementing separate risk management plans to address relevant risks. Risk management plans include stress tests and phased contingency plans, and are headed by the ERM Committee. We continue to manage financial and non-financial risks that may arise in the technology development and service planning/ operation phases with relevant teams. For risks that occur randomly in relation to technology and services, we operate a system to immediately share such risks upon identification with the entire Krew and the dedicated risk management organization.

[Risk management regulations](#)

Risk Management Process

Risk Identification

Our ERM Committee serves to regularly identify and list financial and non-financial risks that affect our business operations. The identified risks are categorized and defined following our risk management regulations while their responsible team is assigned and management plans are developed for risk response.

Risk Assessment

Risks are identified four times a year and are assessed for their 'probability of occurrence' and 'impact'. These risks are prioritized based on the need for response in consideration of our risk tolerance and appetite. Top-priority risks are defined as 'key risks' and take precedence in our risk response.

Risk Monitoring and Response

In line with the set risk management plan, the responsible team develops detailed implementation measures to pursue continuous and regular risk monitoring and response.

Risk Management Process Review

The ERM Committee reviews and manages the risk management process for its effective, company-wide implementation following risk management regulations. The Committee analyzes risks for their impact on Kakao and reports key findings to the ESG Committee and the Audit Committee.

Disseminating a Culture of Risk Management

The entire Krew as well as responsible teams are responsible for communicating any risk right upon their detection to the dedicated organization. For cross-sectoral issues, we leverage our collaboration system to work with experts from relevant teams to ensure efficient response to such risks. Committees with expertise in specific fields, such as the News Transparency Committee, are also organized to develop risk mitigation plans.

Defining and Responding to Risks

We define risks as potential losses or disadvantages to corporate value that are caused by all types of uncertainties that may occur in the course of business conduct, and classify risks into financial and non-financial risks. Financial risks concern interest rates, liquidity, credit, F/X, capital, financial reporting, internal accounting controls, taxes, and any other finance and tax-related issues. Non-financial risks include compliance, corporate/technology/service ethics, workforce, climate change and environmental risks that could occur in business operations.

Risk Management

Definition of and Response to Major Risks

1) The ERM Committee is responsible for the integrated management of non-financial and financial risks.

Type of Risk	Risk	Definition	Our Response	Relevant Team ¹⁾
Non-financial risk	Technology ethics	AI, cloud, blockchain and other emerging technologies not only provide varying benefits but also bring adverse effects, and thus require the management of risk factors	<ul style="list-style-type: none"> Created the Community-level Tech-for-Good Committee comprising technology leaders and risk managers at Kakao and the Kakao Community Reviewed major technology ethics issues with external experts through social cooperation agencies 	Community Tech-for-Good Committee, Human Rights and Technology Ethics Team, Policy Team
	User protection	Technical defects and other risks may cause inconvenience for users in their service use and infringe upon users' rights.	<ul style="list-style-type: none"> Reviewed and improved policies on an on-going basis from the viewpoint of user protection Advanced our management system through organizational restructuring to increase the stability of service infrastructure Advanced our security system to protect users from financial scams including phishing committed through the abuse of services 	Infra Group, Roundtable on Financial Customer Protection, User Service Team
	Privacy	User information collected through service offerings inherently entails privacy infringement risks, and any violation of applicable laws may lead to sanctions imposed on the concerned services.	<ul style="list-style-type: none"> Provided internal training on privacy Conducted personal data impact assessment even before service launching Reviewed our privacy policy through the Privacy Advisory Committee composed of external experts 	Privacy Office
	Policy and regulation	Policy and regulatory changes impact the competitiveness of our existing business and could hamper our stable advancement into new business areas.	<ul style="list-style-type: none"> Monitored domestic/overseas policy trends on an on-going basis Analyzed factors affecting our business competitiveness and set the course to respond to such factors 	ER Division
	Compliance	Direct/indirect financial liabilities, civil or criminal disadvantages, sanctions by regulatory authorities, or adverse impact on the organization or its employees may occur.	<ul style="list-style-type: none"> Conducted reviews to ensure we do not run counter to any current laws or policies in the course of our business conduct Reviewed contracts and transactions among Community members for their appropriateness 	The Compliance Management Division
	Information security	Abusing activities that disrupt normal service operations, malicious hacker attacks against systems and other information security issues are always present.	<ul style="list-style-type: none"> Established a system to maintain a reliable security environment Engaged in sustained monitoring and advanced our response capabilities against abuses, hacking, and other external attacks 	Information Security Division
	Ethics	Unethical behaviors of Krew or partners that occur in the course of business conduct expose us to operational and reputational risks.	<ul style="list-style-type: none"> Provided training on an on-going basis to prevent unethical behaviors and decision-making Supported supply chains for ethical management activities 	Ethics Management Team, Human Rights and Technology Ethics Team
	Reputation	Poor business performance, social controversies caused, complaints raised and critical litigations could all create negative public sentiments and undermine our public reputation.	<ul style="list-style-type: none"> Launched proactive public communication activities through media and internal/external channels Responded to the spread of inaccurate information across society and identified promotional practices to improve our corporate reputation 	Communication Group, Marketing Division
	CI (Corporate Identity)	Unauthorized use of company names, brands, reputation, or credit may lead to risks.	<ul style="list-style-type: none"> Collected reports on the misuse/abuse of Kakao IP components including our key CI and took action 	Intellectual Property Team, Marketing Division (Brand Management Committee)
	PI (Personal Identity)	Social controversies could occur for executives, Krew and other members of the Company, critical lawsuits could be raised in relation to work, and the sound growth of the Community could be inhibited.	<ul style="list-style-type: none"> Provided regular training on the Code of Ethics and disciplinary regulations to raise internal awareness Operated a hotline program to report misdeeds 	Ethics Management Team
	External conditions	Infectious diseases, wars, terrorism, and other unexpected changes in the external environment may cause disruption to our sustainable business operations.	<ul style="list-style-type: none"> Swiftly recovered from the service outage caused by the data center fire Created a company-wide organization for systemic response to overall risks including external environment risks 	Specialized ad-hoc teams (e.g. Emergency Response Committee)
	Human rights	Violation of human dignity, value, freedom, and rights guaranteed by the constitution or laws or recognized internationally results in human rights risks.	<ul style="list-style-type: none"> Operated a system to respond to behaviors that are unethical or could violate human rights across the entire business operations Operated a reporting system to take swift action for the damage caused Created a dedicated organization (Human Rights and Technology Ethics Team) for the systemic implementation of human rights management 	Human Rights and Technology Ethics Team, Roundtable on Human Rights and Business
Climate change and environment	Risks may occur in the process of responding to a range of environmental challenges, including actual or potential environmental pollution and degradation and climate crisis caused by climate change, and its resulting policy and regulatory changes.	<ul style="list-style-type: none"> Established climate change and environmental risk response strategy Reduced environmental impact by fully transitioning to renewable energy at our Jeju Office Launched eco-friendly services and campaigns to reduce GHG emissions by opting for greener alternatives 	ESG Business Team, Environmental Management Task Force, Active Green Platform Team	
Financial risk	Currency/interest rate/capital/credit/tax	Abrupt currency rate fluctuations, interest rate changes, capital risks, credit rating risks and tax risks all represent the instability of and dramatic volatility of the future market.	<ul style="list-style-type: none"> Continuously monitored the rapidly-shifting macroeconomic landscape Took a conservative approach to tax policy operations through regulatory reviews and authoritative interpretations 	Finance Group

Risk Management

Emerging Risk

We ensure that we recognize emerging risks from the long-term perspective and analyze how such risks may impact our business to respond to them before they occur. Such efforts led us to identify emerging risks in the areas of technology, economy, society, and environment. Any failure to preemptively identify and address emerging risks may put us at a disadvantage in retaining current users and recruiting potential users. As such, we will continue with close monitoring and preemptive response to ensure emerging risks do not negatively impact our business operations.

Emerging Risk	Potential Impact	Our Response
Contamination of training data for AI technology and reckless acquisition of personal data	In the event services leveraging AI technology such as chatGPT are trained on racially/sexually biased sample data or recklessly collect personal identifiable information including name, address, account number, and mobile number, this could halt the operation of such services.	<ul style="list-style-type: none"> Established the principles of ethical data acquisition and training through the Tech-for-Good Committee Developed algorithms to defend against users' adversarial training which contaminates AI technology and causes verbal violence Provided company-wide algorithm ethics training
Response to the rapid advancement of science technology and shifting market conditions	Just as dynamics of the digital industry and market itself surged in the wake of chatGPT, the emergence of new technologies and services powered by such technologies may bring multi-faceted impact on Kakao's business operations, including our business competitive edge.	<ul style="list-style-type: none"> Continuously monitored the emergency of new technology and the resulting market changes, and identified and responded to change in our business competitiveness Established a system to swiftly address even unexpected changes
Domestic and international communities' efforts to contain the dissemination of technology-based platforms	As digital platform companies become increasingly influential across society, social needs are rising along with policy and regulatory restrictions that call for platform businesses to consider even the sustainability of the industry ecosystem where they operate.	<ul style="list-style-type: none"> Develop ways to make society as well as our business operations more sustainable Give back to society through sharing-driven activities undertaken outside our business areas Internalize ways to make our society more sustainable simply by conducting business
Increasing demand to contribute to countering climate change	In line with the growing demand for GHG emissions reduction domestically and internationally, digital companies are also required to do their part for climate change adaptation.	<ul style="list-style-type: none"> Embed eco-friendly values into our essential business operations over the mid-to-long term in line with the Active Green Initiative, Kakao's environmental management principle

Tax Risk Management Policy

We stipulated our tax policy in March 2022 and have since been operating this policy to strictly comply with Korea's tax laws and the tax agreements signed in countries where we have interests while faithfully fulfilling our obligations in filing and paying taxes. We doubly make sure that we file and pay taxes within the set deadline, and lawfully retain and manage documentary evidence associated with business operations. We fully cooperate in the implementation of the tax policies of countries where we are based, maintain transparent working relationships with tax authorities, and swiftly and accurately provide tax-related information when such information is requested.

Kakao's Tax Policy

- Comply with country-specific tax laws
- Respond to tax risks through preliminary reviews
- Comply with transfer pricing regulations in related party transactions
- Fully disclose tax information
- Manage global tax risks through BEPS reporting

Kakao's tax policy

Tax Risk Management Process

Kakao strives to prevent potential tax-related risks that may arise in any and all transactions in goods, services, and capital in the course of our business conduct. We seek advice from multiple external experts and submit preliminary inquiries to tax authorities to prudently consider tax risks in making important decisions. In entering into transactions with the Kakao Community (related parties), we regularly engage in close consultations with the Community as a transaction party to ensure fair pricing as stipulated by applicable laws, and seek advice from external experts to prevent risk.

Ethical Management and Compliance

Ethical Management System

Code of Ethics

Kakao puts ethical management first before all else, and complies with the Code of Ethics set out to build trust-based relationships with all stakeholders. The Code of Ethics defines a set of standards for all Krew to adhere to in making ethical and desirable decisions to ensure that our corporate values are not undermined and any seemingly suspicious situations do not occur. To this end, we have all Krew sign the pledge each year to commit to fully abiding by the Code, and recommend that our partners understand and comply with our Code of Ethics. This Code is subject to regular review and supplementation to keep abreast with the shifting business landscape and social norms.

Governance

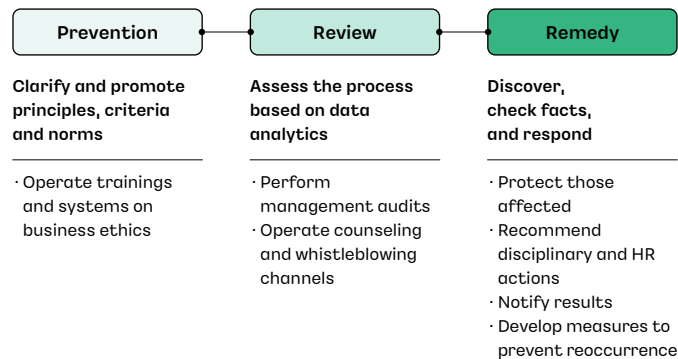
We operate the Standing Ethics Committee as the top governance body for ethical management, and under the Committee is the Ethics Management Team which serves as a working-level ethics team. The Committee deliberates on ethics issues in general, resolves issues based on deliberation outcomes, and makes fair decisions on other matters through discussions and secret votes. The decisions made as such are reported to the Board once a year. The Committee is chaired either by the CEO or by a member delegated and authorized by CEO's designation, and its composition takes into account the balanced representation of its members in terms of position, gender, and age. In 2022, the Committee regulations were amended to ensure the diversity of the Committee and the objectivity of its deliberations and decisions, along with the appointment of two Committee members.

Kakao conducts business in the most ethical way possible in compliance with our Code of Ethics. We have organizations and processes up and running for ethical management, and operate wide-ranging programs including ethics training for Krew at the Community level to establish an ethics-driven corporate culture.

Implementation Process

Our ethical management implementation process consists of the three steps of prevention, review, and remedy for efficient ethical management, and is headed by the Ethics Management Team as a working-level organization. In case any member of the Community which has not yet fully established its ethical management system requests assistance, the Team aids in the verification of related factual grounds.

Ethical Management Implementation Process



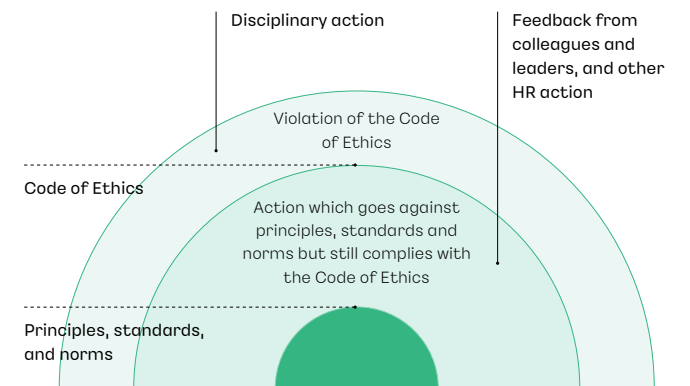
Bolstering Ethical Management Governance at the Community Level

Our affiliates established their own ethics committee to bolster our ethical management governance at the Community level. We provide processes and guides necessary for ethical management operations to ensure all our affiliates adhere to a high level of standards in advancing ethical management.

Community Ethics Management Protocol

Our Community Ethical Management Protocol ensures that Community members share ethical issues and take an integrated approach to these issues. In 2022, we developed ethics training content for all Krew members in partnership with some of our affiliates (Kakao Entertainment, Kakao Pay, Kakao Games, and Kakao Enterprise), and communicated our ethics philosophy harmonized in terms of level of understanding and content across the board.

Action Taken in line with the Code of Ethics



Ethics Management and Compliance

Operating the Roundtable on legal affairs

Since 2022, Kakao has operated the Roundtable on legal affairs with Community members every two weeks to build a collaboration system aligned with the legal affairs perspective. The Table is attended by leaders responsible for legal affairs at respective Community both on/offline to communicate risks preemptively identified by each member and issues that may affect the entire Community. Issues such as changing regulations governing the IT industry that generate useful insights are shared through separate seminar sessions arranged within the Table, along with support programs to match these issues to the ones raised at respective members. It is critical that we promptly minimize risks through timely response and sharing. We also opened a year-round communication sharing channel that operates on a regular basis. Communication channels were created at respective members to connect Kakao's Compliance Part with working-level legal affairs personnel at each Community member, and real-time compliance risk monitoring is conducted to systematically prevent risk from spreading across the entire Community.

Ethics Training for New Hires

New recruits are provided with monthly ethics training as part of the onboarding program. The training include understanding Kakao's Code of Ethics and sharing and disseminating cases of non-compliance. In 2022, our onboarding training for new hires was attended by 383 persons and for Krew hired through open recruitment for tech positions by 72 persons. They all completed such training.

Ethics Training for the Entire Krew

We provide all our Krew - full-time employees, contract workers and fixed-term workers - with training designed to embed ethical management into our business operations. In

2022, training was conducted on Kakao's Code of Ethics and Community Ethical Management Protocol, anti-corruption, and fair trade issues. Out of 3,608 Krew subject to training, 3,334 members (92.4% of total) completed the training.

Ethical Management Training for Krew in 2022

- Chapter 1 Ethical Management Story: What is ethical management for?
- Chapter 2 Ethical Management Story: How can we eliminate cartel and unfair trade practices?
- Chapter 3 Kakao Community's Ethical Management Story

Internal and External Counseling/Whistleblowing and Whistleblower Protection

Our Online Ethics Center serves as a channel for external stakeholders to receive counseling or report concerns on unethical or corrupt practices involving employees at Kakao and other affiliated companies, including unfair actions taken, unjustifiable requests such as bribery and entertainment, misuse of corporate assets, illegal investments in suppliers, leaks of confidential information, and document/data fabrication. The Online Ethics Center strictly abides by the principles of confidentiality and identity protection for whistleblowers following applicable laws and internal regulations. We ensure that the act of whistleblowing, making statements or reporting does not result in any discrimination or disadvantage. When whistleblowers ask for identity protection, the Ethics Management Team may take necessary actions including legal support and relocation in consultation with the heads of HR and legal affairs teams. We operate TellMe@Kakao 24/7/365 as whistleblowing channel for Krew to report the violation of the Code of Ethics or receive counseling in relation to such violations either anonymously or under one's real name. In 2022, a total of 21 cases of counseling and whistleblowing were submitted through internal/external counseling and whistleblowing channels. Action was taken on all 10 cases that were substantiated based on investigations.

Operating the Gift Return Center

Kakao Krew and their families are prohibited from receiving any bribes or entertainment that may cause conflict of interest. Any provided gifts or bribes should be immediately turned in to our gift return center, following the set procedures.

[Ethics guidelines for receiving gifts and/or entertainment](#)

Sponsorships for Associations and Organizations

Kakao thoroughly abides by Article 31 of Korea's Political Funds Act, and prohibits making political donations. We make it very clear that we do not make any political donations by using our corporate funds nor provide any political funds, voting-related election funds, or funds for lobbying political organizations. We sponsor, however, politically neutral general and trade associations that serve the public interest.

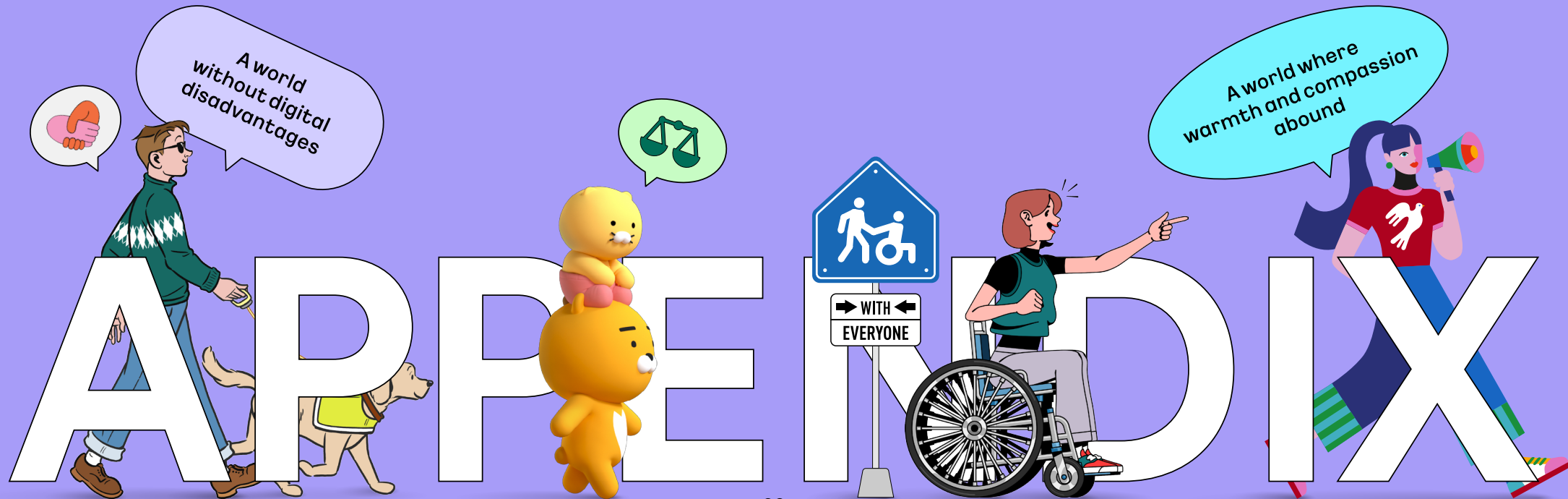
Community

Ethical Management Activities at the Community Level

The Kakao Community advances ethical management and pursues integrity in its truest form with internal and external stakeholders.

Kakao Entertainment	· Open OpenTalk for Ethics Counseling for Krew to anonymously receive counseling in real time and monitor ethical issues on an on-going basis
Kakao Pay	· Launch the No Give No Take campaign
Kakao Games	· Provide training for Krew on the cases of ethical non-compliance concerning game playing as well as on the necessity of ethical management
KakaoBank	· Sign the ethics and compliance pledge and self-check once a year · Operate the integrity contract system
Kakao Style	· Launch the 'Gift return campaign' campaign year-round, specifically during national holidays, to establish fair relationships with external stakeholders
Kakao Space	· Launch the 'No Holiday Gift' campaign for customers
dktechin	· Conduct impact assessments (survey) on collaboration partners · Take stock of ethical management operations

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About the Kakao Community

kakao
ENTERTAINMENT

Kakao Entertainment

CEO: Kim Sung-Su, Lee Jin-soo
Establishment: Jul. 2010

Kakao Entertainment was launched through the merger of KakaoPage, Kakao M, and Melon. Under the vision of 'Entertain Different,' Kakao Entertainment emerges into a global entertainment company on the back of its IP value chain that organically encompasses the full spectrum of areas and genres of the entertainment industry on the three main pillars of story, media, and music.

<https://kakaotent.com>

kakaopay

Kakao Pay

CEO: Shin Won-keun
Establishment: Apr. 2017

As Korea's first to offer easy payment services, Kakao Pay has emerged as a FinTech business by extending its scope of services into money transfer, billing, membership, investment, loan, and insurance, unveiling new financial services that bring benefits to the daily lives of users while eliminating the inconveniences inherent in existing financial activities on the strength of information technology. Kakao Pay seeks to create a financial platform that can be easily and safely accessed through the KakaoTalk and Kakao Pay apps.

<https://www.kakaopay.com>

kakaogames

Kakao Games

CEO: Cho Kye Hyun
Establishment: Aug. 2013

As a total game service provider spanning from game development to global publishing on the unrivaled platforms of Daum Game and Kakao Games, Kakao Games engages in new businesses merging diverse genres from casual to hard core with sports, wireless communication, and blockchain technology, greatly enriching the lives of countless users.

<https://www.kakaogamescorp.com>

kakaomobility

Kakao Mobility

CEO: Ryu Gung-seon
Establishment: May 2017

Under the goal of rendering mobility experiences 'faster and convenient' for all, Kakao Mobility provides various mobility services including taxis, parking, navigation, designated drivers, e-bikes, trains and buses on its Kakao T MaaS (Mobility as a Service) platform to relentlessly pursue innovation and growth. Kakao Mobility strives to promote improved options and experiences in our daily lives, extending the definition of the mobility platform from people to services and things.

<https://www.kakaomobility.com>

kakaobank

KakaoBank

CEO: Yoon Ho-young
Establishment: Jan. 2016

'Already everyone's bank. Now, KakaoBank' we are redefining the banking experience by fusing finance and IT technology. We provide essential banking services such as deposits, credit, debit cards, foreign currency transfers, individual business accounts, and mini-accounts. We also offer various platform services such as affiliated credit cards, stock account opening, linked loans, personal credit information inquiries, domestic and international stock investment opportunities, etc.

<https://www.kakaobank.com>

kakaopiccoma

Kakao Piccoma

CEO: Kim Jae-yong
Establishment: Jul. 2011

As our local subsidiary in Japan, Kakao Piccoma is responsible for servicing the manga app 'Piccoma' in Japan while delivering the value of pleasures in the daily lives of all.

<https://www.kakaopiccoma.com>

kakaoinvestment

Kakao Investment

CEO: Kwon Kioh
Establishment: Apr. 2017

As a member of Kakao affiliated companies with investment expertise, Kakao Investment supports startups capable of pursuing innovation on the basis of Kakao's philosophy of 'making a better world with people and technology,' and provides M&A, IPO and other exit opportunities to establish a virtuous cycle within the venture ecosystem.

<https://www.kakaoinvestment.com>

kakaoenterprise

Kakao Enterprise

CEO: Lee Kyung-jin (appointed on May 17, 2023)
Establishment: Aug. 2019

Kakao Enterprise is Korea's leading IT platform company serving a host of industries with its digital innovation solutions on the back of cloud, AI and other cutting-edge technologies and business know-how in line with its vision 'Connect. Solve. Create. + AI.'

<https://www.kakaoenterprise.com>

About the Kakao Community

kakaobrain

Kakao Brain

CEO: Kim Il-doo, Kim Byoung-hak
Establishment: Feb. 2017

Kakao Brain was established to contribute to the development of the AI technology ecosystem in Korea and overseas and secure Kakao's growth drivers. It specializes in AI technology and develops differentiated element technology, big models and digital humans to contribute to the high-tech community while exploring new service areas and the quality of life.

<https://www.kakaobrain.com/>

kakaohealthcare

Kakao Healthcare

CEO: Hee Hwang
Establishment: Mar. 2022

Kakao Healthcare leverages technology for all to lead a healthier life easily and conveniently. Kakao Healthcare delivers specialized technology and solutions to enable greater innovation through the application of health data.

GROUND X

Ground X

CEO: Yang Zooil
Establishment: Mar. 2018

Ground X provides the safest and most reliable digital asset experience that can be embraced by anyone irrespective of generational or cultural differences with a focus on its mobile wallet service Klip and its digital art and NFT marketplace Klip Drops.

<https://www.groundx.xyz>

kakaoventures

Kakao Ventures

CEO: Chung Shina
Establishment: Mar. 2012

As a dedicated investor in startups and as Kakao's venture capital affiliated company, Kakao Ventures has raised over KRW 359.9 billion through nine investment associations to invest in 240+ startups since its inception.

<https://www.kakao.vc>

kakaostyle

Kakao Style

CEO: SEO, JUNG HOON
Establishment: Feb. 2012

Kakao Style believes that everyone has his/her own distinctive style, and becomes their authentic self through the joy of discovering one's favorites.

<https://kakaostyle.com/>

kakaospace

Kakao Space

CEO: LIM SUNG WOOK (Mcqueen.lim)
Establishment: May 2015

Kakao Space breaks down the barrier between online and offline and goes beyond people-to-people communication on online platforms to create connectivity and extension between people and space and between space and space.

KnWorks

KnWorks

CEO: Shin Seok Cheol
Establishment: Feb. 2005

KnWorks is a professional operational service provider armed with extensive domain knowledge, competency across respective advanced functions, and years of experience and expertise. On the strength of the varying services available within the Kakao Community, KnWorks nurtures a sustainable mobile ecosystem.

<http://www.knworks.co.kr>

dktechin

dktechin

CEO: Lee Wonju
Establishment: Aug. 2015

dktechin delivers end-to-end IT services spanning systemic consulting, system deployment and operation, and infrastructure, and leverages differentiated information technology to provide services and solutions with exceptional quality. dktechin offers far-reaching ICT services in line with the accelerating digital transformation era in the areas of SAP ERP, AI chatbots, and smart businesses.

<https://www.dktechin.com>

Linkage Lab

Linkage Lab

CEO: Park Dae Young
Establishment: Feb. 2016

As Kakao's subsidiary and a standard site hiring people with disabilities, Linkage Lab creates opportunity for both people with and without disabilities to work together to achieve its mission of 'building a better society together'. Linkage Lab provides an opportunity to train and nurture experts with disabilities in the IT service and welfare service areas.

<https://www.linkagelab.co.kr/>

Environmental Performance

Performance Data

GHG Emissions¹⁾

Category	Unit	2019	2020	2021	2022	
Scope 1 emissions	Total	tCO ₂ e	287	256	233	248
	Pangyo Office	tCO ₂ e	116	125	81	168
	Jeju Office	tCO ₂ e	150	47	49	80
	Data centers ²⁾	tCO ₂ e	21	85	104	0
Scope 2 emissions	Total	tCO ₂ e	64,478	76,670	85,087	67,143
	Pangyo Office	tCO ₂ e	2,130	1,969	2,209	7,333
	Jeju Office ³⁾	tCO ₂ e	1,168	859	860	0
	Data centers	tCO ₂ e	61,180	73,842	81,673	59,473
	Offline sales locations ⁴⁾	tCO ₂ e	-	-	346	337
Scope 3 emissions ⁵⁾	Total	tCO ₂ e	185	203	69,393	70,517
	1. Purchased goods and services	tCO ₂ e (%)	-	-	137 (0.2)	63 (0.1)
	2. Capital goods	tCO ₂ e (%)	-	-	47,898 (69.0)	49,508 (70.2)
	3. Fuel- and energy-related activities	tCO ₂ e (%)	-	-	6,176 (8.9)	7,922 (11.2)
	4. Upstream transportation and distribution	tCO ₂ e (%)	-	-	3 (0.004)	1 (0.001)
	5. Waste generated in operations	tCO ₂ e (%)	-	-	56 (0.1)	282 (0.4)
	6. Business travel	tCO ₂ e (%)	-	-	91 (0.1)	435 (0.6)
	7. Employee commuting ⁶⁾	tCO ₂ e (%)	185	203	210 (0.3)	71 (0.1)
	9. Downstream transportation and distribution	tCO ₂ e (%)	-	-	110 (0.2)	87 (0.1)
	11. Use of sold products	tCO ₂ e (%)	-	-	8,151 (11.7)	4,547 (6.4)
	12. End-of-life treatment of sold products	tCO ₂ e (%)	-	-	253 (0.4)	203 (0.3)
	13. Downstream leased assets	tCO ₂ e (%)	-	-	272 (0.4)	207 (0.3)
	14. Franchises	tCO ₂ e (%)	-	-	25 (0.04)	26 (0.04)
	15. Investments	tCO ₂ e (%)	-	-	6,011 (8.7)	7,165 (10.2)
	Emissions intensity	Total emissions	tCO ₂ e	64,949	77,130	154,713
Emissions intensity (Scope 1,2,3) ⁷⁾		tCO ₂ e/KRW 100 million	2.1	1.9	2.5	5.6
Sales ⁷⁾		KRW 100 million	30,701	41,568	61,367	24,566

Energy¹⁾⁸⁾

Category	Unit	2019	2020	2021	2022		
Energy consumed	Direct energy	Total	GJ	4,377	3,875	3,532	4,125
		Fixed combustion (LPG, diesel)	GJ	1,596	2,002	2,317	2,243
	Indirect energy	Mobile consumption (gasoline, diesel)	GJ	2,781	1,873	1,215	1,882
		Total	GJ	1,331,131	1,581,492	1,779,828	1,405,129
		Electricity ⁹⁾	GJ	1,318,190	1,571,936	1,772,532	1,395,932
Energy consumption intensity	Heat	GJ	12,941	9,556	7,296	9,197	
	Total energy consumption	GJ	1,335,508	1,585,367	1,783,360	1,409,254	
	Energy consumption intensity (direct, indirect, external energy) ⁷⁾	GJ/KRW 100 million	43.5	38.1	29.1	57.4	
	Sales ⁷⁾	KRW 100 million	30,701	41,568	61,367	24,566	
Renewable energy consumed	Green premium purchases made	MWh	-	-	2,978	-	
	RECs	MWh	-	-	-	1,900	

Change in Kakao's organization and operational boundary in 2022¹⁰⁾

- GHG emissions generated from data centers between 2019 and 2021 include emissions from Kakao and other Community members on a consolidated basis.
- GHG emissions from data centers in 2022 included Kakao's emissions on a non-consolidated basis.
- In reflection of the updated organizational and operational boundary, GHG emissions intensity was calculated based on consolidated emissions and sales from 2019 to 2021, and based on non-consolidated emissions and sales for 2022.
- Such adjustments made in our organizational and operational boundary resulted in slight y-o-y increases in emissions intensity and energy intensity in 2022.

- 1) The above sum of GHG emissions and energy consumption was rounded down to the integer level.
- 2) In line with the updated organizational and operational boundary, emissions generated from air-conditioning facilities at our leased data centers were excluded in the aggregation of our Scope 1 emissions.
- 3) Jeju Office's Scope 2 emissions were calculated as zero based on its REC (Renewable Energy Certificate) purchases.
- 4) Scope 2 emissions from offline sales locations were aggregated from 2022 onwards, and these emissions concern Kakao Friends shops.
- 5) Category 1 – 6, 9, and 11-15 emissions were aggregated from 2021, and bracketed numbers refer to the proportion within the total Scope 3 emissions.
- 6) Category 7 emissions for 2019 and 2020 correspond to commutes made by employees at our Pangyo Office only, and data for 2021 and 2022 include employees commutes both at our Pangyo Office and Jeju Office.
- 7) Intensity for 2019-2021 was calculated based on consolidated sales in line with the aggregation of power consumption of the Kakao Community. In 2022, intensity rose from the previous year as non-consolidated sales data were used by excluding consumption by Community members.
- 8) The consumption-based conversion factor (9.6MJ/kWh) was used in line with the GHG & Energy Target Management specification preparation standards.
- 9) MWh unit-based electricity energy consumption: 137,311MWh in 2019, 163,743MWh in 2020, 184,639MWh in 2021, 145,410MWh in 2022
- 10) GHG emissions and energy consumption of other Community members at data centers were internally calculated as 5,450tCO₂e and 113,885GJ respectively in 2022. When calculated under the organizational and operational boundary which applied to 2019-2021, emissions intensity is 2.0 tCO₂e/KRW 100 million, and energy consumption intensity is 21.4GJ/KRW 100 million (137,908tCO₂e)

Environmental Performance

Performance Data

Water^{1), 2)}

Category		Unit	2019	2020	2021	2022
Withdrawn	Total	m ³	17,167	11,317	12,690	44,469
	Pangyo Office	m ³	3,614	2,781	4,868	36,524
	Jeju Office	m ³	13,553	8,536	7,822	7,945
Reused	Total	m ³	0	0	0	890
	Pangyo Office	m ³	0	0	0	890
	Jeju Office	m ³	0	0	0	0
Withdrawal intensity	Total	m ³ /KRW 100 million	1.1	0.6	0.6	1.8
	Sales (non-consolidated)	KRW 100 million	15,135	17,792	21,329	24,566

Waste³⁾

Category		Unit	2022		
Generation	Total generation	Tonne	279		
Disposal	Total waste disposed of	Tonne	253		
	Hazardous waste	Tonne	0		
	General waste	Subtotal	Tonne	253	
		By disposal method	Internal disposal	Tonne	0
		Outsourcing	Tonne	253	
Recovery	Total waste recovered	Tonne	26		
	Hazardous waste	Tonne	0		
	General waste	Subtotal	Tonne	26	
		By recovery type	Pre-treatment for reuse	Tonne	0
			Recycling	Tonne	26
			Other recovery methods	Tonne	0
	By recovery method	Internal treatment	Tonne	0	
		Outsourcing	Tonne	26	
	Disposable plastic used ⁴⁾	Tonne	0.11		

1) Not including water withdrawal for data centers

2) All water withdrawn for our Pangyo Office and Jeju Office comes from utility water.

3) Waste generation and disposal data were aggregated from 2022 onwards.

4) Aggregated as biodegradable PLA (Poly Lactic Acid) plastic for their entirety

Social Performance

Performance Data

Employee Data¹⁾

Category		Unit	2020	2021	2022	
Total		No. of persons	2,837	3,472	3,901	
By gender	Male	No. of persons	1,682	1,985	2,183	
	Female	No. of persons	1,155	1,514	1,718	
By age group	Under 30	No. of persons	625	986	1,141	
	30 – under 50	No. of persons	2,190	2,457	2,709	
	50 and over	No. of persons	22	29	51	
By contract type ²⁾³⁾	Full-time	Subtotal	No. of persons	2,747	3,303	3,681
		Male	No. of persons	1,660	1,926	2,138
		Female	No. of persons	1,087	1,377	1,543
	Fixed-term	Subtotal	No. of persons	90	169	220
		Male	No. of persons	22	32	45
		Female	No. of persons	68	137	175
By job category	Office	Subtotal	No. of persons	1,380	1,750	1,964
		Male	No. of persons	485	592	650
		Female	No. of persons	895	1,158	1,314
	Technology	Subtotal	No. of persons	1,457	1,722	1,937
		Male	No. of persons	1,197	1,366	1,533
		Female	No. of persons	260	356	404

Recruitment

Category		Unit	2020	2021	2022
Total		No. of persons	738	994	870
By gender	Male	No. of persons	446	558	453
	Female	No. of persons	292	436	417
	Proportion of males	%	60.4	56.1	52.1
	Proportion of females	%	39.6	43.9	47.9
By age group	Under 30	No. of persons	528	716	466
	30 – under 50	No. of persons	208	275	396
	50 and over	No. of persons	2	3	8
	Proportion of those under 30	%	71.5	72.0	53.6
	Proportion of those aged 30 and over and under 50	%	28.2	27.7	45.5
	Proportion of those 50 and over	%	0.3	0.3	0.9
Internal recruitment to fill job openings		%	8.1	10.7	0
Average recruitment cost		KRW	1,192,866	1,134,440	552,161

Turnover

Category		Unit	2020	2021	2022	
Turnover	Voluntary turnover	Total	No. of persons	171	330	373
	By gender	Male	No. of persons	112	188	227
		Female	No. of persons	59	142	146
	By age group	Under 30	No. of persons	37	143	109
		30 and over and under 50	No. of persons	133	184	250
		50 and over	No. of persons	1	3	14
		Proportion of voluntary turnover	%	6.3	9.5	10.7
	Average years of service ⁴⁾		No. of years	5.3	4.9	4.3
Dismissal ⁵⁾	Employees dismissed	No. of persons	0	0	0	
	Employees affected by mergers and acquisitions	No. of persons	0	0	0	

1) The number of employees is calculated as of Dec. 31 of each year, and does not include registered directors. For further details on employee data, please refer to the 'Status on Employees and Others' under the section VIII. Matters on Executives, Employees and Others' of our annual report.

2) There were no temporary employees between 2020 and 2022, and one temporary employee who worked in 2021 was included in calculating the number of fixed-term employees.

3) There were zero non-guaranteed hours employees between 2020 and 2022.

4) Average years of service of incumbent employees as of Dec. 31 of each year

5) Only dismissals made for business reasons were calculated.

Social Performance

Performance Data

Diversity

Category		Unit	2020	2021	2022	
Executives	Total	No. of persons	7	7	6	
	By gender	Males	No. of persons	5	5	4
		Females	No. of persons	2	2	2
		Proportion of males	%	71.4	71.4	66.7
		Proportion of females	%	28.6	28.6	33.3
	By age group	Under 30	No. of persons	0	0	0
		30 – under 50	No. of persons	4	3	2
		50 and over	No. of persons	3	4	4
		Proportion of those under 30	%	0	0	0
		Proportion of those aged 30 and over and under 50	%	57.1	42.9	33.3
Proportion of those 50 and over		%	42.9	57.1	66.7	
High-level managers ¹⁾	Total	No. of persons	107	129	170	
	By gender	Males	No. of persons	83	89	112
		Females	No. of persons	24	40	58
		Proportion of males	%	77.6	69.0	65.9
		Proportion of females	%	22.4	31.0	34.1
	By age group	Under 30	No. of persons	0	0	0
		30 – under 50	No. of persons	101	120	156
		50 and over	No. of persons	6	9	14
		Proportion of those under 30	%	0	0	0
		Proportion of those aged 30 and over and under 50	%	94.4	93.0	91.8
Proportion of those 50 and over		%	5.6	7.0	8.2	
Low-level managers ²⁾	Total	No. of persons	346	418	477	
	By gender	Males	No. of persons	252	284	314
		Females	No. of persons	94	134	163
		Proportion of males	%	72.8	67.9	65.8
		Proportion of females	%	27.2	32.1	34.2
	By age group	Under 30	No. of persons	4	4	2
		30 – under 50	No. of persons	339	411	466
		50 and over	No. of persons	3	3	9
		Proportion of those under 30	%	1.1	1.0	0.4
		Proportion of those aged 30 and over and under 50	%	98.0	98.3	97.7
Proportion of those 50 and over		%	0.9	0.7	1.9	

Category		Unit	2020	2021	2022	
Employees at revenue-generating departments ³⁾	Total	No. of persons	800	1,032	1,121	
	By gender	Males	No. of persons	258	316	335
		Females	No. of persons	542	716	786
		Proportion of males	%	32.2	30.6	29.9
		Proportion of females	%	67.8	69.4	70.1
Employees in STEM positions ⁴⁾	Total	No. of persons	1,389	1,722	1,937	
	By gender	Males	No. of persons	1,138	1,366	1,533
		Females	No. of persons	251	356	404
		Proportion of males	%	81.9	79.3	79.1
		Proportion of females	%	18.1	20.7	20.9
By nationality ⁵⁾	Korea	No. of persons	2,824	3,455	3,895	
	US	No. of persons	-	8	2	
	Australia	No. of persons	-	7	0	
	Japan	No. of persons	-	1	1	
	Canada	No. of persons	-	1	3	
Foreign national employees	No. of foreign national employees	No. of persons	13	17	6	
	Proportion of foreign national employees	%	0.5	0.5	0.2	
Employees with disabilities	No. of employees with disabilities	No. of persons	6	8	7	
	Proportion of employees with disabilities	%	0.2	0.2	0.2	

1) Total number of managers in team leader and higher and below executive-level positions

2) Total number of managers in cell leader and higher and below team leader-level positions

3) Total number of employees falling in the service business job category

4) The number of STEM (Science, Technology, Engineering, Mathematics) employees equals the number of employees falling under the technology job category.

5) The collection of diversity data by nationality was initiated in 2021.

Social Performance

Performance Data

Employee Training

Category		Unit	2020	2021	2022	
Training targets	Total	No. of persons	2,844	3,479	3,907	
	By contract type	Full-time	No. of persons	2,747	3,303	3,681
		Fixed-term	No. of persons	97	176	226
Total training hours ¹⁾		No. of hours	20,722	98,506	77,707	
Average training hours	Training hours per person		No. of hours/person	7.3	28.3	19.9
	By gender ²⁾	Male	No. of hours/person	8.2	38.0	23.3
		Female	No. of hours/person	5.9	15.8	15.5
	By contract type	Full-time	No. of hours/person	7.2	29.6	20.7
		Fixed-term	No. of hours/person	8.8	3.5	7.1
	By age group	Under 30	No. of hours/person	17.1	71.4	30.7
		30 and over and under 50	No. of hours/person	4.5	11.3	15.5
		50 and over	No. of hours/person	1.8	5.3	14.3
	By manager level	Executive	No. of hours/person	0.9	1.7	0.3
		High-level manager	No. of hours/person	3.9	9.6	15.7
		Low-level manager	No. of hours/person	8.0	11.2	16.7
Foreign national employees		No. of hours/person	8.0	7.1	1.0	
Buy training type	Leadership	No. of hours/person	5.3	2.3	6.4	
	Onboarding	No. of hours/person	4.9	26.4	21.3	
	Job competency	No. of hours/person	1.5	2.4	9.5	
	Knowledge sharing	No. of hours/person	0.6	0.8	1.7	
	Common ³⁾	No. of hours/person	1.6	6.2	3.7	
Training and exercise expenses per person		KRW million/person	0.3	0.2	0.3	

Compensation

Category		Unit	2020	2021	2022	
Average employee pay	Total	KRW million	108	172	139	
	Male	KRW million	132	217	173	
		Female	KRW million	72	108	94
Retirement pension plan	Defined benefit (DB)	Funds under management	KRW million	91,336	131,504	162,777
		No. of subscribers	No. of persons	2,260	2,100	2,902

- 1) Total training hours in 2021 increased as onboarding training that was provided three weeks earlier than the previous year included technology job training.
- 2) The men-to-women ratio of employees who attended developer training for new hires in 2021 amounted to 7:1 and resulted in differences in average training hours between male and female employees.
- 3) 'Common' training in the average training hours category refers to data privacy training, training for the protection of users and teens, mandatory training for Krew engaging in information technology and data privacy work, and training to prevent money laundering and terrorist fund raising, and the data has been compiled since 2021.

Social Performance

Performance Data

Parental Leave

Category	Unit	2020	2021	2022	
Employees eligible for parental leave	Male	No. of persons	429	535	536
	Female	No. of persons	175	270	260
Employees who took parental leave	Male	No. of persons	13	10	12
	Female	No. of persons	112	67	52
Employees who returned to work	Male	No. of persons	10	2	4
	Female	No. of persons	65	40	43
Proportion of employees who returned to work ¹⁾	Male	%	90.9	100	66.7
	Female	%	98.5	87.0	89.6
Proportion of returned employees retention rate ²⁾	Male	%	61.5	80.0	100
	Female	%	91.5	95.4	95.0

Labor-Management Relations and Corporate Culture

Category	Unit	2020	2021	2022	
Proportion of applying collective bargaining	%	100	100	100	
Period to give prior notice on major business changes	No. of days	50	50	50	
Employee satisfaction	Family friendly business certification	-	Yes	Yes	Yes
	Employee satisfaction survey cycle	-	Annual	Annual	Annual
	Employee satisfaction survey results ³⁾	%	69	71	77
Employee grievance handling ⁴⁾	Grievances raised	No. of cases	-	3	10
	Grievances handled	No. of cases	-	3	10
	Proportion of grievances handled	%	-	100	100

Occupational Health and Safety

Category	Unit	2020	2021	2022	
Occupational health and safety management system ⁵⁾	Employees managed under the system	No. of persons	2,929	3,565	4,055
Work-related injuries	Injury rate ⁶⁾	No. of injuries for every 200,000 hours worked	0.03	0.03	0.02
		Absence rate ⁷⁾⁸⁾	%	0.36	0.29
	Fatalities	No. of cases	0	0	0
Injuries ⁹⁾	No. of cases	1	1	1	

Supplier Data

Category	Unit	2020	2021	2022	
No. of suppliers	Registered suppliers	No. of companies	210	233	261
	Long-term suppliers ¹⁰⁾	No. of companies	50	50	53

Win-Win Activities with Partners

Category	Unit	2020	2021	2022	
Kakao Class with Partners	Participants	No. of persons	323	733	1,982

- Ratio of employees who returned to work=(No. of employees who returned to work after parental leave)/(No. of employees set to return for the concerned year after parental leave during the previous reporting period)×100
- Retention of employees who took parental leave=(No. of employees who continued to work for 12 months after return from parental leave)/(No. of employees who returned to work after parental leave during the previous reporting period)×100
- In line with the updated Community organizational health check methodology, employee satisfaction survey results for 2022 were calculated as the average score of the 'engagement (enthusiasm)' category, and results for 2020 and 2021 were calculated as the average score of the 'positive work experience' which comprehensively considers individual 'growth', 'work-related sense of value', and 'work-related sense of achievement' in the organizational health check survey.
- Collection of data on employee grievances handled was initiated in December 2021.
- Including dispatched and subcontractor employees who are not Kakao's own employees but are under the control of Kakao
- Injury rate=(No. of work-related injuries)/(annual hours worked)×200,000 hours
- Absence rate=(Total sick leave days taken)/(total days worked)×100
- The absence rate for 2022 rose from 2021 as the number of employees taking sick leave rose amid the spread of COVID-19.
- One case of bone fracture occurred as the employee collided into a transparent glass door while walking in the office.
- No. of companies which attended Partner's Day

Social Performance

Performance Data

Data Privacy and Data Security

Category	Unit	2020	2021	2022		
Training for employees handling personal data	Participants	No. of persons	1,231	2,835	3,477	
	Training targets	No. of persons	1,231	2,836	3,479	
	Training hours per person	No. of hours	1	1	1	
Grievances and violations that occurred in relation to personal data handling	Grievances submitted externally in relation to personal data breaches ¹⁾	No. of cases	-	0	0	
	Grievances submitted from regulatory authorities in relation to personal data breaches ¹⁾	No. of cases	-	1	2	
	Personal data breaches	No. of cases	0	0	0	
	Proportion of breaches related to PII (Personally Identifiable Information)	%	0	0	0	
	Users affected by personal data breaches	No. of persons	0	0	0	
	Monetary losses that incurred due to legal proceedings concerning data privacy	KRW million	0	0	0	
Bug Bounty outcomes	Bugs reported	No. of cases	51	232	67	
	Those who reported bugs	No. of persons	21	43	30	
Information security training	Employees ²⁾	Employees subject to training	No. of persons	2,466	2,609	3,329
		Employees who completed the training	No. of persons	2,428	2,583	3,247
		Completion rate	%	98.5	99.0	97.5
	Partners ³⁾	Employees subject to training	No. of persons	153	261	379
		Employees who completed the training	No. of persons	153	261	379
		Completion rate	%	100	100	100

User Satisfaction

Category	Unit	2020	2021	2022		
User satisfaction survey results	Customer center satisfaction survey (internal) ⁴⁾	%	77.7	74.6	77.2	
	User protection assessment (Korea Communications Commission)	Grade	-	Average	Average	Average
		Kakao	Point	827.5	827.7	844.2
		Daum	Point	826.2	836.5	845.5
User VOC management	VOCs submitted	No. of cases	3,011,591	3,292,260	3,009,238	
	VOCs handled	No. of cases	2,849,905	3,199,906	2,840,282	
	Handling rate	%	94.6	97.2	94.4	

Social Impact Activity

Category	Unit	2020	2021	2022		
Kakao Together	Projects undertaken	No. of projects	1,420	1,342	1,271	
	Donations made	No. of donations	8,303,744	6,228,099	7,876,092	
	Value of donations made	KRW million	11,847	7,105	11,858	
External sponsorship and cooperation projects	Harmonious Digital World	Students	No. of persons	8,461	20,495	52,520
	Participants in teacher training	No. of persons	61	176	109	
Krew-involving activities	Together Fund (donation program)	Donations made	KRW million	227	218	115
		Support programs	No. of programs	7	7	7
CSR programs undertaken in Jeju	Unplugged Day ⁵⁾	Students	No. of persons	256	0	192
		Career experience workshop	No. of persons	113	745	792
	Remote career mentoring	Students	No. of persons	-	4,663	2,771
		Dolharbang on the Internet of Kakao	Individuals supported	No. of persons	27	17
		Organizations supported	No. of teams	27	10	6
		Funds provided	KRW million	216	92	97
	Kakao Class	Participants	No. of persons	323	733	1,982
	Jeju Impact Challenge	Teams supported	No. of teams	-	7	10
		Funds provided	KRW million	-	21	30

Social Value Measured in Monetary Terms

Category	Unit	2020	2021	2022	
Social value created through Harmonious Digital World ⁶⁾	Total	KRW million	942	994	2,355
	Prevention of cyber violence	KRW million	736	718	1,878
Improvement in awareness on data privacy	Improvement in awareness on data privacy	KRW million	9	7	67
	Improvement in digital literacy	KRW million	175	250	346
	Improvement in awareness on copyright protection	KRW million	22	19	63

1) Collection of data on grievances raised in relation to personal data breaches was initiated in December 2021

2) Provided to all employees, including full-time and contract workers, and short-term workers

3) Provided to employees of partners who are working at our operations under outsourcing contract

4) As to customer center satisfaction surveys, 2020 and 2021 data are the average of first and second half survey data, and the survey was conducted in the first half only in 2022.

5) Unplugged Day was not held in 2021 due to COVID-19.

6) The year-on-year increase in the measured social value of Harmonious Digital World is attributable to the fact that the number of students participating in the 'mobile school education' more than doubled from the previous year. For further details, please see page 75 of this report.

Governance Performance

Performance Data

Board of Directors Data

Category	Unit		2020	2021	2022	
Board composition	Total	No. of persons	7	7	6	
	By type of director	Inside director	No. of persons	3	3	2
		Independent director	No. of persons	4	4	4
	By gender	Male	No. of persons	5	5	4
		Female	No. of persons	2	2	2
Board operation	Meetings held	No. of meetings	10	17	13	
	Average attendance of independent directors	%	100	100	100	
	Agenda items	For decision	No. of items	37	45	59
		For information	No. of items	11	14	11

Board Committees¹⁾

Category	Unit		2020	2021	2022	
Audit Committee	Proportion of independent directors	%	100	100	100	
	Meetings held	No. of meetings	5	5	6	
	Agenda items	For decision	No. of items	2	2	5
		For information	No. of items	5	6	6
Compensation Committee	Proportion of independent directors	%	66.7	100	100	
	Meetings held	No. of meetings	2	3	2	
	Agenda items	For decision	No. of items	2	4	6
		For information	No. of items	0	1	1
Director Candidate Recommendation Committee	Proportion of independent directors	%	66.7	66.7	66.7	
	Meetings held	No. of meetings	2	3	3	
	Agenda items	For decision	No. of items	2	2	0
		For information	No. of items	0	1	3
ESG Committee	Proportion of independent directors	%	-	66.7	66.7	
	Meetings held	No. of meetings	-	4	3	
	Agenda items	For decision	No. of items	-	3	2
		For information	No. of items	-	1	5

Ethical Management

Category	Unit		2020	2021	2022	
Ethics training for new hires ²⁾	Training targets	No. of persons	577	1,101	455	
	Training participants	No. of persons	577	1,101	455	
	Training courses	No. of courses	1	1	2	
Ethics training for all employees ⁴⁾	Training targets ³⁾	No. of persons	-	2,640	3,608	
	Training participants	No. of persons	-	2,634	3,334	
	Total completion rate	%	-	99.8	92.4	
Training to improve perceptions on disability ⁵⁾	Training targets ³⁾	No. of persons	2,631	3,350	3,842	
	Training participants	No. of persons	2,625	3,350	3,842	
	Total completion rate	%	99.8	100	100	
Training to prevent sexual harassment ⁵⁾	Training targets ³⁾	No. of persons	2,631	3,350	3,842	
	Training participants	No. of persons	2,625	3,350	3,842	
	Total completion rate	%	99.8	100	100	
Training on workplace harassment ⁵⁾	Training targets ³⁾	No. of persons	-	3,350	3,842	
	Training participants	No. of persons	-	3,350	3,842	
	Total completion rate	%	-	100	100	
Hotline whistleblowing	Total whistleblowing reports submitted ⁶⁾	Total	No. of cases	7	11	10
	Whistleblowing reports submitted by type of violation	Sexual harassment	No. of cases	1	0	1
		Workplace harassment	No. of cases	4	4	4
		Malpractice/ embezzlement	No. of cases	1	1	0
		Regulatory violation	No. of cases	1	5	5
		Others	No. of cases	0	1	0
	Actions taken	Reprimand	No. of cases	0	0	1
		Pay cut	No. of cases	0	2	2
		Suspension	No. of cases	3	4	3
		Dismissal	No. of cases	0	4	0
Others		No. of cases	4	1	4	

1) Calculated as of Dec. 31 of the concerned year

2) In 2022, ethics training was provided to new hires with/without previous work experience and tech positions newly hired through open recruitment.

3) Provided to all employees, including full-time and contract workers, and short-term workers

4) Provided to Krew incumbent at the time of training

5) Provided to all Krew members and Krew hired each month

6) Calculated as cases whose investigative results were confirmed following the submission of reports concerning ethics and anti-corruption through Hotline, Time's Up, TellMe@Kakao, KakaoTalk, and e-mail

Governance Performance

Value Distributed among Stakeholders¹⁾

Category		Unit	2020	2021	2022
Shareholder/ investor	Dividends and interest expenses ²⁾	KRW million	21,864	41,356	136,090
Krew	Labor and benefit expenses	KRW million	859,351	1,311,630	1,557,652
Partner	Product and manufacturing costs, payment agency fees, etc.	KRW million	1,791,929	2,544,767	2,554,754
Community	Donations	KRW million	14,745	15,217	24,822

Membership Fees¹⁾

Category		단위	2020	2021	2022
Association- related expenses	Total membership fees (consolidated)	KRW million	903	1,587	5,361

Performance Data

Income Taxes Paid¹⁾

Category	Unit	2020	2021	2022
Earnings before tax	KRW million	414,271	2,293,694	1,304,363
Reported tax	KRW million	100,254	555,074	176,573
Effective tax rate	%	24	24	14
Cash taxes paid	KRW million	77,453	227,379	317,923
Cash tax rate	%	19	10	24

Taxes Paid by Country^{3) 4)}

Category	Unit	2020	2021	2022	
Domestic	Sales	KRW million	3,736,549	5,504,247	5,966,178
	Earnings before tax	KRW million	400,088	2,272,221	1,435,025
	Income tax expenses	KRW million	242,483	641,800	199,325
	Taxes paid	KRW million	76,199	227,092	307,013
Japan	Sales	KRW million	265,793	460,232	560,758
	Earnings before tax	KRW million	12,599	21,816	64,134
	Income tax expenses	KRW million	-5,149	-2,553	26,945
	Taxes paid	KRW million	73	127	-2,627
Netherlands	Sales	KRW million	121,797	38,834	8,987
	Earnings before tax	KRW million	1,809	577	-26,088
	Income tax expenses	KRW million	1,677	535	1,271
	Taxes paid	KRW million	1,238	395	-1,304
Others	Sales	KRW million	32,677	133,356	570,915
	Earnings before tax	KRW million	-225	-919	-168,707
	Income tax expenses	KRW million	1,901	7,759	14,245
	Taxes paid	KRW million	-57	-235	14,842

1) Calculated as of Dec. 31 of the concerned year on a consolidated basis

2) Restatements were made for 2021 data as kakao's subsidiary fund dividends paid outside the Kakao's consolidated boundary were re-classified as cash outflow (financing activity) attributable to transactions with non-controlling interests.

3) We engage in portal and other internet information intermediary service business in Korea, software development and service business in Japan, game software development and supply business in the Netherlands, and software development, service and wholesale/retail business in other countries.

4) The data on sales, earnings before tax, income tax expenses, and taxes paid reported by domestic, Japan, and the Netherlands in the 'Taxes Paid by Country' cover 90% or more in the indicators disclosed on our consolidated statement of comprehensive income.

Reporting Methodology

Reporting Approach

Kakao's Commitment and Responsibility Report aims to share with stakeholders our sustainability strategy, implementation organization, management system, programs, and activities and achievements. We also transparently disclose our efforts and accomplishments made for the past one year to deliver on our commitment and responsibility and bolster trust from stakeholders in so doing.

This report was prepared in accordance with the international sustainability reporting framework of the GRI (Global Reporting Initiative) Standards 2021 and with the Internet Media & Services Industry Standard of the SASB (Sustainability Accounting Standards Board) of the US. The financial performance contained herein was presented in conformity with the K-IFRS¹⁾, unless otherwise stated. This report also elaborates our responses to climate change in conformity with the TCFD recommendations, and illustrates our activities that we implement to comply with the UN Global Compact 10 Principles in the areas of human rights, labour, the environment, and anti-corruption as a member of the UNGC as well as to attain the UN SDGs.

Reporting Period and Scope

This report spans the period between January 1, 2022 and December 31, 2022. Information prior to 2022 or in the first half of 2023 is partially included and such information is separately marked within the report. For quantitative performance, data over the recent three years (2020~2022) are provided to enable year-over-year trend analyses. As to data on Kakao's consolidated subsidiaries, you may refer to 'Overview of Consolidated Subsidiaries' on pages 478 — 483 of our annual report. A portion of the non-financial performance data in this report includes performance of key affiliated companies¹⁾, and this is noted separately in the report. While quantitative performance in each of the ESG area (pages 95

— 103) is presented on a non-consolidated basis, data on value distributed among stakeholders, membership fees, and income taxes paid is reported on a consolidated basis.

Standards Used in Calculating Social Performance

Employee data in the social performance section are presented on a non-consolidated basis on pages 97-98 and also on a consolidated basis to help stakeholders better understand our ESG activities and achievements.

Employee Data on a Consolidated Basis

Category		Unit	2021	2022		
Employees ²⁾	Total	No. of persons	14,178	16,479		
	By gender	Male	No. of persons	8,014	9,196	
		Female	No. of persons	6,164	7,283	
	By contract type	Full-time	Subtotal	No. of persons	13,206	15,268
			Male	No. of persons	7,665	8,732
		Female	No. of persons	5,541	6,536	
		Fixed-term	Subtotal	No. of persons	972	1,211
			Male	No. of persons	349	464
		Female	No. of persons	623	747	
Recruitment	Total	No. of persons	5,141	5,206		
	By gender	Male	No. of persons	2,846	2,626	
		Female	No. of persons	2,295	2,580	
Turnover (voluntary turnover)	Total	No. of persons	1,763	2,430		
	By gender	Male	No. of persons	1,010	1,286	
		Female	No. of persons	753	1,144	

Standards Used in Calculating Environmental Performance

GHG emissions and energy consumption data in the environmental performance section were calculated based on the 4-year performance of Kakao's (on a non-consolidated basis) domestic operations (Pangyo and Jeju Offices, offline sales locations) and leased data centers, and were verified by the Korea Management Registrar as an independent third-party verification organization. GHG emissions from data centers between 2019 and 2021, however, include emissions from Kakao and other Community members on a consolidated

basis, and GHG emissions from data centers for 2022 reflect emissions generated by Kakao on a non-consolidated basis. In line with this organizational and operational boundary, GHG emissions intensity was calculated based on consolidated emissions and sales for the period between 2019 and 2021, and was calculated based on non-consolidated emissions and sales for the year 2022. As to water consumption, data were calculated for the past 4 years at domestic operations (Pangyo and Jeju Offices). Waste generation and disposal data were calculated based on 2022 performance only at domestic operations (Pangyo and Jeju Offices).

Information Correction and Restatement

The following data were restated and thus show discrepancies from the previous year's report.

- Total emissions and emissions intensity for the year 2021 which appear on page 95 in the 'Emissions Generated' section of this report were restated in line with the addition of offline sales locations for Scope 2 emissions calculation and the expanded coverage of Scope 3 categories.
- Total energy consumption on page 95 in the 'Energy Consumed' section of this report was restated in line with the exclusion of external energy consumption.
- Dividends paid and interest expenses on page 103 in the 'Value Distributed among Stakeholders' section of this report were restated as Community fund dividends paid outside Kakao's consolidated boundary were re-classified as cash outflow (financial activity) attributable to transactions with non-controlling interests.

1) Kakao Entertainment, Kakao Pay, Kakao Games, Kakao Mobility, KakaoBank, Kakao Piccoma, Kakao Investment, Kakao Enterprise, Kakao Bain, Kakao Healthcare, Ground X, Kakao Ventures, Kakao Style, Kakao Space, KnWorks, dktechin, Linkage Lab

2) In calculating employee data, registered executives, temporary workers, and non-affiliated workers are excluded, and those who hold multiple positions are classified based on their 'main affiliation'.

GRI Contents Index

Statement of Use	The 2022 Kakao's Commitment and Responsibility Report was prepared in accordance with the GRI Standards to outline our ESG achievements for the period between Jan. 1, 2022 and Dec. 31, 2022.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	As of May 2023 when Kakao published this report, there were no GRI Sector Standards made publicly available by the GRI. To determine material issues applicable to the Interactive Media and Services industry as defined by the Global Industry Classification Standard (GICS), we reviewed a range of external data to select material issues and report relevant achievements. For further details, see pages 29 – 10 of this report.

Standard	Disclosure	Reporting Page	Note	
General Disclosures				
GRI 2: General Disclosures 2021	2-1	Organizational details	9, 82	
	2-2	Entities included in the organization's sustainability reporting	2, 104	
	2-3	Reporting period, frequency and contact point	2, 104, 115~116	
	2-4	Restatements of information	104	
	2-5	External assurance	115~116	
	2-6	Activities, value chain and other business relationships	9~12, 50~51	See pages 8~17 of our 2022 annual report
	2-7	Employees	97~98	Calculated as of Dec. 31, 2022, and see pages 438~439 of our 2022 annual report
	2-8	Workers who are not employees	-	Calculated as of Dec. 31, 2022, and see pages 438~439 of our 2022 annual report
	2-9	Governance structure and composition	17, 83~85	See pages 413~416 of our 2022 annual report
	2-10	Nomination and selection of the highest governance body	83~84	See Article 5. Composition of the Board of Directors and Appointment of Directors of the Corporate Governance Charter
	2-11	Chair of the highest governance body	84	As of Mar. 2023, the Board Chairmanship was assumed by an independent director.
	2-12	Role of the highest governance body in overseeing the management of impacts	17	
	2-13	Delegation of responsibility for managing impacts	17	
	2-14	Role of the highest governance body in sustainability reporting	17, 19~20	
	2-15	Conflicts of interest	-	We report on cross-board membership, cross-shareholding with suppliers and other stakeholders, controlling shareholders, transactions with related parties, and claim-obligation balance through our annual reports ¹⁾ , and corporate governance reports ²⁾ .
	2-16	Communication of critical concerns	87	See page 414 of our 2022 annual report
	2-17	Collective knowledge of the highest governance body	85	See page 421 of our 2022 annual report

Standard	Disclosure	Reporting Page	Note	
General Disclosures				
GRI 2: General Disclosures 2021	2-18	Evaluation of the performance of the highest governance body	86	
	2-19	Remuneration policies	-	See pages 442~446 of our 2022 annual report
	2-20	Process to determine remuneration	-	See pages 440~441 of our 2022 annual report and AGM results ³⁾
	2-21	Annual total compensation ratio	-	Omission (confidentiality constraints) Compensation ratio data to be disclosed in the future
	2-22	Statement on sustainable development strategy	5~6	
	2-23	Policy commitments	17, 36, 50, 90	Sustainability management-related regulations are subject to final approval at the ESG Committee under the Board of Directors.
	2-24	Embedding policy commitments	36~38, 50~51, 90~91	
	2-25	Processes to remediate negative impacts	N/A	While Kakao's business is directly related with environmental impact only minimally given its inherent characteristics, we will establish appropriate remedy processes to resolve negative impacts when an issue occurs.
	2-26	Mechanisms for seeking advice and raising concerns	91	
	2-27	Compliance with laws and regulations	-	There is no significant incidence of non-compliance during the reporting period. For penalties and other minor restrictions imposed, see pages 472~475 of our annual report.
	2-28	Membership associations	112	
	2-29	Approach to stakeholder engagement	18	
	2-30	Collective bargaining agreements	100	

1) Refer to 2022 Annual Report 'VII. Matters concerning shareholders', 'IX. Matters concerning affiliates, etc.'

2) Refer to 2021 Corporate Governance Report 'A. Internal transaction and self-transaction control device', 'A. Refer to 'Independence of Outside Directors'

3) <https://www.kakaocorp.com/ir/calendar/shareholdersMeeting>

GRI Contents Index

Standard	Disclosure	Reporting Page	Note
Material Topic			
Material Topics 2021	3-1	Process to determine material topics	19~20
	3-2	List of material topics	20
Product and service quality improvement			
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20~24, 35, 66~70 There are no GRI Topic Standards related with concerned material topics.
Eco-friendly products and services			
GRI 3: Material Topics 2021	3-3	Management of material topics	16, 18, 20, 26, 29, 32~34 There are no GRI Topic Standards related with concerned material topics.
Risk management and mitigation			
GRI 3: Material Topics 2021	3-3	Management of material topics	16, 18, 20, 81, 87~89 There are no GRI Topic Standards related with concerned material topics.
Human rights risk management			
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20, 35~38
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers working at our operations under outsourcing contract working at our operations under outsourcing contract in which the right to freedom of association and collective bargaining may be at risk	36~38 Human rights impact assessments revealed that none of Kakao's operations were at increased risk for the violation of the freedom of association and the right to collective bargaining. Such assessments made for the reporting year included subsidiaries and suppliers working at our operations under outsourcing contract as well as Kakao, and we plan to expand the scope of suppliers working at our operations under outsourcing contract in conducting human rights impact assessments.
GRI 409: Forced or Compulsory Labor 2016	409-1	Operations and suppliers working at our operations under outsourcing contract at significant risk for incidents of forced or compulsory labor	36~38 Human rights impact assessments revealed that none of Kakao's operations were at increased risk for the occurrence of forced labor. Such assessments made for the reporting year included subsidiaries and suppliers working at our operations under outsourcing contract as well as Kakao, and we plan to expand the scope of suppliers working at our operations under outsourcing contract in conducting human rights impact assessments.
Employee capacity building			
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20, 35, 39~42

Standard	Disclosure	Reporting Page	Note
Technology ethics			
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	99
	404-2	Programs for upgrading employee skills and transition assistance programs	40~41
	404-3	Percentage of employees receiving regular performance and career development reviews	42
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20, 35, 63, 68 There are no GRI Topic Standards related with concerned material topics.
Data privacy system development and regulatory compliance			
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20, 35, 57~62
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	101
Fair trade practices and programs			
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20, 35, 51 There are no GRI Topic Standards related with concerned material topics.
Partner capacity support programs			
GRI 3: Material Topics 2021	3-3	Management of material topics	15, 18, 20, 35, 46~50 There are no GRI Topic Standards related with concerned material topics.
Prevention of anti-competitive practices			
GRI 3: Material Topics 2021	3-3	Management of material topics	18, 20, 35, 54
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	- No incidence of relevant regulatory non-compliance during the reporting period

SASB Index

Topic	Code	Accounting Metrics ¹⁾	Reporting Page	Description
Environmental Footprint of Hardware Infrastructure	TC-IM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	95	(1) 1,409,254 GJ ²⁾ , (2) 99.1%, (3) percentage of renewable energy out of total energy consumption is 1.3% (Jeju Office transitioned to 100% renewable energy).
	TC-IM-130a.2	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	96	(1) 44,469 m ³ (excluding water withdrawals at data centers), (2) Our Pangyo Agit, Jeju Office, and data centers are not located in regions with water stress.
	TC-IM-130a.3	Discussion of the integration of environmental considerations into strategic planning for data center needs	30	Refer to the 'Embracing Integrated, Eco-conscious Designs' section of this report.
Data Privacy, Advertising Standards & Freedom of Expression	TC-IM-220a.1	Description of policies and practices relating to behavioral advertising and user privacy	57~62	For further details, refer to the webpage describing our personalized advertising and our privacy policy website.
	TC-IM-220a.2	Number of users whose information is used for secondary purposes	58	Zero cases. Kakao uses users' personal data for the agreed-upon purposes only. We conduct personal data impact assessments to continuously monitor our compliance with data privacy regulations, including the use of data for purposes other than ones agreed upon through users' prior consent.
	TC-IM-220a.3	Total amount of monetary losses as a result of legal proceedings associated with user privacy	99	-
	TC-IM-220a.4	(1) Number of law enforcement requests for user information, (2) number of users whose information was requested, (3) percentage resulting in disclosure	60	For further details, see Kakao's privacy policy website (transparency report).
	TC-IM-220a.5	List of countries where core products or services are subject to government-required monitoring, blocking, content filtering, or censoring	-	-
	TC-IM-220a.6	Number of government requests to remove content, percentage compliance with requests	-	-
Data Security	TC-IM-230a.1	(1) Number of data breaches, (2) percentage involving personally identifiable information (PII), (3) number of users affected	101	(1) Zero, (2) 0%, (3) Zero
	TC-IM-230a.2	Description of approach to identifying and addressing data security risks, including use of third-party cybersecurity standards	57~62, 88	-
Employee Recruitment, Inclusion & Performance	TC-IM-330a.1	Percentage of employees that are foreign nationals	98	In 2022, foreign national employees accounted for 0.15% of total. Kakao respects the value of diversity and puts competency first in our recruitment process without discriminating on the grounds of place of origin, nationality, gender, age, and disability. We also respect the diverse backgrounds and values of Krew, and strive to promote diversity and create a flexible corporate culture.
	TC-IM-330a.2	Employee engagement as a percentage	43, 100	Kakao performs annual organizational health checks to identify employee satisfaction and engagement. Since 2022, we have extended the scope of such checks to include 10 Community members ³⁾ including Kakao. The organizational health check conducted in 2022 showed that the average score in the employee 'engagement (enthusiasm)' category was 77%.
	TC-IM-330a.3	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	98	-
Intellectual Property Protection & Competitive Behavior	TC-IM-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	-	Refer to '3. Matters concerning sanctions and others' of our 2022 annual report.

[Kakao's personalized advertising webpage](#)

[Privacy policy website](#)

Code	Activity Metric ¹⁾	Reporting Page	Description
TC-IM-000.A	Entity-defined measure of user activity	10	As of Q4, 2022, the number of Monthly Active Users (MAU) of KakaoTalk was 47.78 million in Korea and 53.48 million globally based on monthly averages.
TC-IM-000.B	(1) Data processing capacity, (2) percentage outsourced	-	-
TC-IM-000.C	(1) Amount of data storage, (2) percentage outsourced	-	-

1) For metrics not reported, they were not disclosed as they contained sensitive business information.

2) Based on country-specific calorific values by fuel type

3) Kakao, Kakao Pay, Kakao Games, Kakao Piccoma, Kakao Investment, Kakao Enterprise, Kakao Brain, Kakao Style, Kakao Space

TCFD

Recommendation	Kakao's Response		Reporting Page
Governance	Disclose the organization's governance around climate-related risks and opportunities	The ESG Committee under the Board of Directors manages and oversees overall environmental management including climate change adaptation. Our CEO is regularly reported on our power consumption and GHG-related issues, and manages reductions made in our GHG emissions, attainment of the set goals, and climate-related risks while making investment decisions accordingly. The ESG Business Team and Environmental Management Task Force serve as dedicated ESG organizations responsible for our company-wide working-level environmental management implementation, environmental management system operation, and environmental performance management. The ESG Committee meets at least twice a year according to its regulations, and convened three times in 2022. In April 2022, the Committee set the 2040 Net Zero goal to present our mid/long-term approach to climate change adaptation through the reviews and decisions made at the Board of Directors. The ESG Committee will manage and oversee our climate change adaptation activities undertaken to reach the set goal and achievements made. Furthermore, we stipulated risk management regulations for the integrated management of non-financial risks including climate-related risks and opportunities, and created the ERM Committee to establish and operate a risk management system.	27~29, 87~89
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	As an internet and mobile platform business, Kakao generates relatively small environmental impact. Still, we recognize the severity of environmental issues such as GHG-induced climate change and energy depletion, and proactively join in on the efforts to resolve these issues. We monitor our GHG emissions data to manage environmental impact generated from our business operations, and establish eco-conscious platform and service ecosystems to enable our users to contribute to mitigating environmental impact just by choosing our services and platforms. To identify and manage the financial impact of climate-related risks and opportunities, we define transition risk as risk that occurs in the transition to a low-carbon economy, and physical risk as risk that occurs due to abnormal weather conditions. We manage such risks regularly by identifying key risks and opportunities. Specifically, we actively explore green transition opportunities to manage policy and reputation risks that we're facing as key risks factors. We also apply eco-conscious designs to our data centers that are closely associated with social convenience to ready ourselves for the shifting future landscape.	16, 27~33
Risk management	Disclose how the organization identifies, assesses, and manages climate-related risks	At Kakao, the ESG Business Team and Environmental Management Task Force responsible for working-level environmental management and the ERM Committee set up for integrated risk management serve to regularly identify climate-related risks and opportunities and report relevant details to the ESG Committee. In conformity with company-wide risk management regulations, the Board of Directors, the ESG Committee, and the Audit Committee analyze current and/or unexpected climate-related risks and the resulting change in the internal/external environment for the risk of potential losses while implementing separate risk management plans to manage risks through appropriate responses, with the ERM Committee supporting this process along the way.	17, 85, 87~89
Metrics and targets	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	To measure and manage climate-related risks and opportunities, we have established GHG inventories (Scope 1, 2, & 3) at our Jeju Office, Pangyo Agit, and data centers to calculate GHG emissions since 2021, along with energy consumption monitoring. We also developed our climate change adaptation strategy to achieve our 2040 Net Zero goal set based on SBTi's 1.5°C scenario. Our interim goal is to identify mitigation tasks along with the Kakao Community to achieve zero carbon emissions by 2040 and to reduce our Scope 1 and 2 emissions by 40% and Scope 3 emissions by 17% by 2030 from the 2021 base year. We aim to reach zero Scope 1 and 2 emissions by 2040.	28, 95~96

Climate-related Risks and Opportunities

Large Category	Medium Category	Small Category	Description	Impact	Time Horizon			Impact Level
					Short-term	Mid-term	Long-term	
Risk	Transition risk	Policy and law	Reporting and reducing emissions in line with carbon regulations and making environmental disclosures according to with the ISSB and the GEC	· Incurrence of penalties and carbon credit purchase expenses · Declining brand value and increasing reputation risk	✓	✓		High
			Transition to renewable energy	· Incurrence of costs due to increases in traffic and the resulting surge in power consumption · Failure to transition extending to reputation risk	✓	✓		High
		Technology	Delay in developing and introducing eco-friendly technology	· Declining brand value and increasing reputation risk	✓	✓	✓	Medium
		Market	Failure or delay in introducing new industries for the broader adoption of green initiatives	· Declining brand value and increasing reputation risk	✓	✓	✓	Medium
	Physical risk	Acute	Infrastructure damage caused by abnormal weather conditions (typhoons, cold waves)	· Infrastructure recovery costs, disruption to service reliability	✓	✓	✓	High
			Increasing operational costs (cooling) in line with abnormal weather conditions (heat waves)	· Growing cooling loads and the resulting increase in power costs	✓	✓	✓	Medium
Disruption in the supply of cooling water to IDCs due to long droughts			· Disruption to service reliability	✓	✓	✓	High	
Chronic		Infrastructure damage caused by rising sea levels	· Infrastructure recovery costs, disruption to service reliability		✓	✓	High	
		Novel infectious diseases, ecosystem destruction	· Increasing costs for safety responses	✓	✓	✓	Low	
Opportunity	Energy efficiency improvement		Energy efficiency improvement made possible through the adoption of high-efficiency equipment	· Cost reductions including decreasing operational costs (power bills)	✓	✓	✓	Medium
	Products and services		Integrating eco-conscious services with platforms	Positive reputation, potential for new revenue generation, etc.	✓	✓	✓	High

ISSB

Kakao discloses our performance and information aligned with the four pillars – Governance, Strategy, Risk management, and Metrics and targets – of the Exposure Draft presented by the ISSB (International Sustainability Standards Board) for its global sustainability disclosure standards.

IFRS S1 General Requirements¹⁾

Pillar	Key Content	Reporting Page	
Governance	Sustainability-related risks and opportunities	<ul style="list-style-type: none"> · Name of the responsible governance body · Matters to delegate to the governance body · Capacity-building methods · Reporting cycle · Goal setting and inclusion of performance metrics in compensation policy · Senior management's role, etc. 	17, 86
Strategy	Strategy to address sustainability-related risks and opportunities	<ul style="list-style-type: none"> · Significant sustainability-related risks and opportunities · Effects on the value chain · Effects on the company strategy and decision-making 	14-16
Risk management	Process to identify, assess, and manage sustainability-related risks and opportunities	<ul style="list-style-type: none"> · Sustainability-related risk and opportunity identification process · Sustainability-related risk and opportunity assessment process · Sustainability-related risk and opportunity management system · Integration with the company-wide ERM system 	36-38, 87-89
Metrics and targets	Method to measure, oversee, and manage sustainability-related risks and opportunities	<ul style="list-style-type: none"> · Goal · Performance metrics 	15-16, 95-103

¹⁾ Prepared based on the Exposure Draft of the IFRS sustainability disclosure standards made public in March 2022

UN Global Compact

The UN Global Compact (UNGC) presents 10 principles to follow in the areas of human rights, labour, the environment and anti-corruption, and is the global corporate citizenship initiative endorsed by more than 100 countries and businesses. Kakao joined the initiative in February 2021 to fulfill its corporate social responsibility and comply with the 10 UNGC Principles. Going forward, we will transparently share our progress made in abiding by these principles and faithfully take on our responsibility as a corporate citizen.

Goal	Kakao's Response	Reporting Page
Human Rights	1 Business should support and respect the protection of internationally proclaimed human rights;	36-38
	2 Make sure that they are not complicit in human rights abuses.	
Labour	3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	36-38
	4 the elimination of all forms of forced and compulsory labour;	
	5 the effective abolition of child labour; and	
	6 the elimination of discrimination in respect of employment and occupation.	
Environment	7 Businesses should support a precautionary approach to environmental challenges;	27-34
	8 undertake initiatives to promote greater environmental responsibility;	
	9 encourage the development and diffusion of environmentally friendly technologies.	
Anti-corruption	10 Businesses should work against corruption in all its forms, including extortion and bribery.	90-91

UN SDGs

The UN Sustainable Development Goals (UN SDGs) are 17 goals to be attained by all countries across the globe by 2030 to ensure the sustainable development for people and our planet. Kakao's raison d'être to change the world for the better deeply resonates with the UN's global agenda to pursue sustainable development for humanity.

Goal	Target	Kakao's Contribution in 2022	Reporting Page
5 GENDER EQUALITY	(5.4) Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	<ul style="list-style-type: none"> Operate in-house daycare centers and opened a new daycare center at Pangyo Agit Offer leave programs for both mothers and fathers, including maternity/miscarriage/stillbirth leave, parental leave, prenatal check leave, infertility treatment leave, and family care leave 	38
7 AFFORDABLE AND CLEAN ENERGY	(7.3) By 2030, double the global rate of improvement in energy efficiency	<ul style="list-style-type: none"> Ansan Data Center was designed with eco-conscious considerations, and was awarded 1st grade in preliminary certification under the energy efficiency rating program and the highest grade in preliminary G-SEED certification Equipped data centers with servers certified for energy efficiency and improved equipment efficiency Pangyo Agit obtained LEED Gold 	30-31
8 DECENT WORK AND ECONOMIC GROWTH	(8.3) Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	<ul style="list-style-type: none"> Implemented the 'Dangol Market' project to support the Kudos for Credos Project in locally-based traditional markets Provided online sales support and consulting to small businesses Kakao Ventures supported the growth of ICT/SW startups Kakao Enterprise implemented the 'Win-Win Boost-Up' and 'Re:Born' programs to support startups 	38, 48-49
	(8.5) By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	<ul style="list-style-type: none"> Employed 23 Krew with disabilities in 2022 through Linkage Lab, our subsidiary-type standard worksite for the disabled Employed visually-impaired individuals with government-certified masseuse/masseur qualifications for Health Keeper service and people with developmental disabilities for barista positions at our in-house cafeteria 	
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	(9.1) Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	<ul style="list-style-type: none"> KakaoBank launched the unclaimed deposit/insurance benefits identification service – 282,000 cases of unclaimed deposit/ insurance benefits claimed, KRW 8.01 billion in unclaimed deposit/insurance benefits paid Operated OLIVE Platform to provide open source management services Used and shared open software 	52-53, 74
10 REDUCED INEQUALITIES	(10.2) By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	<ul style="list-style-type: none"> Appointed the Digital Accessibility Officer Surveyed on accessibility to Kakao services Provided Krew and external stakeholders with accessibility training Provided alternative texts for KakaoTalk emoticons 	55-56
11 SUSTAINABLE CITIES AND COMMUNITIES	(11.2) By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	<ul style="list-style-type: none"> KakaoMap provided information on subway station platform gaps Supported Wheel Navigation services to provide information on the routes and locations easily accessible by wheelchairs in Jeju 	56, 79
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	(12.5) By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	<ul style="list-style-type: none"> Kakao Makers implemented the 'Saegaburch' upcycling project that engages users 	2, 32, 104
	(12.6) Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	<ul style="list-style-type: none"> Published the 2022 Kakao Responsibility and Commitment Report 	
13 CLIMATE ACTION	(13.3) Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	<ul style="list-style-type: none"> Established the Active Green Initiative and managed Kakao Carbon Index performance Publicly committed to the 2040 Net Zero goal Jeju Office transitioned to 100% renewable energy Measured carbon emissions generated from operating the 2022 Melon Music Awards and worked to offset these emissions by purchasing voluntary carbon credits 	28-30, 33
14 LIFE BELOW WATER	(14.1) By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	<ul style="list-style-type: none"> Launched the Our Ocean Campaign to raise funds for marine environmental protection projects Launched the EcoSeed Campaign to raise funds for marine environmental improvement projects Supported the plovng project under the Jeju Impact Challenge program for ocean clean-ups in Jeju 	34
15 LIFE ON LAND	(15.2) By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	<ul style="list-style-type: none"> Raised funds for reforestation and donated to tree-planting activities – Melon's 'Forest:Streaming Project', Kakao Pay's 'd-Document Green Challenge' Kakao Together raised funds to help recover forests affected by forest fires 	34
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	(16.5) Substantially reduce corruption and bribery in all their forms	<ul style="list-style-type: none"> Bolstered the ethical management system at the Kakao Community level – Developed ethics training content for all Community members and provided company-wide training/Operated the Roundtable on legal affairs Provided ethics training to all employees, Participants: 3,334 persons (completion rate: 92.4%) Handled 100% of the concerns raised through internal/external counseling/whistleblowing programs 	90-91, 102
17 PARTNERSHIPS FOR THE GOALS	(17.17) Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	<ul style="list-style-type: none"> Expanded engagement on Kakao Together platforms – Cumulative donations made: Nearly 47.58 million donations / KRW 58.9 billion Supported diverse social innovators creating social impact through Kakao Impact Fellowship 	54, 71-73

Kakao's ESG Policy and Regulations

Kakao establishes and implements our regulations and policies in line with domestic/international initiatives and norms to fulfill our corporate responsibility in all of the Environmental, Social, and Governance areas.

🔗 Environmental Policy

Kakao minimizes the environmental impact generated from its service offerings, and fulfills its responsibility by preventing environmental pollution and protecting the environment.

🔗 Kakao's Policy for the Protection of Teens

Kakao endeavors to protect teens from harmful content and help with the safe use of the internet which is freely open to people of all ages.

🔗 Corporate Governance Charter

Kakao stipulates the Corporate Governance Charter as the foundation for its sustainable business operations to build trust with wide-ranging stakeholders and do its utmost to pursue shared growth.

🔗 Audit Committee Regulations

Kakao Specifies matters required for job performance standards and operations so that the Audit Committee conducts audit work in an appropriate and efficient manner.

🔗 Health and Safety Management Policy

Kakao fully commits to providing a safe and pleasant work environment for all Krew and workers.

🔗 Policy for the Protection of Children and Teens

Kakao applies the zero tolerance principle to sexual crimes involving children and teens, and ensures to develop and deploy diverse technologies to prevent such crimes.

🔗 BOD Regulations

Kakao specifies matters necessary for the efficient operation of its Board of Directors to establish sound governance.

🔗 Risk Management Regulations

Kakao manages risks that may occur across its business operations in a comprehensive and efficient manner to stipulate matters required to maintain business stability.

🔗 Kakao Business and Human Rights Statement

Kakao strives to prevent factors that may give rise to human rights violation in the boundary of its service and business operations, and does its utmost to promptly respond to and resolve the violation of human rights.

🔗 Privacy Policy

Kakao endeavors to strike the balance between data connectivity and security, and increase the value of data to provide better services while safely protecting user data.

🔗 Directors Nominating Committee Regulations

Kakao specifies matters required for the efficient operation of the Directors Nominating Committee established under the Board of Directors.

🔗 Code of Ethics

Kakao vows to uphold the highest possible level of integrity across its business operations and internal/external relationships, and presents principles to follow to avoid situations in which the value the Company pursues is actually or seemingly violated.

🔗 Algorithm Ethics

Kakao makes every possible effort in relation to algorithms within our society, and pursues the benefits and contentment of all in so doing.

🔗 Kakao Supplier Code of Conduct

Kakao assists suppliers in laying the basis to pursue shared growth with Kakao by complying with all applicable laws and regulations and fulfilling their social responsibility.

🔗 Compensation Committee Regulations

Kakao specifies matters required for the efficient operation of the Compensation Committee established under the Board of Directors.

🔗 Ethics Pledge

Kakao respects partners as its companion for business operations, and pursues shared growth through transparent and fair transactions and mutual cooperation.

🔗 Principle to Counter Hate Speech

Kakao stays vigilant against expressions that abuse the freedom of expression and threaten the safety of others, and endeavors to combat hate speech online.

🔗 Articles of Association

Kakao stipulates fundamental rules concerning its organizational operations.

🔗 ESG Committee Regulations

Kakao specifies matters required for the efficient operation of the ESG Committee established under the Board of Directors.

🔗 Tax Policy

Kakao pursues growth as a way to contribute to social and economic development, stipulates and operates its tax policy to sincerely file and pay taxes in accordance with applicable laws and regulations, and faithfully file and pay its taxes pursuant to the set principles.

🔗 Kakao's Operational Policy

Kakao stipulates the standards of service operations and detailed rules for users to follow to consistently address issues that may arise in relation to its service use.

Memberships

Name of Association
OECD Digital for SMEs Global Initiative(D4SME)
UN Global Compact
Korea Startup Forum
Korea Listed Companies Association
Korea Internet Corporations Association
Korea Internet Self-governance Organization
Korea Investor Relations Service
Korea Digital Advertising Association
Seoul Chamber of Commerce & Industry
Jeju Chamber of Commerce & Industry
Korea Industrial Technology Association
Financial Security Institute
Korea Competition Law Association
Korea On-Line Shopping Association
Korea Council of Chief Information Security Officers
Jeju Startup Association
Korea Internet & Security Agency

ESG Achievements Made Publicly in 2022 and 2023

Member of
Dow Jones Sustainability Indices

Powered by the S&P Global CSA

Listed in the Dow Jones Sustainability World/Asia Pacific/Korea Indices (2 consecutive years)
/ Top 1% S&P Global IMS(Interactive Media, Service & Home Entertainment) industry



Rated A in overall ESG rating by KCGS (2 consecutive years)



Rated AA in MSCI ESG ratings



Ranked in the Top 1% S&P Global ESG Score category in the Sustainability Distinction by the S&P Global

Awards

Year	Host	Name of Award
2022	Web Award Korea	Mobile UI/UX Innovation Grand Award 2022
	Asia Business Daily	7th Asia Gender Equality Index Awards (Seoul City Mayer Award)
	LACP	Gold Awards, LACP(League of American Communications Professionals) Vision Awards
	ARC	Silver Award, ARC (Annual Report Competition) Awards
	Korea Exchange	Top performer in creating English disclosures (3 consecutive years)
	KILT Benchmarking	Ranked 1st at the global English machine reading comprehension competition (Kakao Enterprise)
	iF Design Award	Awarded in the brand & communication design category, Red Dot Design Award (Kakao Mobility)
	US National Institute of Standards and Technology (NIST)	Ranked 1st in the kiosk category for 1:1 verification in the Face Recognition Vendor Test (FRVT), and for 1:N identification (Kakao Enterprise)
	Google Cloud	Awarded in three categories, Google Cloud Customer Awards (Kakao Brain)
	iF Design Award	Award in the best mobile app category, iF Design Award (Kakao Entertainment)
	Sensor Tower	Best Selling Book App, Sensor Tower APAC Awards (Kakao Piccoma)
	Sensor Tower	Awarded in the Fastest Growing Game Publisher sector at the Sensor Tower Awards Korea (Kakao Games)
	Ministry of Gender Equality and Family, Ministry of Culture, Sports and Tourism	Family-friendly business (Kakao Pay, Kakao Games, Linkage Lab), leisure-friendly business (Kakao Games, Linkage Lab)
	2021	Newsis
Ministry of Culture, Sports and Tourism		Presidential Commendation for Contribution to Promoting Policy Communication
Korea Management Association Consulting		Korea's Most Admired STAR sector, and ranked 1st in the portal service sector
Korea Exchange		Designated as a top performer in English disclosures in the securities market
Korea Investor Relations Service		Grand Prize in the securities market sector, Korea IR Awards
Maeil Business Newspaper		Grand Prize at the 4th Korea Accounting Awards
Personal Information Protection Commission, Ministry of Science and ICT, Financial Services Commission, Ministry of Health and Welfare		Grand Prize at the Pseudonymous Data Best Practice Content (KakaoBank)
Ministry of Culture, Sports and Tourism, Korea Creative Content Agency	Special Award in the Media Business sector, New Media Content Awards (Kakao Entertainment)	
Ministry of Employment and Labor	Named a Best Employer (Kakao Commerce, Kakao Pay, Kakao Entertainment, dktechin)	
2020	Korea Advertising Society	Brand of the Year Award, Kakao Bizboard
	Korea Investor Relations Service	Excellence Award in the securities market sector, Korea IR Awards
	Money Today	Overall Grand Prize at the Money Today IR Awards
	Korea Exchange	Designated as a top performer in English disclosures in the securities market
	Edaily	Ministry of Employment and Labor Award in the work environment improvement sector, Great Work Place Awards
	Asia Business Daily	CEO Award in the organizational culture sector, 5th Asia Women Index Awards
	ADFEST (Asia Pacific Advertising Festival)	Bronze Award in the Mobile sector
	Arts Council Korea	Award in the Frontier sector, Arts Patron of the Year Awards
	Ministry of Gender Equality and Family	Designated a family-friendly business

GHG Emissions Verification Statement



Kakao Corporation

Introduction

Korea Management Registrar has been requested by Kakao Corporation to verify greenhouse gas emissions for 2022. The verification was conducted on the organization and operation boundary, and the results are as specified as below. This verification statement is valid from the day of publication.

Scope

- Organization and operation boundary:
 - ✓ Limited to the Pangyo office, Jeju office, data centers, and offline sales facilities(direct management)(4 facilities) of Kakao Corp., according to the operating and controlling approach of the standards.
- Verification period: 01/01/2022~12/31/2022
- Types of Greenhouse Gases: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆
- Verification scope: Scope 1 (direct emissions), Scope 2 (indirect emissions)
 - ✓ Scope1(direct emissions), Scope2(indirect emissions)
- Performed verification work:
 - ✓ Visiting Kakao Corp. and interviewing with the manager responsible for overall emissions data collection of the organization
 - ✓ Reviewing the emissions data monitoring standard and process
 - ✓ Examination on raw data including information system, bills and payment statements related to verification scope
 - ✓ Comparative examination through on-desk review, risk analysis, observation and inspection, etc.
 - ✓ Level of assurance: Limited assurance

Standard&Guidance

- International Standard on Assurance Engagements 3000 (Revised) – 'Assurance Engagements other than Audits or Reviews of Historical Financial Information',
- ISO 14064-1 Greenhouse gases -- Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (2006),
- ISO 14064-3 Greenhouse gases -- Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (2006),
- IPCC Guidelines for National Greenhouse Gas Inventories (2006),

- WRI/WBCSD GHG Protocol,
- MOE Verification guidelines for operation of greenhouse gas and energy target management scheme (Criterion of materiality/ IPCC emission factors and calorific values / Country specific calorific values and emission factors)

Results

Kakao Corporation greenhouse gas emissions of 2022 as follows.

Year	Greenhouse Gas Emissions(tCO ₂ -eq)			Energy Consumption(TJ)			
	Scope 1	Scope 2	Total	Fuel	Electricity	Steam	Total
2022	248	67,143	67,391	4	1,396	9	1,409


Note 1) Greenhouse gases: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆

Note 2) The global warming effect of 1 ton of CO₂ or other greenhouse gases equivalent to 1 ton of CO₂

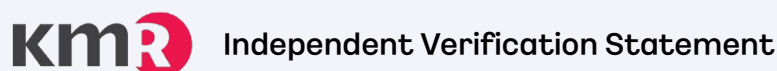
Conclusions

As a result of the verification according to the verification scope and standard presented above, the assurance opinion of Korea Management Registrar is as follows.

- ✓ KMR verified the greenhouse gas emissions for 2022 of Kakao Corp. as described above. Based on the procedures performed, no evidence was identified that the emissions information is not prepared in accordance with the monitoring requirements to meet the verification scope and standards.
- ✓ This opinion may be influenced by the limitations of provided data, sampling methods, etc., and because of these limitations of verification, there could be unavoidable possibility of existence of undiscovered misstatements.
- ✓ Under limited organization boundary, applied quantitative decision criterion for materiality threshold is 5% of total emissions. And no material error and omission - which would affect verification opinion - was detected.


 April 27, 2023
 Korea Management Registrar
 President **Hwang Eun Ju**

GHG Emissions Verification Statement



Kakao Corporation

Introduction

Korea Management Registrar has been requested by Kakao Corporation to verify Scope 3 greenhouse gas emissions in 2021 and 2022. The verification was conducted on the organization and operation boundary, and the results are as specified as below. This verification statement is valid from the day of publication.

Scope

- Organization and operation boundary:
 - ✓ Limited to the Pangyo office, Jeju office, data centers and offline sales facilities(direct management) (4 facilities) of Kakao Corp., according to the operating and controlling approach of the standards.
- Verification period: 01/01/2022 ~ 12/31/2022, 01/01/2021~12/31/2021
- Types of Greenhouse Gases: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆
- Verification scope
 - ✓ Scope 3 (indirect emissions)
 - ✓ Scope 3 targets 13 categories out of a total of 15 categories.
- Performed verification work:
 - ✓ Visiting Kakao Corp. and interviewing with the manager responsible for overall emissions data collection of the organization
 - ✓ Reviewing the emissions data monitoring standard and process
 - ✓ Examination on raw data including information system, bills and payment statements related to verification scope
 - ✓ Comparative examination through on-desk review, risk analysis, observation and inspection, etc.
 - ✓ Level of assurance: Limited assurance

Standard&Guidance

- ISO 14064-1 Greenhouse gases -- Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (2006),
- ISO 14064-3 Greenhouse gases -- Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (2006),
- IPCC Guidelines for National Greenhouse Gas Inventories (2006),
- WRI/WBCSD GHG Protocol,

- MOE Verification guidelines for operation of greenhouse gas and energy target management scheme (Criterion of materiality/ IPCC emission factors and calorific values / Country specific calorific values and emission factors)

Results

Kakao Corporation's Scope 3 greenhouse gas emissions in 2021 and 2022 as follows.

(Unit: tCO₂-eq/yr)

Category	2021	2022
Category 1	137	63
Category 2	47,898	49,508
Category 3	6,176	7,922
Category 4	3	1
Category 5	56	282
Category 6	91	435
Category 7	210	71
Category 9	110	87
Category 11	8,151	4,547
Category 12	253	203
Category 13	272	207
Category 14	25	26
Category 15	6,011	7,165
Total	69,393	70,517

Conclusions

As a result of the verification according to the verification scope and standard presented above, the assurance opinion of Korea Management Registrar is as follows.

- ✓ KMR verified the Scope 3 greenhouse gas emissions for 2021 and 2022 of Kakao Corp. as described above. Based on the procedures performed, no evidence was identified that the emissions information is not prepared in accordance with the monitoring requirements to meet the verification scope and standards.
- ✓ This opinion may be influenced by the limitations of provided data, sampling methods, etc., and because of these limitations of verification, there could be unavoidable possibility of existence of undiscovered misstatements.
- ✓ Under limited organization boundary, applied quantitative decision criterion for materiality threshold is 5% of total emissions. And no material error and omission - which would affect verification opinion - was detected.

April 27, 2023

Korea Management Registrar
President **Hwang Eun Ju**

Third-party Assurance Statement



LRQA Independent Assurance Statement

Relating to Kakao Corporation's Sustainability Report
for the calendar year 2022

This Assurance Statement has been prepared for Kakao Corporation in accordance with our contract but is intended for the readers of this Report.

Terms of engagement

LRQA was commissioned by Kakao Corporation to provide independent assurance on its 'Kakao's Commitment & Responsibility 2022' ("the report") against the assurance criteria below to a "moderate level of assurance and materiality of professional judgement" using "Accountability's AA1000AS v3", where the scope was a Type 2 engagement.

Our assurance engagement covered Kakao Corporation's operations and activities in Korea and specifically the following requirements:

- Evaluating adherence to the AA1000 Accountability Principles¹⁾ of Inclusivity, Materiality, Responsiveness and Impact
- Confirming that the report is in accordance with GRI Standards 2021²⁾
- Evaluating the accuracy and reliability of data and information for only the selected indicators listed below:
 - Performance indicators related to material topics listed in the GRI Content Index
 - SASB³⁾ Accounting Metrics and Activity Metrics

Our assurance engagement excluded the data and information of Kakao Corporation's suppliers, contractors and any third-parties mentioned in the report.

LRQA's responsibility is only to Kakao Corporation. LRQA disclaims any liability or responsibility to others as explained in the end footnote. Kakao Corporation's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of Kakao Corporation.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that Kakao Corporation has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable performance data and information as all errors or omissions identified during the assurance engagement were corrected
- Covered all the issues that are important to the stakeholders and readers of this report.

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a moderate assurance engagement is less than for a high assurance engagement. Moderate assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a moderate assurance engagement is substantially lower than the assurance that would have been obtained had a high assurance engagement been performed.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing Kakao Corporation's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing documents and associated records.
- Reviewing Kakao Corporation's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by benchmarking reports written by Kakao Corporation and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether Kakao Corporation makes informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing Kakao Corporation's data management systems to confirm that there were no significant errors, omissions or mis-statements in the report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the report.
- Checking whether GHG emissions and energy consumptions in the appendix of the report were transposed correctly from the GHG inventory which was verified by the third-party assurance provider.
- Reviewing additional evidence made available by Kakao Corporation at its Pangyo Office in Gyeonggi-do

Third-party Assurance Statement

Observations

Further observations and findings, made during the assurance engagement, are:

- Inklusivity:

We are not aware of any key stakeholder groups that have been excluded from Kakao Corporation's stakeholder engagement process.

- Materiality:

We are not aware of any material issues concerning Kakao Corporation's sustainability performance that have been excluded from the report. It should be noted that Kakao Corporation has established extensive criteria for determining which issue/aspect is material and that these criteria are not biased to the company's management.

- Responsiveness:

Kakao Corporation company is striving to integrate its ESG strategy throughout the entire operation. In particular, it is motivating the execution of the ESG strategy by enhancing the incorporation of ESG perspectives into the performance evaluation of relevant departments.

- Impact:

Kakao Corporation should strengthen its relevant procedures to be able to select and report appropriate performance indicators that describe its management performance for the impacts associated with material topics.

- Reliability:

Kakao Corporation's data management system for the selected indicators are well defined.

1) <https://www.accountability.org>

2) <https://www.globalreporting.org>

3) <https://www.sasb.org>

LRQA's standards, competence and independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 Greenhouse gases — Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and ISO/IEC 17021 Conformity assessment — Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification engagement is the only work undertaken by LRQA for Kakao Corporation and as such does not compromise our independence or impartiality.

Dated: 3 May 2023

Tae-Kyoung Kim

LRQA Lead Verifier

On behalf of LRQA

2nd Floor, T Tower, 30, Sowol-ro 2-gil, Jung-gu, Seoul, Republic of Korea

LRQA reference: SE000000823



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000-11/V3-3T066

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