

# 2022 Korean Air ESG Report



#### ENVIRONMENTAL

Environmental management for a sustainable future

#### SOCIAL

Fulfilling corporate social responsibilities in accordance with our founding philosophy

Korean Air implements environmental management for a sustainable future from the ESG (Environmental, Social, and Governance) perspective, and fulfills its social responsibilities in accordance with its founding philosophy of “national contribution through transportation”. The airline is also carrying out ESG management activities, with the strengthening of the governance structure for sustainability management as its core value.

As a leading ESG airline, we will continue to strive to implement ESG management activities as our growth strategy for the sustainable development of the company and society, focusing more on the promotion of corporate value in the long-term instead of short-term profitability.

#### GOVERNANCE

Strengthening the governance structure for sustainability management

# SUSTAINING EXCELLENCE





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**Interactive PDF**  
This report has been published as an interactive PDF, allowing readers to move quickly and easily to pages in the report, and including shortcuts to related web pages.

Reporting standards	GRI Standards (Core Option), SASB, TCFD
Reporting period	January~December 2021 (also including some data and information from the first half of 2022)
Reporting scope	Korean Air's business premises at home and abroad, including the headquarters in Seoul, Republic of Korea
Reporting cycle	Annual
Third-party assurance	Korean Standards Association (KSA)
Disclosure principles	Publicly disclosed on Korean Air's website (koreanair.com)
Contact	Corporate Management Team of the Corporate Strategy & Planning Division, Korean Air (KAL_ESG@koreanair.com)



The 27th Korean Air Travel Photo Contest / Merit Prize / Lee, Sun-hwa / Vestrahorn mountain and piano

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## CEO MESSAGE



Greetings! I would like to extend my sincere gratitude to our shareholders, customers, partners, and employees for your continued interest and support.

It's truly good to hear that the COVID-19 pandemic, which has wreaked havoc upon our lives, has begun to come under control and show signs of abating. As we've come a long way in overcoming the difficulties posed by the pandemic, I sincerely hope that everything, including our daily lives, starts to recover and become normalized soon.

The aviation industry has also been through unprecedented challenges. However, despite the difficulties, Korean Air achieved a record-high operating profit, thanks to your support and our continued efforts to carry out management activities focused on ESG.

The COVID-19 pandemic crisis has given us a valuable opportunity to realize and learn how to respond to rapid changes in the business environment to achieve sustainable growth and what responsibilities we have as a member of the global community to drive shared growth and coexistence.

As a global airline that has learned a valuable lesson from overcoming the pandemic, Korean Air is implementing and strengthening ESG activities from the following perspectives:

✈ **First of all, we are actively taking part in measures to respond to climate change, an area of interest in the global community.**

Member airlines agreed to commit to net-zero carbon emissions from the aviation industry by 2050 in the IATA Annual General Meeting held in October 2021. As part of our efforts to respond to climate change, we have signed a Memorandum of Understanding with Hyundai Oilbank in June 2021 regarding building a foundation for the manufacturing and usage of sustainable aviation fuel.

✈ **Second, we strive to continue to strengthen our safety management system, with our priority on safety.**

In addition to the “Care First” program, an integrated hygiene management program to prevent the spread of COVID-19, we have restructured our safety and health management system to continue to ensure the safety of our customers and employees.

✈ **Third, we are actively fulfilling our corporate social responsibilities and carrying out transparent and ethical management activities.**

We have established and are operating the ESG Committee within the Board of Directors and entrenched mid-to-long-term ESG-driven strategies to improve our management fundamentals. We will also continue to actively disclose ESG information to further strengthen external communication.

Korean Air is striving to obtain approval from 6 countries, including the United States, EU, and China to complete the acquisition and merger with Asiana Airlines following the approval from the Korea Fair Trade Commission in February 2022. Both before and after the acquisition of Asiana Airlines, as Korean Air, we will do our best to fulfill our responsibilities and roles as a leading global network airline with strengths in not only structural competitiveness, but also in ESG.

We ask for your continued support and interest. Thank you.

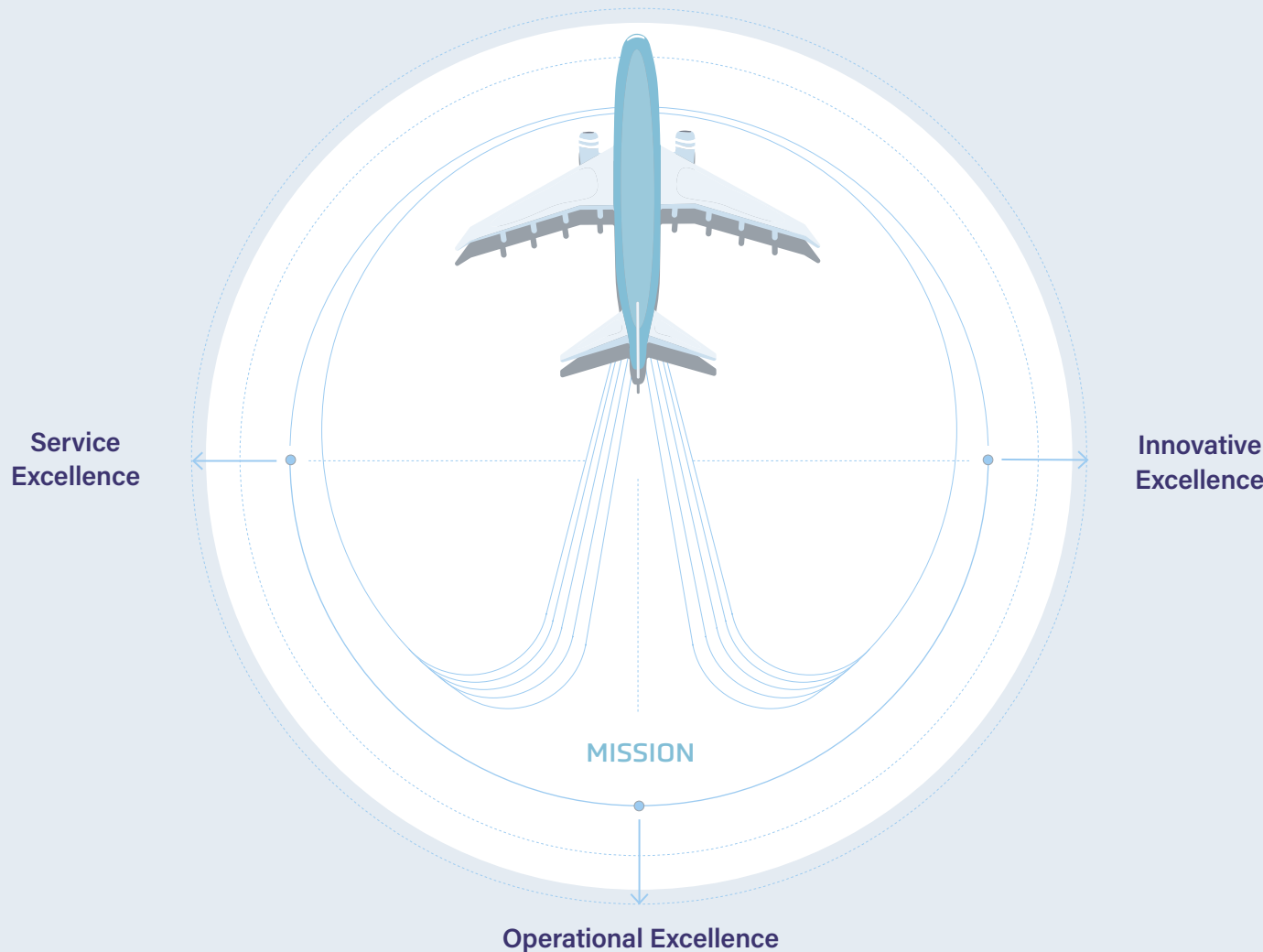


Korean Air Lines Co., Ltd.  
Chairman & CEO **Cho, Won-Tae**

# MANAGEMENT PHILOSOPHY

## VISION

To be a Respected Leader  
in the World Airline Community



### Service Excellence

- Strengthening service competitiveness by developing unique services offered only by Korean Air
- Offering high-end/differentiated services across the entire process
- Providing high-end seats such as Kosmo Suites 2.0 and Prestige Suites, and expansion of in-flight entertainment services (AVOD/IFE)
- Promoting brand image as a global service company
- Providing world-class services and establishing global service standards through the alliance with SkyTeam
- Continuing social contribution activities through global CSR projects

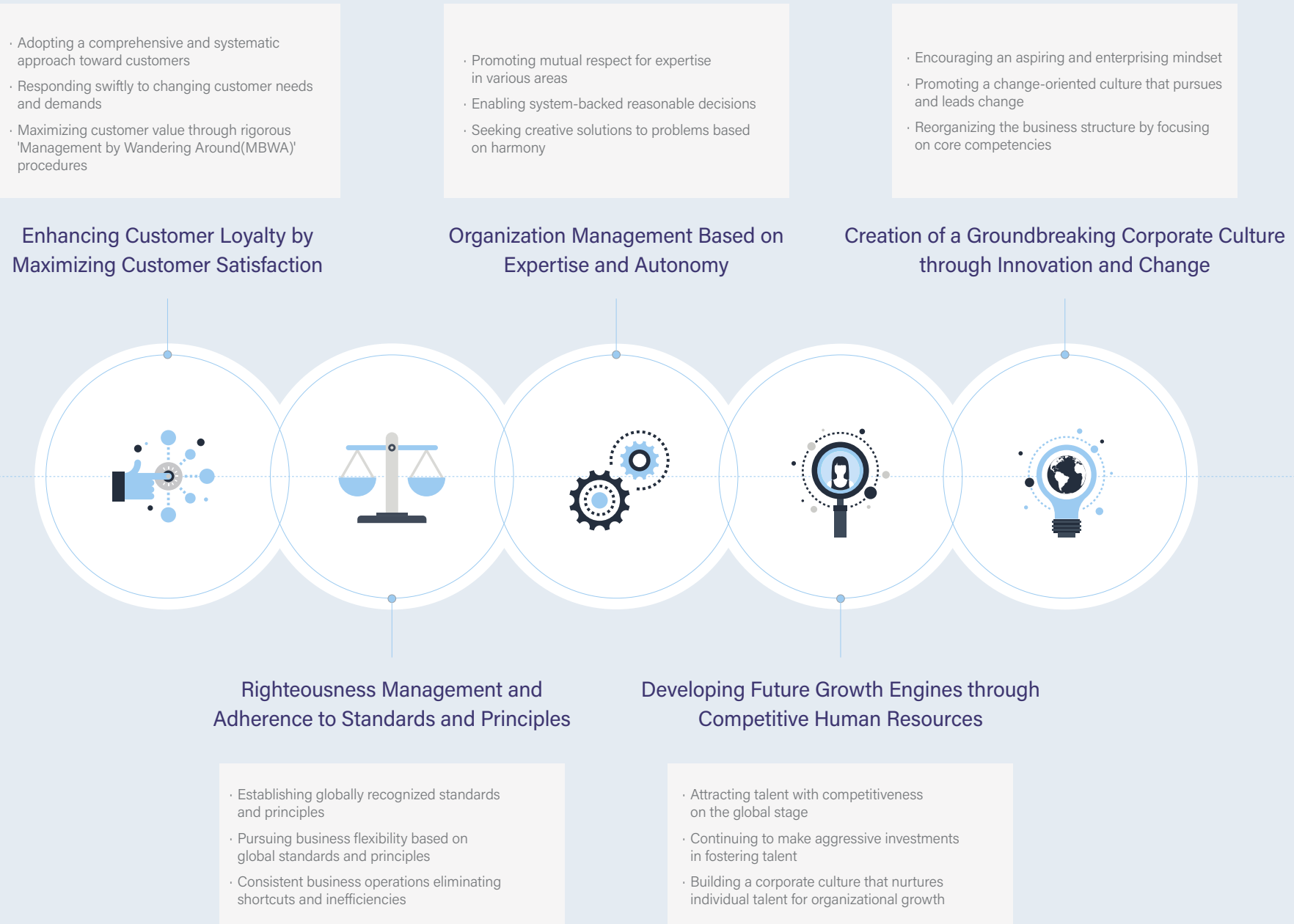
### Operational Excellence

- Continuing to ensure absolute safety
- Promoting continuous profitability through constant cost-saving efforts
- Phasing in high-performance fleets and maximizing operational efficiency
- Strengthening the competitiveness of the global network by actively utilizing SkyTeam resources
- Expanding management-infrastructure by establishing a company-wide IT system
- Promoting education & training to nurture global talent

### Innovative Excellence

- Creating a corporate culture where creativity and 'blue-sky' thinking are encouraged and respected
- Setting the tone for a democratic and horizontal workspace
- Securing talents that have the capabilities to lead the way against global competition
- Breaking organizational 'silos' and encouraging change and innovation
- Developing new profitable businesses

## MANAGEMENT PHILOSOPHY





# COMPANY OVERVIEW

## ✈️ Organizational Status

Company name

Korean Air Lines Co., Ltd.

Headquarters

260 Haneul-gil Gangseo-gu, Seoul, Republic of Korea  
(Gonghangdong 1370)

Phone number

+82-2-2656-7114

Website

<http://www.koreanair.com>

Business areas

Passenger & cargo transportation, Aerospace

Subsidiaries

Refer to the disclosures by "Korean Air" at <http://dart.fss.or.kr>

Air Fleet

(Unit: ea/year)

Aircraft model	Passengers		Cargo	
	Number of aircraft	Average fleet age	Number of aircraft	Average fleet age
A380-800	10	9.8	-	-
B747-8I	10	5.7	-	-
B747-400F	-	-	4	16.3
B747-8F	-	-	7	8.0
B787-9	10	3.9	-	-
B777-300ER/300/200	41	12.1	-	-
A330-200/300	30	17.1	-	-
B777F	-	-	12	6.6
B737-800/900/900ER	20	15.0	-	-
A220-300	10	3.6	-	-
<b>Total: 154</b>	<b>131</b>	<b>11.8</b>	<b>23</b>	<b>8.7</b>

March 1, 1969

Established in

19,409

Number of employees

(Including locally hired employees and excluding executive directors)

1.94 million tons

Cargo transportation

5.70 million persons

Passenger transportation

154

Air fleet

KR₩ 8.7534 trillion

Sales

(Based on separate financial statements)

KR₩ 26.1930 trillion

Total assets

(Based on separate financial statements)

\* As of 2021. 12. 31

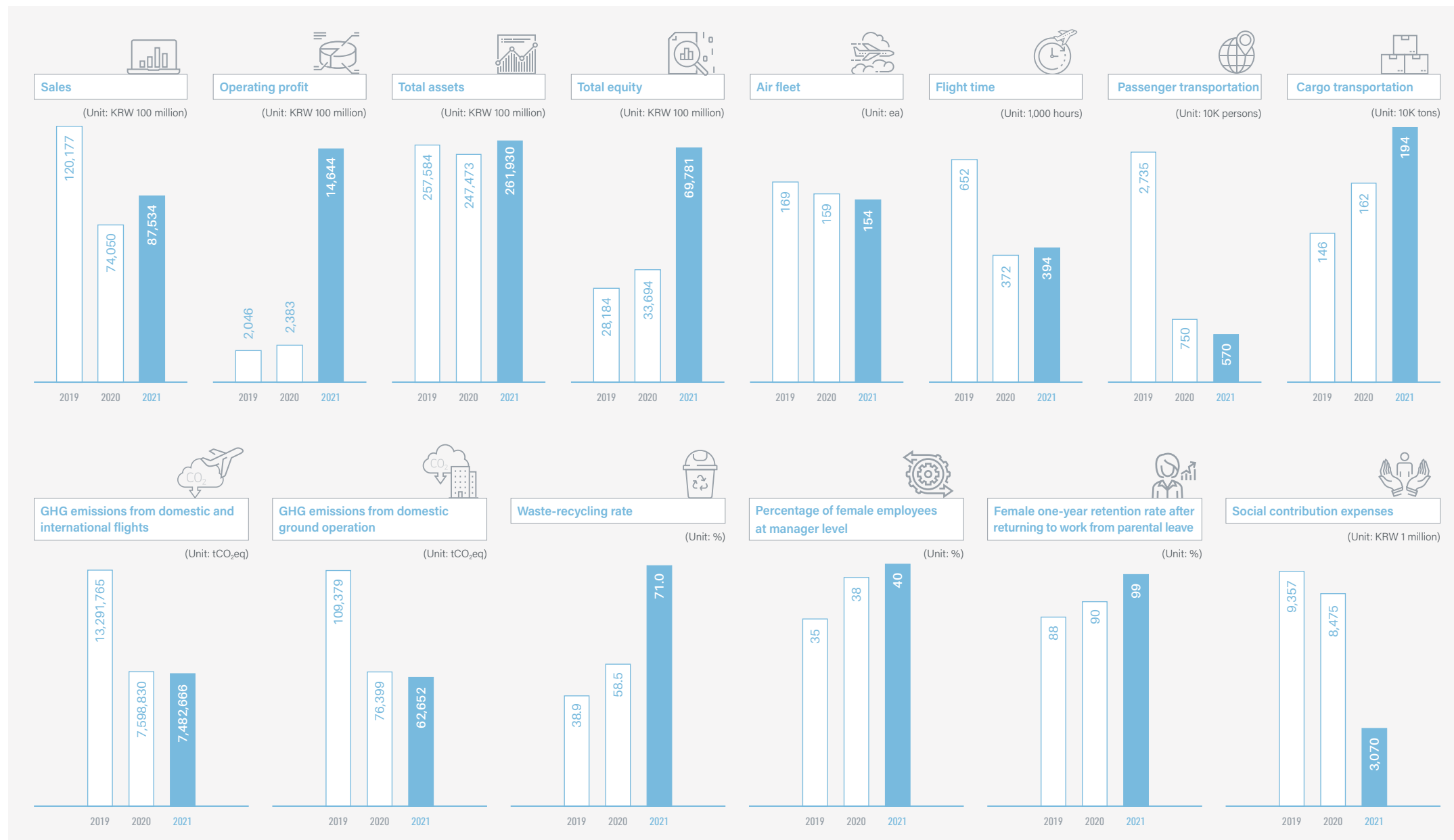
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## Key Highlights



\* Based on separate financial statements

## ✈ Global Network

As of December 2021, Korean Air operates passenger and cargo routes to 13 domestic destinations and 107 international destinations in 42 countries. We create a synergy effect with relevant businesses with our infrastructure built across the globe and aim to go one step further to enhance Korea's international prestige.

### DESTINATIONS

Republic of Korea 13 cities	Northeast Asia 37 cities	Southeast Asia/ Southwest Asia 22 cities	Oceania/ Guam 4 cities	Americas 20 cities
Europe 17 cities	Russia/Mongolia/ Central Asia 6 cities	Middle East 1 city	Total 120 cities (108 cities for passengers, 46 cities for cargo)	

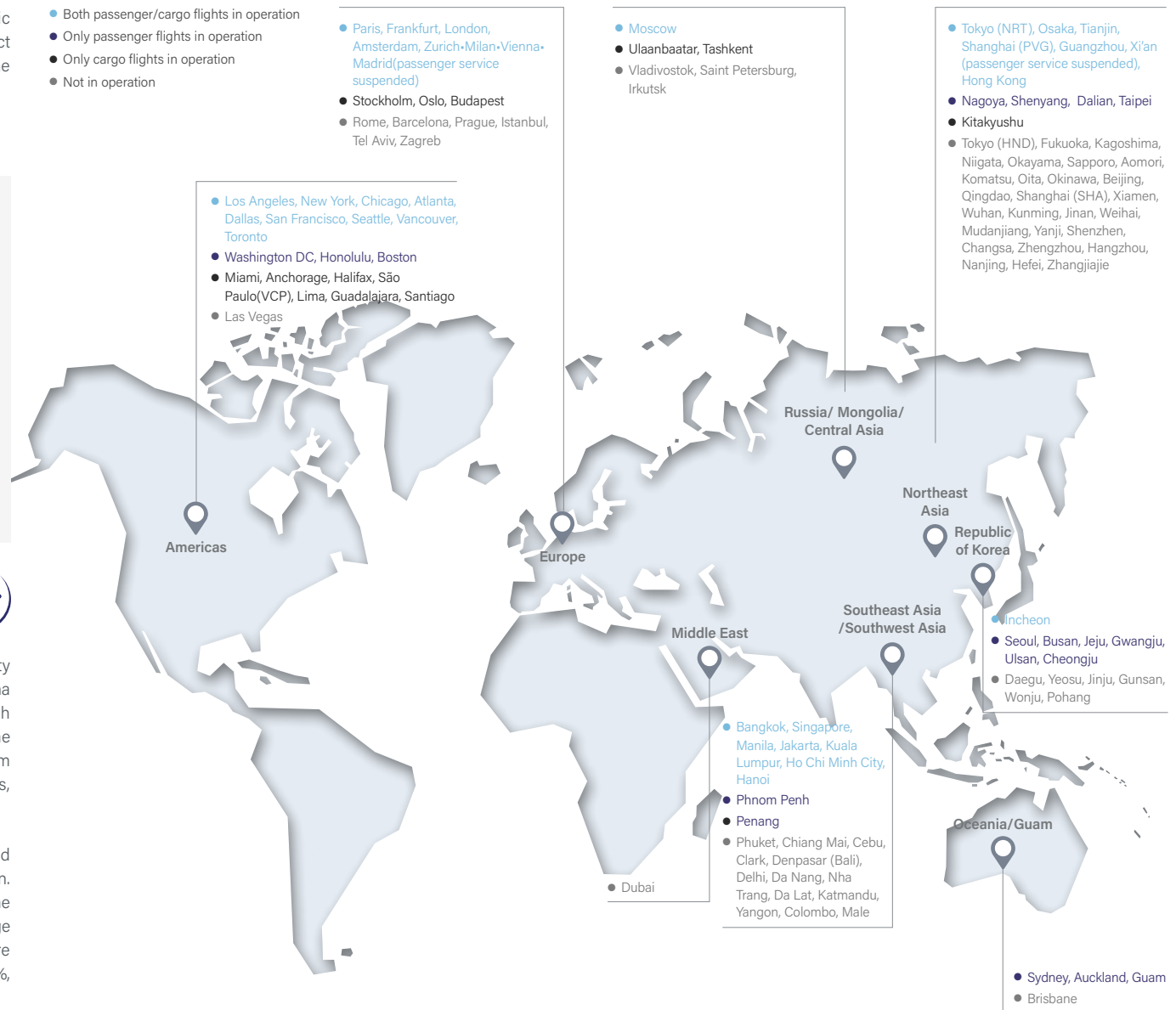
### SKYTEAM

SkyTeam is a global airline alliance established in June 2000. It currently consists of a variety of airline members around the world including Korean Air, Delta Air Lines, Air France, China Eastern, and KLM. Customers of SkyTeam can enjoy a variety of flight options through SkyTeam's global network of routes which covers 1,036 cities in 170 countries around the world and operates over 15,000 flights on a daily basis. In addition, all members of SkyTeam provide various services for customers, including earning and using mileage, lounge benefits, and other joint services.

SkyTeam members fully recognize the importance of corporate social responsibilities and focus on adopting sustainable, eco-friendly corporate policies through joint cooperation. Especially, members of SkyTeam contribute to achieving gender equality in the global airline industry by participating in the "25by2025" campaign, an initiative led by IATA to change the gender balance within the aviation industry. Airlines taking part in the campaign are committed to increasing the number of women in under-represented areas by at least 25%, or up to a minimum of 25%.

### ROUTES

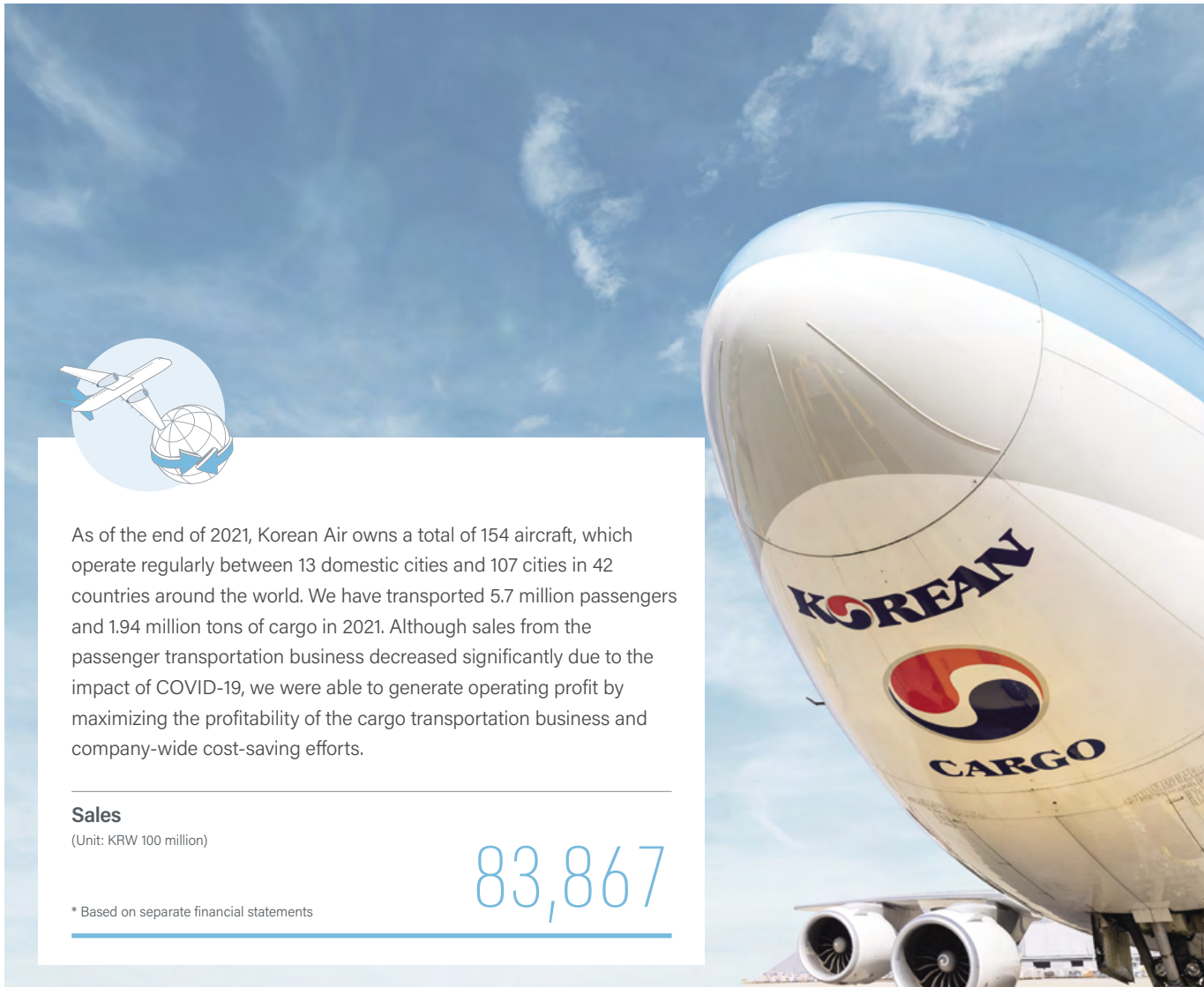
- Both passenger/cargo flights in operation
- Only passenger flights in operation
- Only cargo flights in operation
- Not in operation





# KEY BUSINESS ACHIEVEMENTS

## ✈ Air Transport Business



As of the end of 2021, Korean Air owns a total of 154 aircraft, which operate regularly between 13 domestic cities and 107 cities in 42 countries around the world. We have transported 5.7 million passengers and 1.94 million tons of cargo in 2021. Although sales from the passenger transportation business decreased significantly due to the impact of COVID-19, we were able to generate operating profit by maximizing the profitability of the cargo transportation business and company-wide cost-saving efforts.

**Sales**  
(Unit: KRW 100 million)

83,867

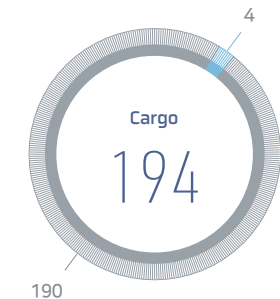
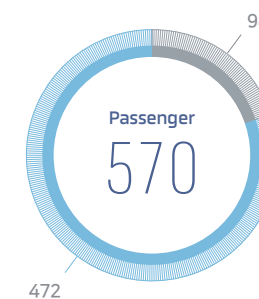
\* Based on separate financial statements



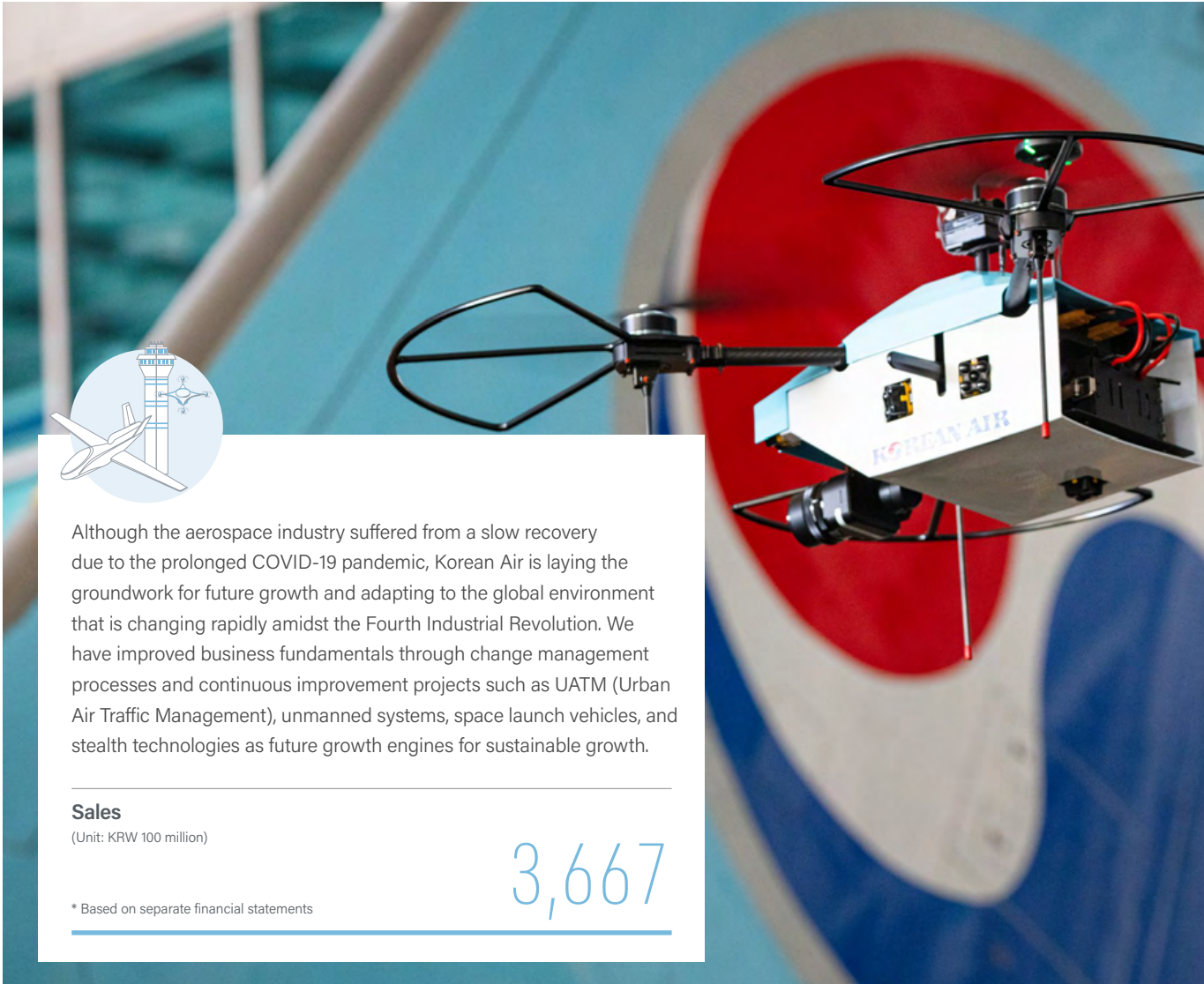
### Transportation

(Unit: 10K passengers/10K tons)

● International flights ● Domestic flights



## ✈ Aerospace Business



Although the aerospace industry suffered from a slow recovery due to the prolonged COVID-19 pandemic, Korean Air is laying the groundwork for future growth and adapting to the global environment that is changing rapidly amidst the Fourth Industrial Revolution. We have improved business fundamentals through change management processes and continuous improvement projects such as UATM (Urban Air Traffic Management), unmanned systems, space launch vehicles, and stealth technologies as future growth engines for sustainable growth.

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**Sales**  
(Unit: KRW 100 million)

3,667

\* Based on separate financial statements



# KEY BUSINESS STRATEGIES



## Passenger Business Strategies

Consumers' travel sentiment is slowly recovering as the government changed its tone from a phase-by-phase recovery plan for international flights to early normalization following a decrease in COVID-19 confirmed cases, which continued to increase and decrease earlier in 2022. Korean Air's passenger business swiftly responded to market changes with active and flexible supply strategies, and has implemented the following operational strategies to go beyond normalization of demand and solidify our mid- to long-term growth strategies.

### Comprehensive efforts to contain the spread of COVID-19 while prioritizing customer safety

- Continuously update "CARE FIRST," the comprehensive program aiming to prevent disease across the entire customer journey
- Maintain a close cooperation system for each country's quarantine measures

### Implementation of stable reopening strategies by responding in a timely manner to market changes

- Pursue profitability improvement by flexibly adjusting to supply in response to changes in entry regulations and demand
- Satisfy pent-up demand by operating ad hoc flights to quarantine-free destinations

### Building a sustainable foundation for future growth

- Improve fuel efficiency and reduce carbon emissions by adopting Boeing's B737-8, a next-generation eco-friendly aircraft
- Promote the quality of services provided to customers by introducing non-face-to-face services and expanding digitalization, including bio self-boarding and an e-DOC system



## Cargo Business Strategies

The cargo business sector is expected to continue to show strong demand due to recovery of daily operations and increase in consumption/investment. At the same time, market volatility is also expected to continue throughout the year because of the global supply-chain crisis and unstable economic indicators, including consumer prices, oil prices, and exchange rates. Korean Air will implement the following business initiatives to preemptively respond to changes in market demand/supply and achieve sustainable growth.

\* 2022 Outlook for Major Institutions (YoY): IATA (air cargo demand +4.9%), WTO (world merchandise trade volume +4.7%)

### Contribution to stabilization of logistics with stable supply

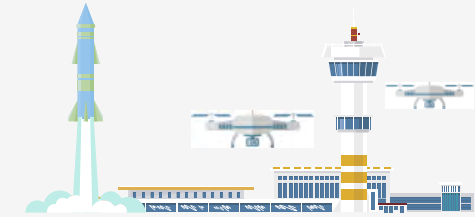
- Supply-chain issues are expected to continue throughout 2022 due to the spread of COVID-19 variants and bottlenecks at ports/airports
- Continue to expand supply by utilizing materials to the fullest and minimizing product losses in the supply chain by stabilizing operations
- Meet base demand for flights by providing stable supply and fulfilling urgent requests for transportation support for disease prevention

### Securing demand in advance and responding proactively to changing market conditions

- Increased market volatility from diverse variables including COVID-19, the supply chain issue, and instability in economic indicators
- Increase in large shipper volume and securing demand in advance through introduction of air cargo charters
- Flexible responses to changes in market demand/supply by continuing to operate cargo freighters

### Continued public-private partnerships for stronger export competitiveness

- Guarantee stable supply of domestic agricultural exports by signing a partnership with Korea Agro-Fisheries Trade Corp.
- Sign an MOU with KITA to support freight charges and supply for small and medium-sized enterprises
- Continuous efforts for public-private cooperation to promote the competitiveness of domestic small and medium-sized exporting companies and their products



## Aerospace Business Strategies

With the global economy slowly recovering from the impact of COVID-19, the aerospace industry is also expected to show a gradual recovery. To promote the aerospace business, we are actively establishing and implementing strategies for sustainable growth and responding to changes in the global business environment.

### Responding to changes in the business environment and building a foundation for reformation

- Specialize/systematize domestic and global supply chains to secure stabilization and stable production
- Restructure organization and reinforce inter-organizational communication to respond to business environment changes
- Prepare for production recovery by identifying/preventing possible quality risks at home and abroad and building a mechanism for preventive quality management

### Eliminate inefficiencies and promote competitiveness through productivity improvement

- Maximize efficiency by stabilizing the Manufacturing Execution System (MES) and strengthening convenience
- Optimize production/operation by continuing to improve working environments, routes, processes, and factors that affect safety
- Improve the system for business planning and cost-management processes to reduce planning time and enhance accuracy

### Establishment of a system that supports sustainable growth

- Focus on promoting technological capabilities and competency of human resources to win bids for/execute major projects
- Secure technological competitiveness and enhance sophistication by developing leading technologies in keeping with the market trends
- Pursue a transition into a knowledge-intensive business by developing/applying new business models and technologies



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# ISSUE REPORT

## 16 Issue 1

Progress on Acquisition of Asiana Airlines

## 18 Issue 2

Overcoming COVID-19



## ✈ Progress on Acquisition of Asiana Airlines

### Background and Purpose of Acquisition

Mergers and acquisitions have been actively taking place among global airline companies since the 2000s. Major examples of mergers and acquisitions in the United States include Delta Air Lines' acquisition of Northwest Airlines in 2008; United Airlines' acquisition of Continental Airlines in 2010; and American Airlines' acquisition of US Airways in 2013. Cases in Europe include Air France's merger with KLM in 2004; Lufthansa's acquisition of Swiss International Air Lines, Austrian Airlines, Eurowings(Germany), Air Berlin, and Brussels Airlines (Belgium) from 2007 to 2018; and British Airways' acquisition of Iberia Airlines (Spain), Vueling Airlines (Spain), and Aer Lingus (Ireland) from 2011 to 2015. Before the outbreak of the pandemic, these large-sized airline companies have recorded strong performances by realizing economies of scale through M&A activities.

On the other hand, Korea's business environment makes it difficult for large-sized airlines to realize economies of scale as the resources of the airline industry are shared between Korean Air and Asiana Airlines. Whereas a large number of countries including Germany, France, the United Kingdom, Russia, India, and Mexico have only one large-sized airline, there are two representative companies in Korea. Amidst the intense competition with global airlines, the operating profit of both Korean Air and Asiana Airlines has continued to trend downward every year since 2016, and Asiana Airlines even received a capital injection from the government in 2019 before seeking to sell the company. Accordingly, we decided to acquire Asiana Airlines in November 2020 to overcome the COVID-19 crisis, and secure enough competitiveness to stand in comparison with global players in the airline industry by establishing a sustainable business structure through expansion.

### Due Diligence and PMI Plan

Immediately after deciding on the acquisition, Korean Air set up an acquisition committee and conducted due diligence on Asiana Airlines for three months from December 2020. A Post-Merger Integration (PMI) plan was established based on these due diligence findings. Our finalized PMI plan includes integration plans for all of Asiana Airline's subsidiaries, estimation of integrated synergy and cost, and market concerns including employee retention. More specifically, the plan outlines mergers between the two large-sized airlines, Korean Air and Asiana Airlines; and with Jin Air, Air Busan, Air Seoul's acquisition of low-cost carriers; a merger between Korea Airports Corporation and Asiana Airport's ground-handling service provider; and a merger between HIST and Asiana IDT Inc.'s IT company. The integration project for combining the two major airlines is expected to take approximately two years. The extensive project will require the establishment of a system for safe flights, and integration of mileage, human resources and organizations, and IT systems. We are expecting to see the operating project improve by approximately KRW 300 billion to 400 billion annually as a synergistic effect of the merger. The unavoidable costs expected to be incurred during the integration process are estimated to be about KRW 600 billion. The plan also covers schemes for post-merger, including employee retention and plans to address market concerns over potential excessive increases in airfares.



## Review and Approval of the Business Combination

Korean Air and Asiana Airlines have to obtain approval from the competition commissions of various destination countries to proceed with the merger. Accordingly, we filed notices of the intended merger with Asiana Airlines with a total of 13 countries from January 14, 2021. The Turkish Competition Authority was the first to approve it in February 2021, a month after the filing, followed by Taiwan (May 2021), Thailand (May 2021), Malaysia (September 2021), Vietnam (November 2021), and Singapore (February 2022).

In February 2022, the Korea Fair Trade Commission (KFTC) conditionally approved the business merger, and we are currently awaiting approval from the USA, the European Union, China, Japan, the United Kingdom, and Australia. Korean Air will make every effort to successfully complete the business combination to secure the long-term structural competitiveness of Korea's aviation industry.

## Expected Outcomes of Merger

It is expected to take two years for the merger between Korean Air and Asiana Airlines to become finalized after obtaining approval and incorporating subsidiaries. During the two years of preparation, we will use the resources and supply capabilities strengthened as a result of the merger to restructure our airline network. We will offer a variety of flight options to not only our domestic passengers, but also transit passengers by reorganizing the flights operated by Korean Air and Asiana Airlines at the same time and introducing more scheduled flights instead. Consumers will gain more benefits by enjoying a wider variety of flight options, which will translate into better performance for the Korean Air-Asiana combined entity.

The combined company aims to realize structural cost-savings, in addition to an increase in revenue. We plan to reduce the cost of aircraft by replacing Asiana Airline's high-cost leased planes with low-cost planes owned by the company. In addition, Korean Air's engineers can help with the maintenance of Asiana Airline's aircraft engines, thereby reducing outsourcing costs.

Furthermore, economies of scale will be realized across all business sectors, which will promote efficiency and productivity, and reduce unit costs. The structural cost-savings will lead to more competitive airfares and higher profit margins, which will serve as a foundation for sustainable growth.

Moreover, the combined entity's stronger route network will once again solidify Incheon Airport's position as the hub of Northeast Asia. In addition, the solid growth resulting from the merger is expected to contribute to the national economy in various ways, including shared growth of related industries, creation of new jobs, increase in the influx of foreign currency, and enhanced logistics competitiveness of exporting companies. Passengers will be able to enjoy a broader range of Korean Air's global-leading services than before, and through the integration of Skypass and Asiana Club, passengers will be able to use their airline miles for more purposes. The employees of Korean Air and Asiana Airlines will endeavor to transform it into a completely new airline well-loved by all.





ISSUE 2

## ✈ Overcoming COVID-19

According to the International Air Transport Association (IATA), air passenger transport around the world in 2021 decreased by 76% compared to the same period in 2019 due to the decrease in demand for travel following the COVID-19 pandemic and entry restrictions imposed by countries. Despite the 11% decrease in global cargo supply compared to the same period in 2019 due to the real economy shrinking from COVID-19 and decrease in cargo supply using cargo belly space, the overall air cargo traffic has increased by 7% compared to 2019 due to issues such as the shipping backlogs.

Korean Air's Revenue Passenger Kilometers (RPK) for 2021 declined by 90% compared to 2019, and although travel bubbles were introduced as a result of increased vaccination rates, we continued to witness a drop in passenger demand with travel restrictions being reinforced once again due to the spread of variants. Our passenger business has continued to implement operational strategies to swiftly respond to the fast-paced market and changes in demand. At the same time, we have made every effort to strengthen service competitiveness in preparation for demand recovery.

When the global air cargo supply dropped, Korean Air seized the opportunity and expanded the number of cargo freighters used for the cargo business and removed cabin seats to fill the spaces with cargo instead. We have also contributed to overcoming the global pandemic through the transportation of COVID-19 vaccines. Despite a decrease in passenger-business revenue, Korean Air has achieved an operating profit of KRW 1.4644 trillion, the highest ever since the company was first established, by promoting the competitiveness of the cargo business and reducing operating expenses.



\* Based on separate financial statements

## Passenger Business's Efforts to Overcome COVID-19

**Phased steps to normalize supply of routes** Korean Air continued to implement flexible operation of routes based on the plan to take phased steps to increase supply of routes. In the early days of COVID-19, the airline strived to secure demand created as a result of the pandemic, including domestic flights and chartered flights to bring back Korean nationals living abroad, and immediately changed its route operation when the travel restrictions of each country changed. In addition, we have made every effort to secure seasonal/event demand during "With Corona", including demand for flights during the traditional holidays, vacation seasons for students studying in the United States, and flights for the Olympic teams and media groups. From the end of 2021, we started to increase our international flight operations, including routes to Hawaii and Guam, locations that do not require quarantine for fully vaccinated travelers.

We're expecting faster recovery in demand in the second quarter of 2022, with countries around the world easing their travel restrictions and our government also announcing that it will lift restrictions imposed on the operation of international flights. Maintaining the tone to steadily increase supply, the passenger business is pushing ahead with its plan to expand the operation of regular flights, centered on long-distance flights and flights to Southeast Asia. Our plan is to operate more than 300 international flights a week from the summer peak season, which is a 150% increase compared to the average in 2021. We are actively pursuing normalization of supply especially for flights to the Americas, which is a route that showed the fastest recovery in supply, by utilizing large aircraft such as A380 and B747-8i.

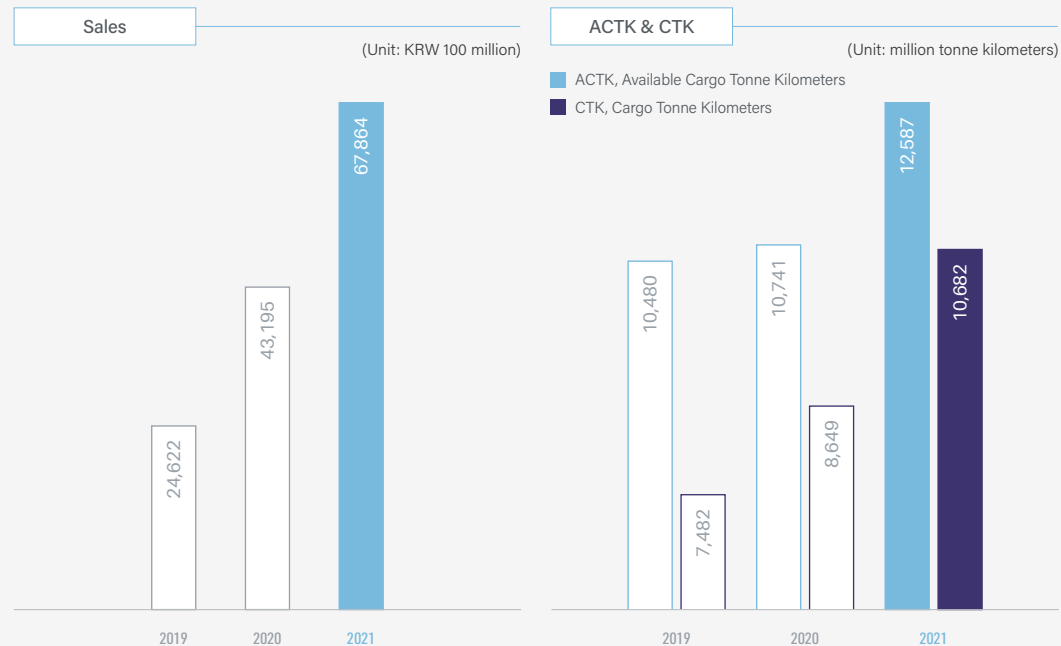
**Expansion of non-face-to-face services** Even amidst the pandemic, Korean Air has pushed ahead with efforts to improve customer services in the passenger business. In January, Korean Air became the first airline to acquire the Consumer Centered Management (CCM) certification, certified by the Korea Fair Trade Commission and operated by Korea Consumer Agency. Starting with the CCM certification, we have continued to win various awards from prestigious institutions at home and abroad for the quality of our services. By creating a better service environment including the launch of a new website for the passenger business and self-check-in service in 2021, we have built and improved the foundation for services throughout the entire process of flight reservation, ticketing, and boarding.

## Improving Competitiveness of the Cargo Business

**Increasing profitability by expanding supply** The delayed recovery of the passenger aircraft belly cargo capacity due to the spread of the COVID-19 variant and the global supply chain crisis have led to a shortage in air cargo capacity. Against this backdrop, Korean Air made every effort to achieve stable supply and operations by utilizing resources in the most efficient manner. First, our cargo aircraft utilization was improved by 7% compared to the previous year through efficient scheduled operations, and we continued to create demand and expand supply by operating more cargo freighters. In particular, our cargo freighters were operated over 10,000 times in 2021 on a cumulative basis, which comprises around 20% of our overall cargo supply. As such, our cargo freighters played a pivotal role in expanding supply. Furthermore, we have enhanced the competitiveness of our cargo freighters by adding ten new B777 aircraft, which can carry cargo in their cabins, and six fuel-efficient A330 planes whose seats can be removed to reduce basic empty weight. As a result, our Available Cargo Tonne Kilometers (ACTK) has shown a 17% increase compared to the previous year, and our stable supply operations have increased the revenue by 57% compared to the previous year despite the global supply-chain crisis.

**Transportation of COVID-19 vaccines** In addition to acquiring CEIV Pharma, an IATA international standard qualification for pharmaceutical transport, in June 2019, Korean Air established a task force dedicated to vaccine transportation in September 2020 to bolster efforts to strengthen the vaccine cold chain. We have especially put focus on strengthening the cold chain and expanding infrastructure to provide customized temperature-control services, taking into consideration that each vaccine requires different transport and storage conditions according to the vaccine manufacturer, varying from ultra-cold temperatures at -70°C, regular freezer temperature of -20°C, and fridge temperatures of 2~8°C. Gaining recognition for our global supply chain, special cargo transport capability, and expertise in pharmaceutical transportation, we have signed a business agreement with UNICEF, the UN's international relief organization, and COVAX Facility in February 2021 for global transportation of COVID-19 vaccines.

With swift, safe, and flawless cold chain services, Korean Air became the first airline in Korea to transport AstraZeneca vaccines manufactured domestically to other Asian countries including Thailand and Vietnam in February 2021. We have also safely transported the first batch of Pfizer vaccines from Amsterdam to Incheon, maintaining the temperature below -70°C. As the Korean government began to roll out COVID-19 vaccinations from the second half of 2021, Korean Air has made company-wide efforts to work closely with the government to support stable vaccine supply and transportation, including provision of flight schedules. In addition, Korean Air has supported the export of domestically produced vaccines based on our global network and expertise, and transported a total of around 100 million doses of vaccines from the Americas/Europe to Southeast Asia. As such, Korean Air, as Korea's national flag carrier, has contributed to overcoming the global pandemic by supporting the transportation of vaccines.





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# ESG PERFORMANCE

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## ESG HIGHLIGHTS

### ✈ In-flight Resource Circulation Initiative

Korean Air implements in-flight resource circulation initiatives to enhance recycling rates and reduce the amount of aircraft cabin waste in order to provide sustainable airline services that contribute to customer satisfaction and environmental protection.

#### STEP 1 REDUCE

Korean Air has made a variety of efforts to reduce the amount of cabin waste. We have changed the design of plastic cup lids and lids covering in-flight meals to reduce the amount of single-use plastics that are highly likely to go to waste. As a result, we were able to reduce our plastic usage by around 338 tons in 2021 compared to 2019. In addition, we have modified the sizing and specification of disposable hand towels placed in restrooms according to their purpose. As a result, we achieved the same effect as reducing pulp usage by approximately 104 tons per year, which is equivalent to 2,496 trees. We have no other option but to use disposable products these days as preventative measures for Covid-19, but we plan to gradually replace the items currently used inside the airplane with eco-friendly (biodegradable plastics, paper products, etc.) products in order to reduce the amount of cabin waste.

#### STEP 2 REUSE

Korean Air has reduced the use of disposable products and adopted items that can be reused to reduce the amount of waste generated. In 2021, we reduced the amount of waste generated from disposables by changing the seat headrest covers from disposable non-woven fabric to synthetic leather. We disinfect and wash the reusable covers when cleaning the interior of the aircraft. These eco-friendly headrest covers are currently only used on domestic flights and small-sized planes, but we plan to use them also for international flights after diversifying the type of materials used.

#### STEP 3 RECYCLE

Korean Air has adopted new methods to increase the recycling rate of cabin waste. We have held campaigns and training sessions to improve our cabin crew's awareness on recycling and are making efforts to recycle and separately collect each type of trash. We have also recently designed recycling bags that will be used for the separate collection of trash, which are expected to contribute to increasing the recycling rate of cabin waste.

Korean Air strives to minimize the impact that aircraft ground handling has on the environment. We have completely replaced plastic wraps used to prevent the luggage and cargo from getting damaged with eco-friendly renewable vinyl. Up to 50% of the materials used to make the renewable vinyl are reused, including waste vinyl, and while the performance is similar to that of traditional vinyl, the new renewable vinyl is expected to reduce carbon dioxide emissions by more than 50%. Accordingly, we can replace the 350 tons of vinyl used annually for operations with environmentally friendly vinyl.

#3R



**REDUCE  
REUSE  
RECYCLE**



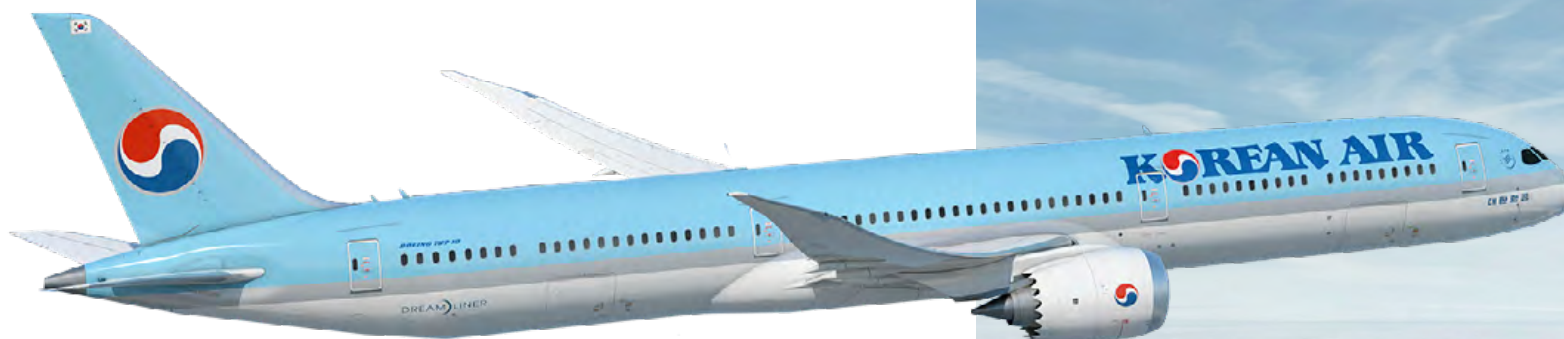
## ✈ Issuance of ESG Bonds for Acquisition of Eco-friendly Aircraft

In July 2021, Korean Air became the first airline in Korea to issue environmental, social and governance (ESG) bonds, worth KRW 350 billion. ESG bonds should be used for eco-friendly projects or to create social value. ESG bonds issued by Korean Air are green bonds, and raised funds will be used to purchase next-generation, eco-friendly Boeing 787 aircraft.

In particular, the Boeing 787-10 aircraft that we plan to introduce is highly efficient and eco-friendly. The fuel efficiency per seat of the new aircraft is 25% higher compared to similar aircraft and it emits 25% less carbon. Korea Investors Service (KIS), Korean Air's ESG bond evaluator, gave Korean Air the highest grade for the green bond due to the airline's success in reducing greenhouse gas emissions, and for its ESG initiatives.

Korean Air's issuance of ESG bonds reflects our endeavor to minimize risks associated with climate change by introducing eco-friendly materials. We will continue to make socially responsible investments to comply with ESG policies and fulfill our responsibilities as a member of society.

#FIRST





## ✈ Retired Aircraft Upcycling

In 2020, Korean Air became the first airline in Korea to upcycle the dismantled parts of the retired Boeing 777 aircraft as completely new products. Since then, in September 2021, the airline has created name tags and golf ball markers out of parts of the Boeing 747-400 aircraft, which was dubbed the “Queen of the Skies.” In particular, the Boeing 747-400 (HL7461) aircraft, whose parts have been upcycled, was the last of the Boeing 747-400 aircraft owned by Korean Air that played a vital role in our growth into a global airline. The HL7461 aircraft that was used as a charter plane for Korean nationals living abroad who were stranded due to COVID-19 in 2020, has after retirement become a new product through upcycling, offered to passengers who have had limited opportunity to spend their mileage due to travel restrictions. As a leader in the domestic aircraft upcycling sector, we will continue to strengthen our upcycling practices by using retired aircraft and other materials to realize the circulation of resources and reduce waste as part of our social contribution activities.

## ✈ Initiation of GREEN SKYPASS Project to Form an Eco-friendly Forest

Korean Air signed a business agreement with Mapo District in October to form a SKYPASS forest. Forming the SKYPASS forest is part of the “GREEN SKYPASS project,” with the direct participation of SKYPASS members to create an eco-friendly forest to prevent climate change and achieve carbon neutrality. The first SKYPASS forest will be created in a city forest located in Mapo District, Seoul.

The GREEN SKYPASS project is a participatory project under which SKYPASS members contribute to the formation of an eco-friendly forest. When members use their miles to purchase flight tickets or logo-inspired products, the amount equivalent to their purchase will be invested into the fund set up by Korean Air for building the forest. When the SKYPASS members participate in the project, KRW 2,000 is earned and for each award ticket purchased for international flights, KRW 1,000 for domestic flights, and KRW 500 for logo-inspired products are earned. The funds raised will be used to not only respond to climate change and achieve carbon neutrality, but also to provide rest areas for members and the local community.



## ✈ In-house ESG Management Idea Contest

In August 2021, Korean Air held an in-house contest to discover and share ideas on promoting ESG for sustainable growth. It was a public contest where employees could freely share ideas with each other and view others' ideas. A total of 862 employees participated in the contest to share constructive ideas. The in-house idea contest has not only promoted employees' ESG awareness, but also played a role in enhancing employee engagement and empowerment.

We have received 137 well-composed ideas in total, which shows that a large number of employees have shown interest in corporate environmental management. In terms of the theme, as many as 94 ideas on environment were submitted, followed by 32 ideas on society, and 11 on governance. The ESG Secretariat, relevant departments, and the management have selected the winning ideas from among all submissions through fair assessment, and are making every effort to materialize such ideas.

Korean Air will continue to pursue various activities to promote ESG management.

Award-winning works of the ESG management idea contest

Awards	Winning ideas
Grand Prize (1)	Implementation of an eco-friendly circulation system for plastics and packaging vinyl for cargo protection
Excellence Award (2)	Donation of travel blankets to be disposed of Introduction of Sustainable Sourcing Policy
Encouragement Award (10)	Ten ideas including installation of solar panels on the hangar roof and parking lot

#ESG





## ✈ SkyTeam 'The Sustainable Flight Challenge'

SkyTeam, a global airline alliance with members including Korean Air, has hosted "The Sustainable Flight Challenge" event to collaborate on finding ways to fly with sustainability to overcome the "climate crisis" that the aviation industry is facing. A total of 16 airlines including Korean Air have participated in the event that took place over a period of two weeks in May 2022. Participants in the challenge have operated one single flight selected by airlines and made various attempts to operate it in the most sustainable manner possible.

On May 5, 2022, Korean Air participated in "The Sustainable Flight Challenge" with the flight KE035 (Incheon-Atlanta), and came up with a number of ideas for sustainability, including selection of the optimal route that consumes as less fuel as possible, use of Electrical Ground Support Equipment (EGSE), implementation of individual recycling initiatives for aircraft cabin waste, and the usage of eco-friendly cargo packaging vinyl. The 240 passengers boarding the flight have empathized with the aviation industry's endeavors to promote a sustainable future and actively joined Korean Air's efforts to protect the environment, by taking part in separate collection of cabin waste.

Based on the experience gained from this challenge, Korean Air and SkyTeam will continue to share know-how for sustainable flights with SkyTeam members and collaborate to carry out many more activities in the future.



#CHALLENGE





# ENVIRONMENTAL

27

Response to Climate Change

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Green Management



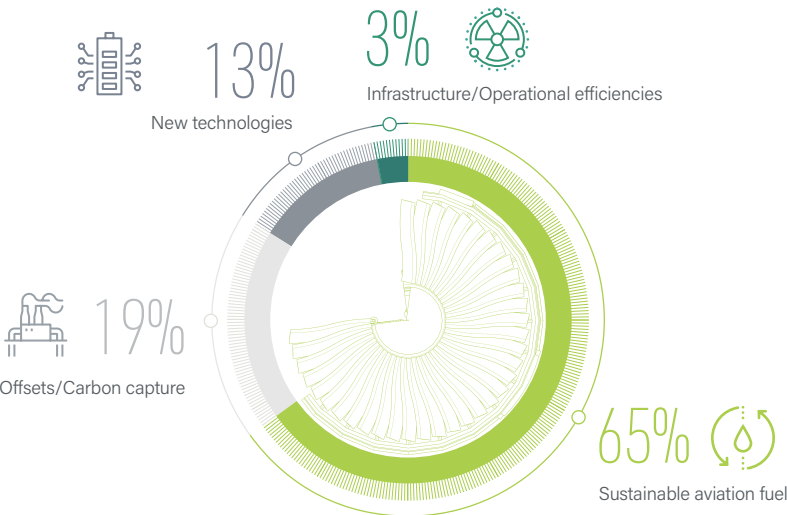
# ✈️ Response to Climate Change

## Objectives of Response to Climate Change

At the Annual General Meeting of IATA, the 'United Nations of the aviation industry,' held in October 2021, major airlines around the world including Korean Air approved a resolution for the global air transport industry to achieve net-zero carbon emissions by 2050. According to IATA, a cumulative total of 21.2 Gt of carbon should be reduced by 2050 to achieve carbon neutrality. Strategies to reduce carbon emissions include using sustainable aviation fuel, developing new aviation technology such as hydrogen, and using carbon capture/storage technologies.

As a global airline leading the industry, Korean Air not only implements diverse strategies to achieve carbon emissions reduction in support of the aviation industry's response to climate change, but also collaborates with various stakeholders including the government, oil companies, and aircraft manufacturers to actively develop and use means to reduce emissions in the future.

### Contribution to achieving Net Zero Carbon by 2050



\* Source: IATA

### BUSINESS ENVIRONMENT

In 2021, the 26th UN Climate Change Conference of the Parties (COP26) adopted the Glasgow Climate Pact, and the participating governments and private sectors delivered their commitments on reduction of greenhouse gas emissions and investments in decarbonization, emphasizing the need for international efforts to combat climate change. In line with the global community's joint efforts, Korea has introduced a plan to achieve "carbon neutrality by 2050" and to "cut its greenhouse gas emissions by 40% below 2018 levels by 2030."

The aviation industry, which is responsible for approximately 3% of the world's carbon emissions, has also emphasized the need for joint efforts to respond to climate change, despite the unprecedented disruption caused by COVID-19. IATA member airlines agreed to commit to carbon neutrality by 2050 at the IATA Annual General Meeting held in October 2021.

### MANAGEMENT APPROACH

Since Korean Air obtained ISO14001 (Environmental Management System) certification in 1996, the airline has implemented an environmental management system compliant with international standards across all areas of business, including transportation, aircraft maintenance, and aerospace. In addition, an ESG committee within the Board of Directors has been established to resolve environmental issues including climate change. With regard to climate change in particular, Korean Air has defined achieving net-zero carbon emissions by 2050, a target announced by IATA, as the airline's key objective and is making various efforts to minimize the risk of climate change by taking preemptive measures. As a short term measure, we aim to reduce emissions by introducing eco-friendly aircraft and improving fuel efficiency, and in the mid-to long-term, we are making preparations to realize an energy transition by purchasing sustainable aviation fuel and hydrogen, or electrically powered aircraft.

### PERFORMANCE IN 2021

Indicator	2019	2020	2021
Fuel efficiency of international flights (L/100 RTK) <sup>1)</sup>	32.13	29.53	27.41

<sup>1)</sup> Fuel efficiency = Fuel consumption(volume)/Transportation (100RTK), smaller value is more efficient  
RTK (Revenue Ton Kilometer): Transportation of one ton of passengers/cargo for one km, a unit that indicates business volume



## Governance on Response to Climate Change

### The role of the Board of Directors on climate change risks and opportunities

The ESG committee established within the Board of Directors of Korean Air consists of four independent directors with expertise, who review ESG strategies and policies, manage the ESG implementation status, and give advice on and make decisions for agendas that have a significant impact on shareholder value. In particular, response to climate change is one of the main tasks emphasized by the ESG committee. Every quarter, the ESG committee reviews climate change issues in depth and recommends the future direction for the company as well as mid- to long-term strategies to combat climate change.

### Assessment and management system of climate change risks & opportunities

The analysis and evaluation on factors associated with Korean Air's climate change risk and opportunity are systematically conducted by the C-Level executives and the environmental management organization. The Environment Team is responsible for analyzing company-wide responses to resolve climate change and comprehensive risk assessment. We have also appointed an executive-level manager and established an organization responsible for environmental management in the transportation, aircraft maintenance, and aerospace business areas. The dedicated team from each business area analyzes major business performances and risks related to climate change, and submits reports on them to the Management Team. The executive in charge of the Environment Team evaluates major issues, and then submits reports on them to the C-Level executives at least once per year. In addition, major issues identified by the environmental management organizations are reported to the Board of Directors and the ESG committee for review and advice.

## Efforts to Reduce Greenhouse Gas Emissions

### Sustainable aviation fuel

Sustainable Aviation Fuel (SAF) is an alternative fuel made from sustainable raw materials, including used cooking oil, agricultural byproducts, and waste. SAF can be used together with conventional jet fuel and can reduce emissions by up to 80% compared to fossil fuel derived aviation fuel. SAF is one of the main methods the aviation industry can use to reduce carbon emissions, and according to IATA, SAF could contribute around 65% of the reduction in emissions needed by the aviation industry to achieve carbon neutrality by 2050.

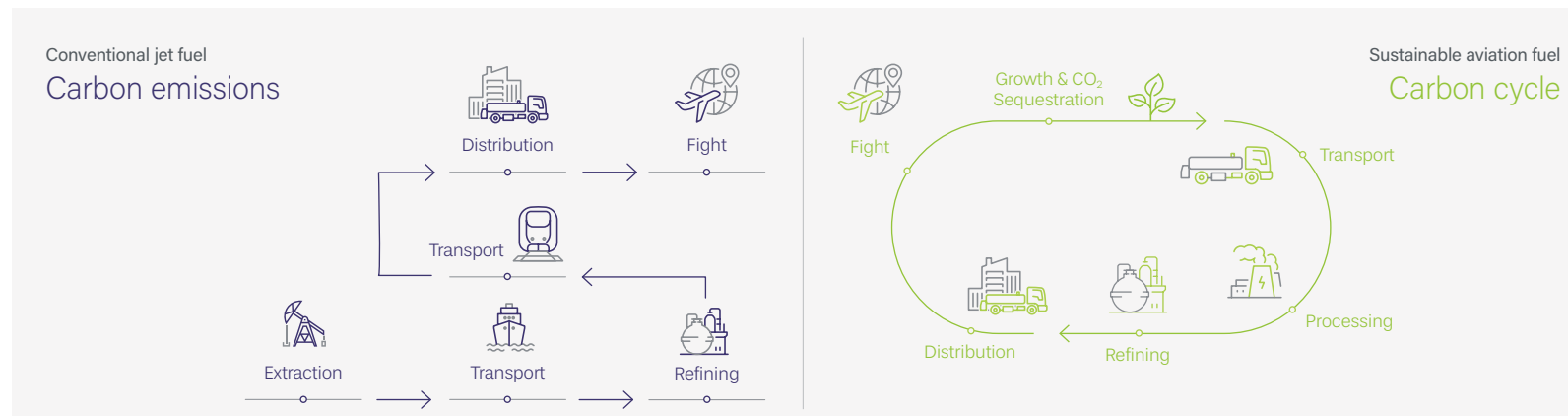
Although SAF currently comprises only 0.1% of the overall aviation fuel usage due to shortages in production facilities and supply chain, European countries and the United States have recently begun to implement policies and provide investment support to expand the use of sustainable aviation fuel.

SAF is typically three to five times more expensive than conventional jet fuel with limited production. Therefore, institutional incentives and infrastructure for production and refueling are required, but compared to Europe and the United States, Korea is not yet sufficiently prepared.



Korean Air and Hyundai Oilbank Sign an MOU for Bio Aviation Fuel Development

### Carbon Reduction Principle of SAF



To resolve the shortcomings and expand the use of SAF in the aviation industry, Korean Air signed a Memorandum of Understanding (MOU) with Hyundai Oilbank, a leading petroleum and refinery company in Korea, regarding the manufacturing and usage of SAF in June last year. The two companies agreed to actively cooperate to develop a foundation for domestic production and use, and to conduct market research and R&D activities. Furthermore, Korean Air has partnered with SK Energy to promote consumer awareness of eco-friendly flights. Through the partnership, the airline has operated domestic flights departing from Jeju and Cheongju using carbon-neutral jet fuel for a month. The carbon-neutral jet fuel is achieved through the purchase of carbon credits, which offset the total amount of greenhouse gases emitted through the use of conventional jet fuel.

Meanwhile, Korean Air is actively reviewing the possibility of using SAF for flights departing from airports in international locations, where the supply is stable. We have used SAF on the route between Paris and Incheon since February this year for the first time in Korea. Korean Air is actively working with various stakeholders, including the government, oil refineries, and the airport to establish a foundation for the introduction of SAF in Korea, and will expand the use of SAF by participating in multilateral efforts to introduce SAF both in Korea and abroad.

#### Greenhouse Gas Emissions and Efficiency

Greenhouse gas emissions over the past three years (Unit: tonCO <sub>2</sub> )			
Scope	2019	2020	2021
Scope 1 (Direct emissions)	13,335,813	7,626,574	7,503,920
Use of jet fuel on international and domestic flights	13,291,765	7,598,830	7,482,666
Use of fuel for ground operations	44,048	27,744	21,254
Scope 2 (Indirect emissions)	65,331	48,655	41,398
Use of external energy sources including electricity, medium temperature and hot water, etc.	65,331	48,655	41,398
Scope 3 (Indirect emissions generated throughout the value chain) <sup>1)</sup>	2,844,292	1,623,328	1,700,334
Production and transportation of jet fuel <sup>2)</sup>	2,825,946	1,623,328	1,700,334
Construction and transportation of aircraft <sup>3)</sup>	18,346	-	-
Total (Scope 1+2)	13,401,144	7,675,229	7,545,318
Total (Scope 1+2+3)	16,245,436	9,298,557	9,245,652

<sup>1)</sup> Scope 3 emissions refer to carbon emissions generated externally throughout the company's value chain, and are not directly regulated, unlike Scope 1 and 2 emissions.

<sup>2)</sup> ICAO standard (Jet fuel Well-to-Tank) 0.68kgCO<sub>2</sub>/kg is applied to carbon emissions related to the production and transport of jet fuel.

<sup>3)</sup> Data provided by the aircraft manufacturer are used for the carbon emissions generated related to aircraft construction and transportation.

#### Eco-friendly aircraft

The introduction of high-efficiency aircraft is the most effective way of reducing greenhouse gas emissions and improving fuel efficiency in the aviation sector. Korean Air maintains an average fleet age of 11.3 years, the lowest among domestic Full Service Carriers (FSCs), through the company's strategy to actively introduce new high-efficiency aircraft. The newly introduced A220-300, B787-9, and B737-8 aircraft are high-efficiency models that reduce carbon emissions per seat by 20~25% compared to the existing models with similar capacity. In particular, the A220-300 and B787-9 aircraft, Korean Air's leading models, are operated for short domestic routes and long-distance international routes respectively and are leading the way in low-carbon flying.

Furthermore in July, last year, Korean Air became the first airline in Korea to issue ESG bonds worth KRW 350 billion to introduce high-efficiency B787-10 aircraft and received the highest rating for the green bond. As such, through active plans to introduce high-efficiency aircraft, Korean Air is preparing for the transition into a low carbon society.

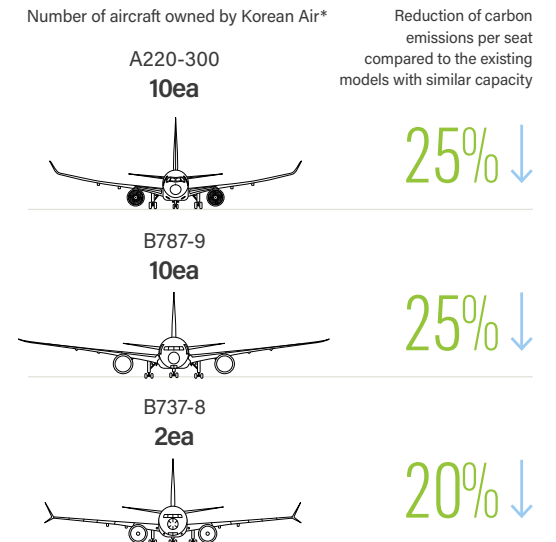
#### Aircraft greenhouse gas emissions over the past three years

Scope	2019	2020	2021
Greenhouse gas emissions from international and domestic flights (tonCO <sub>2</sub> )	13,291,765	7,598,830	7,482,666
Volume carried: Available Ton Kilometer (1 million km) <sup>1)</sup>	19,580	13,879	14,703
Revenue passenger and cargo: Revenue Ton Kilometer (1 million km) <sup>2)</sup>	14,977	10,366	11,459
Greenhouse gas emissions per supply (kgCO <sub>2</sub> /100ATK)	67.88	54.75	50.89
Greenhouse gas emissions per revenue passenger and cargo (kgCO <sub>2</sub> /100RTK)	88.75	73.31	65.29

<sup>1)</sup> ATK (Available Ton Kilometers): ATK is a unit of measure which refers to a metric ton of passengers and cargo capacity provided for one kilometer. It is a way of measuring the airline's transportation capacity.

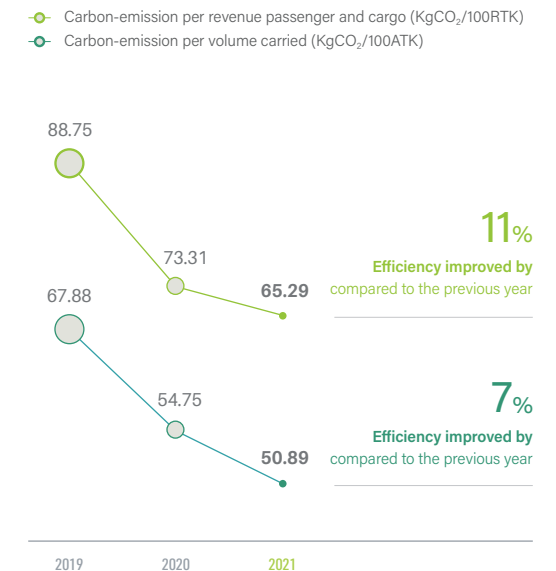
<sup>2)</sup> RTK (Revenue Ton Kilometers): RTK is a unit of measure which refers to a metric ton of revenue passenger and cargo carried one kilometer. It is a way of measuring the business volume.

#### Carbon reduction effects by new aircraft types



\* As of March 31, 2022

#### Trend of greenhouse gas emissions per unit



### Improvement of flight efficiency

Recognizing improvement of flight efficiency as a major task, Korean Air is striving to put in place concrete and practical improvement plans. Korean Air continues to discover and work on tasks related to improving fuel efficiency in areas including operation of flights, maintenance, operation of airports, and flight plans. Through technology transfer, we also greatly contribute to emissions reduction in the aviation industry as a whole, including the airlines in Korea. Korean Air is carrying out approximately 70 tasks to improve fuel efficiency, and in 2021, we were able to reduce carbon emissions by approximately 275,200 tons through these efforts in spite of the reduction in flights due to COVID-19.

In addition, Korean Air plans to introduce an AI/Machine-Learning based fuel management system by the second half of 2022 to build the infrastructure necessary for flexibly responding to changes in the environment, as well as systematically improving the current fuel management system, and identifying potential inefficiencies.

Going forward, Korean Air will continue to strive to take active steps to improve efficiency of flights, and promote its ability to reduce carbon emissions in the aviation industry through collaboration with stakeholders including airports, and ground handling service providers.

#### Example of Flight Efficiency Improvement

## ENGINE WATER WASH

Engine Water Wash is one example that shows what Korean Air is doing to improve efficiency of its flights.

Engine Water Wash is a technology that removes foreign substances from the jet engine combustion chamber and compressor, thereby improving the flow of air within the engine to enhance combustion efficiency. It is especially effective when fine particulate matter concentrations are high. Generally, aircraft engines are washed by spraying water at a certain pressure using a water tank truck, and certified wax is used during the winter season to prevent the engines from getting frozen. Taking into account that the effect of engine wash and



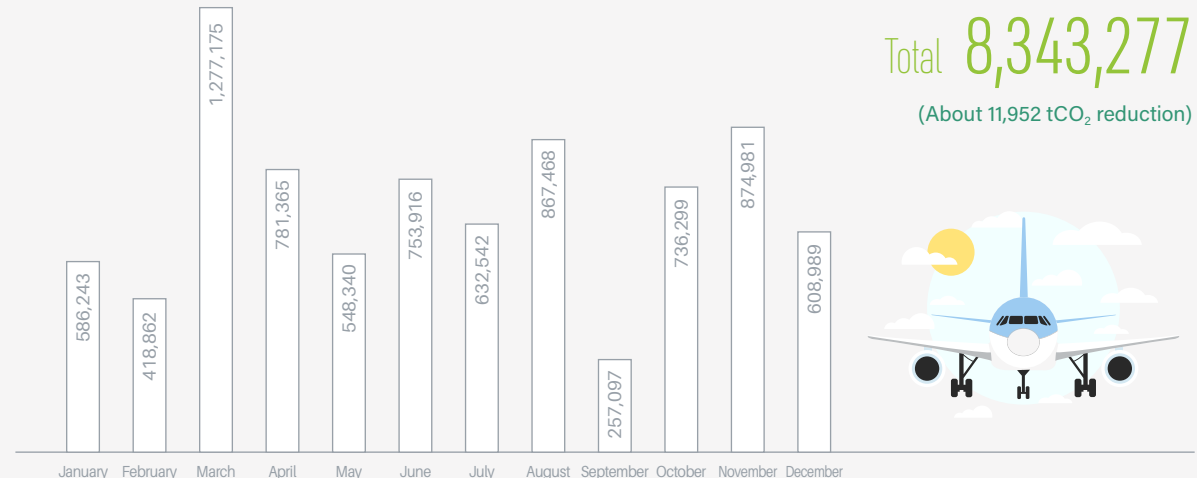
Engine Water Wash

duration may differ according to how long the flights were operated and aircraft model/engine type, Korean Air secures optimal engine efficiency by reviewing and applying the optimal wash frequency per engine type.

In 2021, Korea Air achieved around 8.34 million pounds (around 11,952 tons of carbon reduction) of flight efficiency improvement through Engine Water Wash, even despite the decrease in flight operations due to COVID-19.

#### Engine Water Wash Fuel Savings Effect Per Month in 2021

(Unit: Fuel measured pound)





## Developing Eco-Friendly Aviation Technology

Korean Air is equipped with high competitiveness in aviation technology, including aircraft maintenance. Against this backdrop, we are striving to further develop future eco-friendly aviation technology, a major future growth engine.

**Manufacturing Eco-Friendly Aircraft Parts** Korean Air Aerospace Division, as an aircraft parts manufacturer, is taking part in low-carbon aviation technology research, as well as designing and manufacturing various eco-friendly aircraft parts. We are, for instance, a manufacturer of A320/A330 NEO Sharklet, B787 Raked Wingtip, and B737 MAX Winglet, wing components that reduce drag at the tip of the wing, and in turn improve fuel efficiency. These components are currently being supplied to Airbus and Boeing.

Since 2019, we have promoted a joint development project on the next-generation winglet structure, made of composite material, titled "Wing of Tomorrow" with Airbus. In 2021, we completed the development and making of the process technology and jigs used in the manufacturing process, and in 2022, we are planning to provide initial supply.

**Urban Air Mobility R&D** Recently, UAM (Urban Air Mobility) has been gaining popularity as a next-generation transportation system capable of tackling environmental pollution. UAM, as an eco-friendly aviation technology, feeds on electricity, not fossil fuel, which mitigates carbon emissions and noise pollution. Korean Air is strengthening technological cooperation with government organizations, corporations, and laboratories so as to establish a stable UAM ecosystem, while actively working to set up and stabilize relevant infrastructures and operational control systems.

From June 2020, we have been participating as an initial member of "UAM Team Korea," an industrial-academia cooperation project. In order to facilitate the success of domestic UAM, Hyundai Motor Company, Hyundai Engineering & Construction Company, Incheon International Airport Corporation and KT Corporation came together to form a five-organization consortium.

Korean Air aims to converge its experience in air transportation and the technology used in the development and maintenance of manned and unmanned aircraft, in order to develop a business model adequate for our domestic business environment and accordingly provide an integrated service.

**Cooperation on introducing hydrogen fuel** Ahead of introducing hydrogen-powered aircraft, we have signed a "Memorandum of Understanding To Develop Hydrogen Supply and Infrastructure for Airports and Aviation in South Korea" with Incheon International Airport, Airbus Korea, and Air Liquide Korea. This MOU is in line with Airbus' ambition to commercialize hydrogen-powered aircraft by the year 2035, and in this respect, Korean Air aims to propose a roadmap to ramp up hydrogen supply in various sectors including airport service, maintenance, and operation.

We are preemptively investing in eco-friendly future aviation technology to gain competitiveness in the transition to a low-carbon society.

## Efforts made by the cargo business sector to cut carbon emissions

**Using eco-friendly vinyl for cargo packaging** In order to minimize greenhouse gas emissions, we have been using vinyl with a 50% mix of renewable materials such as vinyl waste, and plastic containers. Renewable vinyl, when compared to the original cargo packing material, is similar in thickness, sealing, and solidity. Thus, renewable vinyl enables safe cargo transportation, as well as reduction in plastic consumption and carbon emissions.

**Reducing the weight of cargo containers** Since December 2020, Korean Air is working to reduce the weight of some cargo containers. This reduction in cargo container weights enables an overall decrease in the total weight of the load added to the aircraft, and thus leads to saved gas bills and carbon emission cuts. As of 2021, by shifting to light-weight containers, we were able to achieve a 5,000-ton reduction in total load weight, which in turn led to more than 500 tons of carbon emission cuts.



Production of A320 Sharklet



MOU signing ceremony on K-UAM



MOU signing ceremony on Development of Hydrogen Supply and Infrastructure for Airports and Aviation in South Korea

## Responding to Carbon Regulations

As market-based carbon regulations tighten, the importance of carbon cost management is increasing. Particularly, airlines operating international flights are subject to overseas carbon regulations and therefore need more systematic management. To this end, Korean Air is tightly monitoring carbon emissions from aircraft operations and ground operations. Moreover, to enhance data integrity, we are having our data inspected and verified by an independent third party every year, and everything is disclosed to external organizations. We are also managing risks related to carbon credit costs by reflecting them in our internal accounting management system.

### ICAO CORSIA

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the first global carbon regulation implemented in the aviation industry, has been in effect since 2019 and mandates airlines to purchase carbon credits to offset their excess carbon emissions compared to the base year. Due to the COVID-19 pandemic, there has been a sharp decrease in the overall number of international flights, and airlines are thus currently not under such obligation. However, as demand for international flights picks up, and the base year is adjusted by ICAO, the CORSIA offset obligation will likely be reintroduced. To fulfill this mandate, Korean Air has been reporting carbon emissions caused by international flights to ICAO and the Ministry of Land, Infrastructure and Transport every year.

### EU-ETS and UK-ETS

Since 2012, Korean Air has been under the influence of the EU-Emissions Trading System (EU-ETS), and accordingly we have been fulfilling our obligation to annually report on and settle carbon emissions for flights within the EU. Since 2020, flights operating between Switzerland and the EU countries have also been managed, along with the implementation of the Swiss-ETS in connection with the EU-ETS. Meanwhile, along with the UK's withdrawal from the EU, the UK-ETS which exclusively manages UK flights, has been newly introduced.

The UK-ETS is applied to the UK's domestic flights, flights from the UK to EEA (European Economic Area) countries, and some of Korean Air's cargo flights from the UK. As the UK-ETS is separately managed from the EU-ETS, Korean Air is doing its due diligence to comply with relevant regulations by reporting on and settling carbon emissions in the UK.

### Korea-ETS

The Korea-ETS has been implemented since 2015, and is currently applied to approximately 630 domestic companies. Carbon emissions coming from our domestic flights and ground facilities are managed under the Korea-ETS, and are being reported on and settled annually. Particularly, in the third period of the domestic emissions trading scheme, the proportion of priced allocation has been expanded, and as the price of carbon credits is expected to rise, carbon emission management is becoming ever more important. To cut aircraft emissions, which account for more than 80% of the total amount of emissions subject to regulation, Korean Air has actively introduced high-efficiency aircraft such as Airbus A220-300. We are also actively adopting diverse carbon reduction measures, such as renewable fuels that could go carbon-neutral by being offset with carbon credits.

#### Carbon regulations implemented by Korean Air

##### ICAO CORSIA

- Regulation Type: Carbon offset policy
- Jurisdiction: UN ICAO
- Emissions subject to report: International flights
- 2021 emissions: 7,157,088 tCO<sub>2</sub>

##### UK-ETS

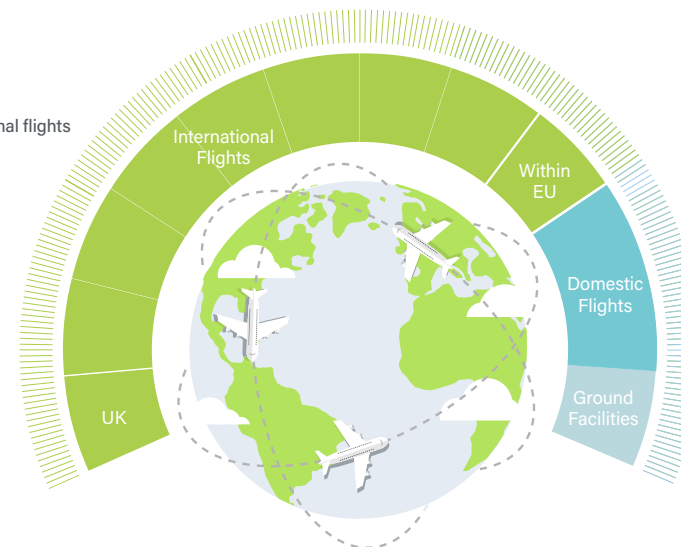
- Regulation Type: Carbon credit quota
- Jurisdiction: Environment Agency
- Emissions subject to report: Flights from the UK to EEA countries
- 2021 emissions: 2,453 tCO<sub>2</sub>

##### EU-ETS

- Regulation Type: Carbon credit quota
- Jurisdiction: European Union
- Emissions subject to report: Flights within EU
- 2021 emissions: 37,670 tCO<sub>2</sub>

##### Korea-ETS

- Regulation Type: Carbon credit quota
- Jurisdiction: Ministry of Environment
- Emissions subject to report: Domestic flights and ground facilities
- 2021 emissions: 388,230 tCO<sub>2</sub>eq



## Risks and Opportunities Related to Climate Change

The short-term/mid-term/long-term risk and opportunity factors that climate change could cause to the company's air transportation and aerospace business are classified as below:

Impact Period

Short-Term

Within 3 years

Issues that may have an immediate impact on the company, such as environmental accidents

Mid-Term

3~10 years

Issues that may have an impact on the company within a few years, such as regulations and media exposure

Long-Term

10 years ~

Issues that may have long-term impact on the company, such as energy transition and extreme weather

Major climate-change issues

Transition risks/opportunities

● Risk factors

● Opportunities factors

Division	Details	Estimated impacts and ways to respond	Impact period
<div>● Carbon Regulation</div>	<ul style="list-style-type: none"> <li>Tightened carbon regulations and increased price of carbon credits, leading to increased cost of purchasing carbon credits</li> <li>Korean Air is currently applying Korea-ETS, ICAO CORSIA, EU-ETS, etc.</li> </ul> <p>* For details, refer to page 32 of the report, Responding to Carbon Regulations</p>	<ul style="list-style-type: none"> <li>During the settlement of carbon credits in the first stage of Korea-ETS ('15~'17), we purchased about KRW 6 billion worth of carbon credits, and afterwards, due to the introduction of high-efficiency aircraft and energy facilities, we have minimized the purchase of carbon credits.</li> <li>ICAO CORSIA: Due to the Covid-19 pandemic, emissions coming from international flights have been sharply reduced and therefore no costs are incurred. However, as demand picks up, it is expected that costs will be incurred.</li> <li>Minimizing the purchasing costs of carbon credits by aggressively cutting carbon emissions.</li> </ul>	Short-term, mid-term
<div>● Energy transition</div>	<ul style="list-style-type: none"> <li>As climate policies in Europe tighten, some Europe countries are applying ReFuelEU Aviation</li> <li>Widespread use of SAF, a major means to cut carbon emissions</li> </ul>	<ul style="list-style-type: none"> <li>Operation costs will increase if ReFuelEU Aviation is introduced, for the cost of SAF is higher compared to the original jet fuel.</li> <li>Cutting carbon credit costs by achieving carbon emission cuts through SAF</li> </ul>	Short-term, mid-term
<div>● Consumer behavior</div>	<ul style="list-style-type: none"> <li>Consumers' preference for green consumption expands, and how companies respond to climate change impacts consumer choice.</li> <li>Compared to other transportation methods, aircraft emit more carbon. In some regions including European countries, boycott campaigns such as "Flight Shame" have emerged.</li> </ul>	<ul style="list-style-type: none"> <li>Demand for eco-friendly consumption is expected to increase with a recovery in flight demand after the pandemic.</li> <li>An expanded communication channel for designing responses to green consumer demands</li> </ul>	Mid-term
<div>● Eco-friendly technologies</div>	<ul style="list-style-type: none"> <li>It is difficult for the aerospace industry to go carbon-free. Most of the carbon reduction in the industry is due to the introduction of new green technologies.</li> <li>Green technologies in the aerospace industry, including high-efficiency aircraft, hydrogen/electricity aircraft, and carbon capturing technology, require a long development period and high investment costs.</li> </ul>	<ul style="list-style-type: none"> <li>Utilizing Korean Air's capacities to develop and manufacture parts and conduct research on aviation technology, as a future growth engine.</li> <li>More opportunities to finance the introduction of eco-friendly aircraft and technological development, in accordance with an expansion of domestic green financing policies.</li> </ul>	Long-term
<div>● External evaluation</div>	<ul style="list-style-type: none"> <li>More emphasis put on ESG management and impact on ESG evaluation of a company and investor decisions</li> </ul>	<ul style="list-style-type: none"> <li>Systematic environmental management system and transparent disclosure of climate change-related information</li> <li>For two consecutive years, we have acquired an 'A' level in KCGS's ESG assessment.</li> </ul>	Short-term

Physical risks

Division	Details	Estimated impacts and ways to respond	Impact period
<div>● Natural disasters such as typhoons</div>	<ul style="list-style-type: none"> <li>An increase in natural disasters such as typhoons and heavy snow impacts on flight operation.</li> <li>In 2021, about 90% of the canceled flights to and from Gimpo Airport were due to extreme weather events. This is a 1.5 rise compared to 5 years ago.</li> </ul>	<ul style="list-style-type: none"> <li>Canceled and delayed flights due to extreme weather have direct impacts on an airline's revenue.</li> <li>Recruiting talents with expertise in aeronautical meteorology to collect and analyze data on unusual flights, thereby making optimal flight decisions</li> </ul>	Short-term, mid-term
<div>● Extreme weather such as temperature rise</div>	<ul style="list-style-type: none"> <li>Change in air density due to temperature rise also impacts aircraft operation performance.</li> </ul>	<ul style="list-style-type: none"> <li>Changes in air density due to temperature rise influences weight limits for takeoff, which leads to more operation costs for the company.</li> <li>Managing risks by collecting and analyzing relevant data on operation.</li> </ul>	Long-term



### Managing Climate Change Related Risks

The Environmental Management System (EMS) team, in charge of general headquarters, aircraft maintenance, and aerospace business sectors, regularly detects and identifies climate change-related risks in the entire company. Afterwards, the EMS team and the ESG secretariat jointly conduct a comprehensive analysis and assessment of the identified risks. The EMS team consists of environmental experts, capable of carrying out in-depth assessments, and the ESG secretariat consists of experts in environment, society, finance, and management.

These in-house experts are responsible for reviewing ESG risk factors from multiple perspectives, and reporting their reviews to the ESG Committee. Risks that could impact the company's finance and business strategy are discussed within the ESG Committee, which is entirely composed of independent directors under the BOD. The ESG Committee carries out its main role of making decisions and establishing strategies on evaluating and managing climate change-related risks.

### Korean Air's Resilience According to the Climate Change Scenario

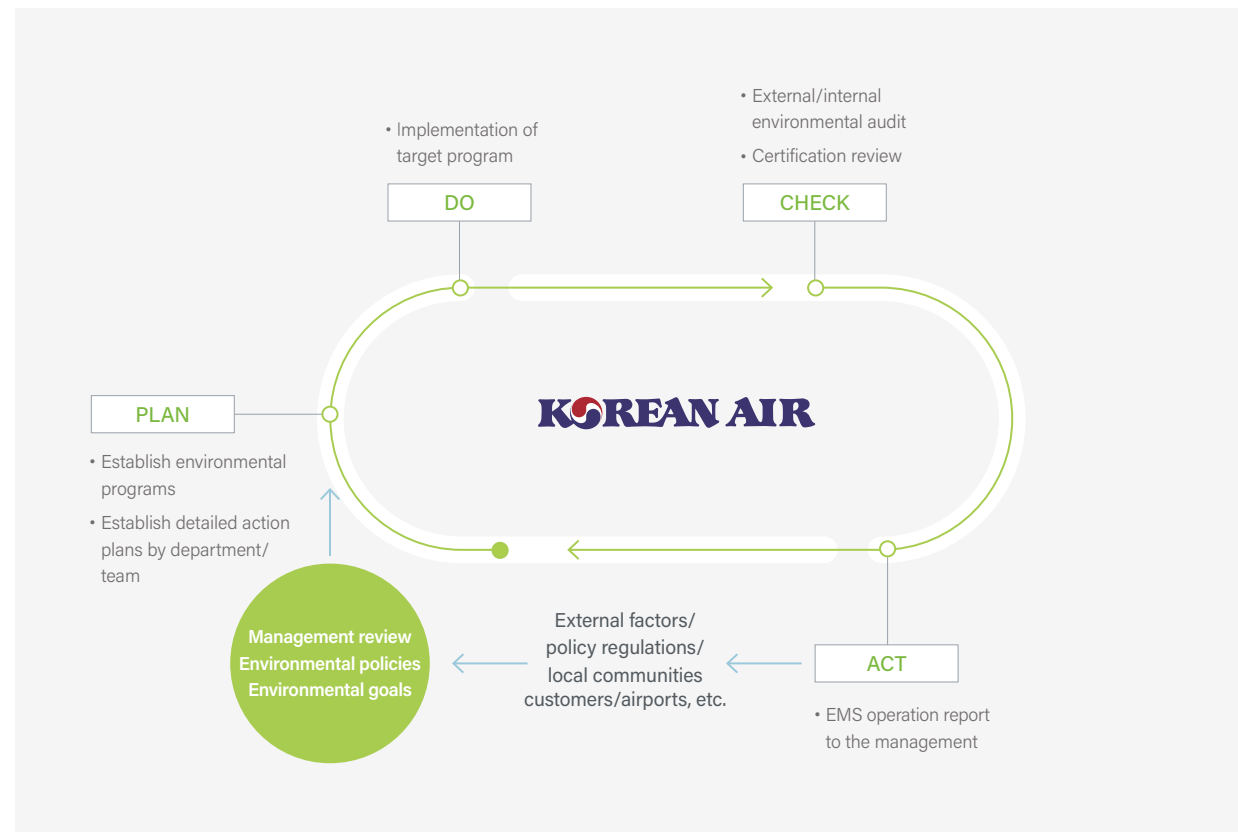
Korean Air is subject to an array of carbon regulations at home and abroad and thus applies diverse carbon-cost forecasting scenarios according to the types of carbon credits and market trends of each carbon mechanism. For instance, when it comes to the Carbon Offsetting and Reduction Scheme for International Aviation System (CORSIA), the International Energy Agency (IEA) standard emission price is used to predict the cost of offset emissions quota for up to 2035. Meanwhile, the cost of carbon credits in the domestic market is determined by trading costs and regulatory trends. This internal prediction mechanism functions as a basis for decision making and financial management. In the future we plan to apply a 1.5°C climate change scenario and draw out more sophisticated financial analyses.

## ✈ Green Management

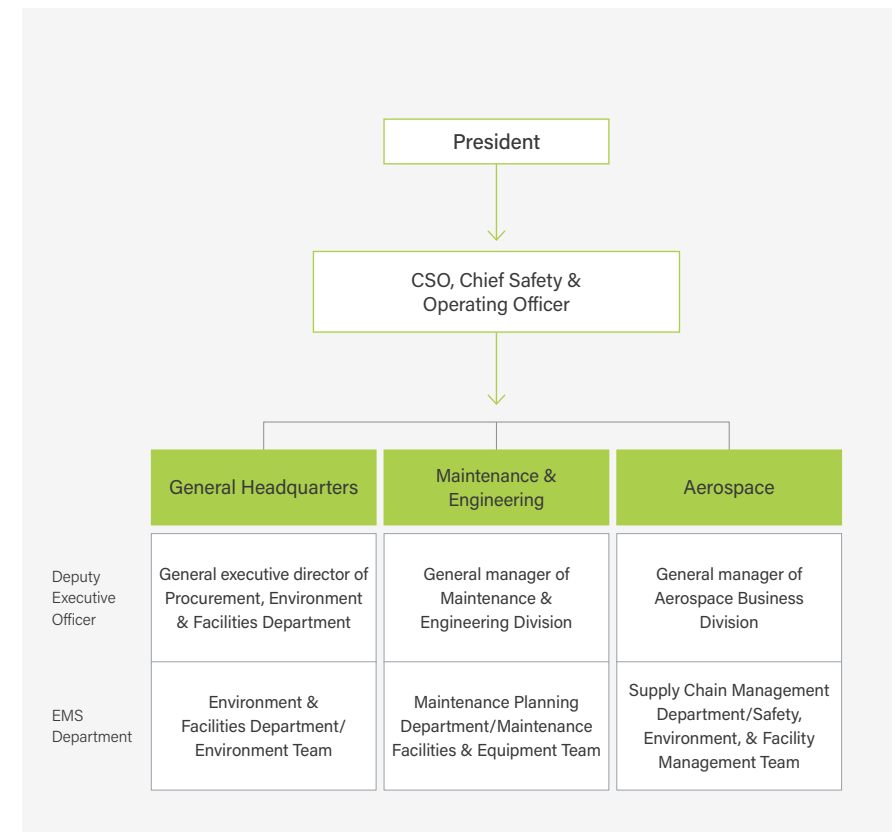
### Environmental Management System

After Korean Air acquired ISO14001 (Environmental Management System) certification in 1996, a new environmental management system fit to international standards was introduced. This system enables the entire company to carry out green management in each business sector. Moreover, we are operating an effective PDCA Cycle in order to minimize the environmental implications incurred from diverse business activities.

Korean Air PDCA Cycle



Environmental Management Organization



## Setting and Carrying Out Environmental Goals

In the year 2021, Korean Air established and implemented 54 green management goals in its general headquarters, aircraft maintenance, and aerospace business sectors. The 54 goals are composed of 21 quantitative goals (including stabilization of pollutant emissions, greenhouse gas, wastes, and resource saving) and 33 qualitative goals (including emergent response to environmental changes, and law compliance).

## Inspection and Assessment System

In order to review and evaluate ISO14001 along with the internal environmental management system, we have organized a pool of capable talents with rich experience. Through more than one regular and random check-ups, we inspect the overall condition of the environmental management system, and if any problem is detected, we go through a process of "correcting the problem and establishing preventive measures" in order to improve the environment.

## Strengthening Employees' Environmental Capacities

Based on the environmental training system at the enterprise level, Korean Air provides diverse sessions on basic training, job-specific training, and on-the-job training. Due to the COVID-19 pandemic, the training hours in 2020 remained at only 70% of the training hours in 2019, but we have been actively utilizing "Non-Contact" online education programs, aiming to reduce the training hours.

### 2021 Strategies and Objectives for Environmental Management

Compliance with preventive environmental regulations and active responses to environmental policies.

Active responses to environmental policies

Strengthened environmental communication

Strengthened operation and management of environmental facilities

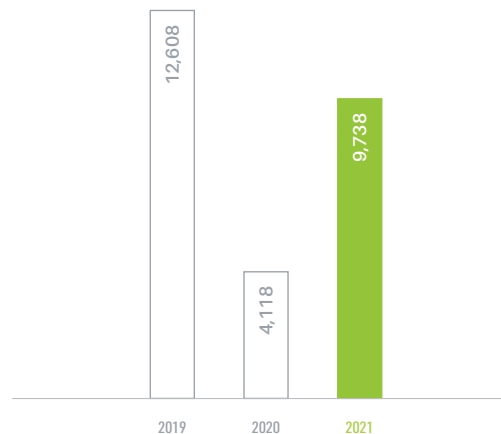
### 2021 Environmental Training Performance

(Unit: Man-hours)

Division	Basic training	On-the-job training	Total
General Headquarters	1,916	14	1,930
Maintenance	-	816	816
Aerospace	-	6,992	6,992
Total	1,916	7,822	9,738

### Environmental Training Status

(Unit: Man-hours)

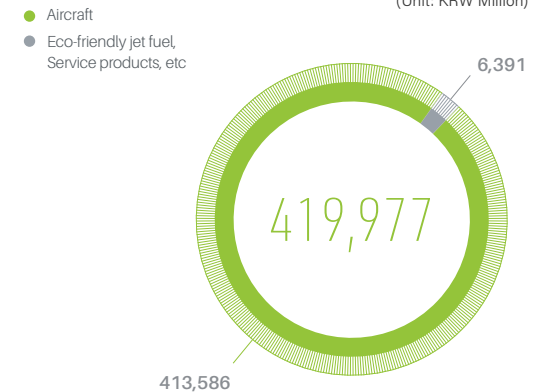


## Green Procurement

Korean Air promotes green procurement, and accordingly has established in-house guidelines for green procurement and is complying with this. Purchasing high-efficiency aircraft and engines, reducing the weight of aircraft loads, and purchasing certified eco-friendly goods are just some examples of our efforts in this regard. In order to reduce our carbon footprints during the flight, paper straws, paper coffee sticks, and FSC(Forest Stewardship Council)-certified paper cups began to be used during in-flight services, and eco-friendly vinyl began to be used for cargo packaging. In September 2021, flights taking off from Jeju and Cheongju were supplied with carbon-neutral jet fuel, which was an attempt to minimize environmental implications. Korean Air, as a sound corporate customer, will continue to actively take part in green procurement, in order to lead the spread of sustainable consumer culture.

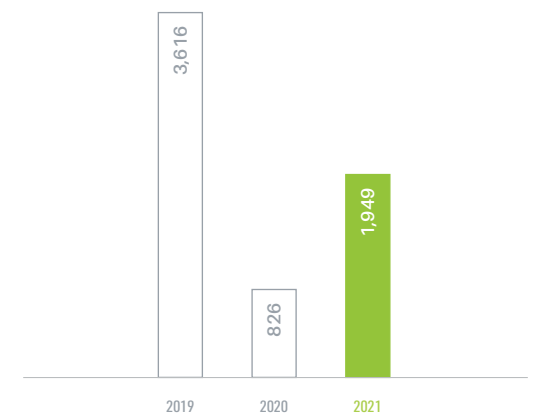
### Green Procurement Performance (2019~2021)

(Unit: KRW Million)



### Other Green Procurement Performance (excluding aircraft)

(Unit: KRW Million)

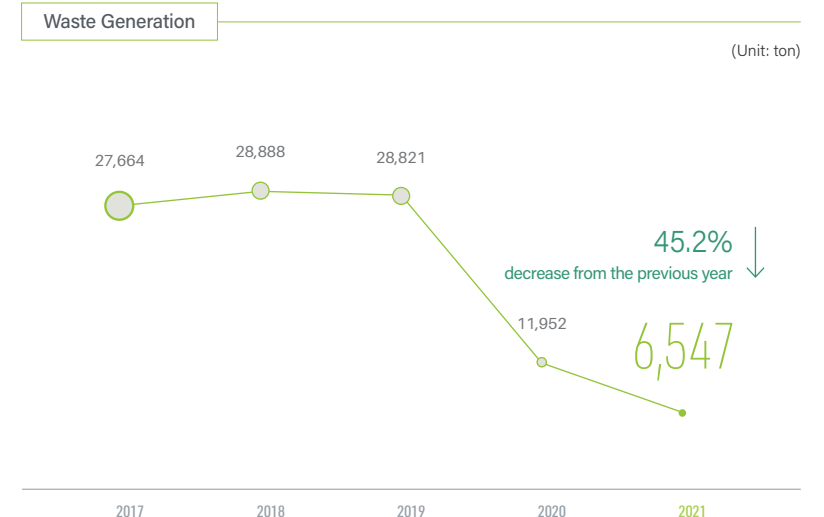
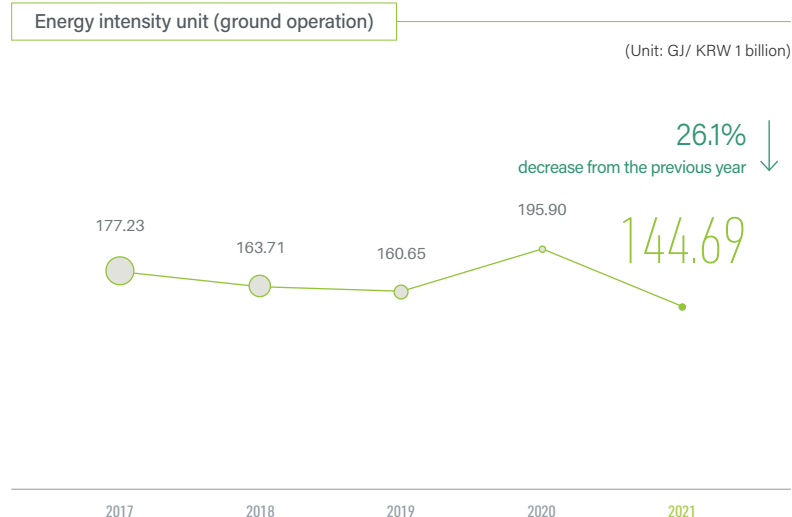
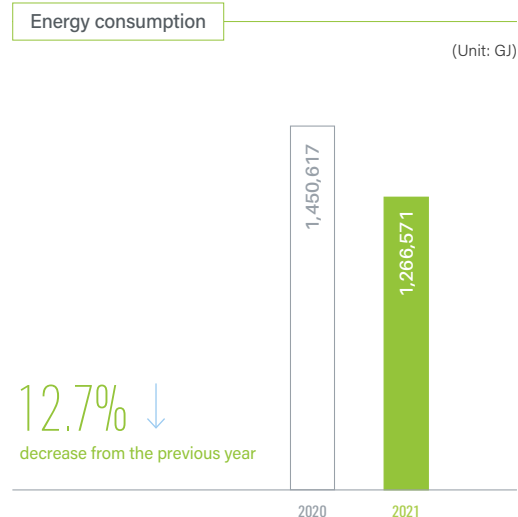




## Efforts to Cut Energy Spending

Korean Air is working to minimize energy spending not only during aircraft operation, but also during the operation of maintenance facilities, cargo terminals, etc. When replacing parts, we review and apply high-efficiency products in preference to other products, and adjust operation time more efficiently so as to minimize energy consumption.

Energy consumption in the domestic ground operations			
(Unit: GJ)			
Energy	2020	2021	Rate of change
Gas/Diesel	52,998	34,622	-34.67%
By-product fuel no. 1	7,357	5,602	-23.85%
By-product fuel no. 2	142,972	0	-100.00%
Gasoline	7,335	6,106	-16.76%
Jet fuel (engine maintenance)	1,371	5,353	290.44%
LNG	231,613	344,739	48.84%
LPG	2,942	3,917	33.14%
Electricity	986,977	851,684	-13.71%
Steam	17,052	14,547	-14.69%
Total	1,450,617	1,266,571	-12.69%

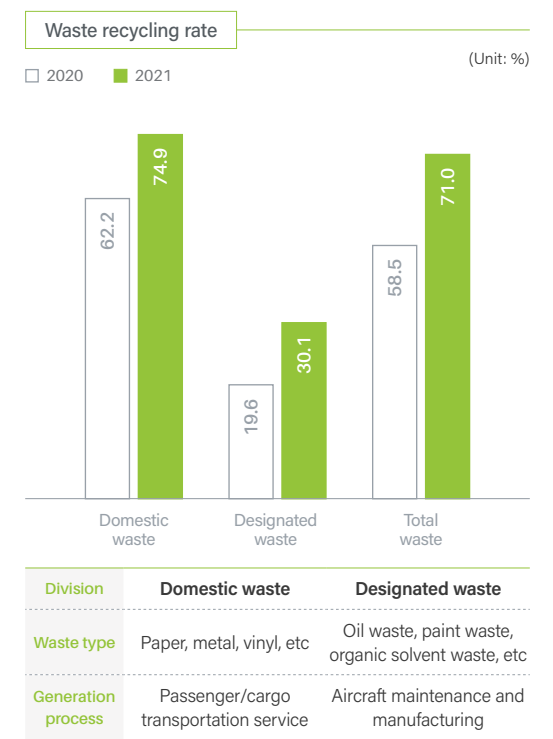


In 2021, we were able to cut 12.8% of greenhouse gas emissions from ground operations, compared to the previous year, by adopting high-efficiency LNG boilers in the Busan Technology Center, complying with the government's recommended temperatures, actively promoting working from home, and urging employees to turn off lights and PCs after work.

## Reducing Wastes and Recycling

Typically, in the aviation industry, various wastes are generated during aircraft maintenance, operation, and transport services. Our wastes can be generally classified as domestic waste generated from transportation services and designated waste generated from aircraft maintenance and parts manufacturing.

In 2021, we recycled 71% of the wastes, which is a 12.5% rise compared to the previous year. This was made possible due to our efforts to recycle reusable products and reduce the use of disposable products. Looking to the future, as from 2022 we plan to exert further environmental preservation efforts by converting waste synthetic resin into solid fuel, instead of simply incinerating it.



## Management of Air/Water Pollutants

### Safe Processing of Pollutants

Korean Air is operating a total of six wastewater treatment facilities at five business sites in Seoul-Incheon and Gimhae. In four of the sites, around 150 air pollution prevention facilities have been installed to reduce air and water pollutants. Although the emission-standards for pollutants are gradually tightening, the concentration of water pollutants and air pollutants emitted through the prevention facilities remain steadily at 1.3% and 2.8% of the legally permitted amounts respectively. In this respect, we plan to carry on with our environmental investment and further cut pollutant emissions.

### Reducing NOx, the Main Driver of Particulate Matter

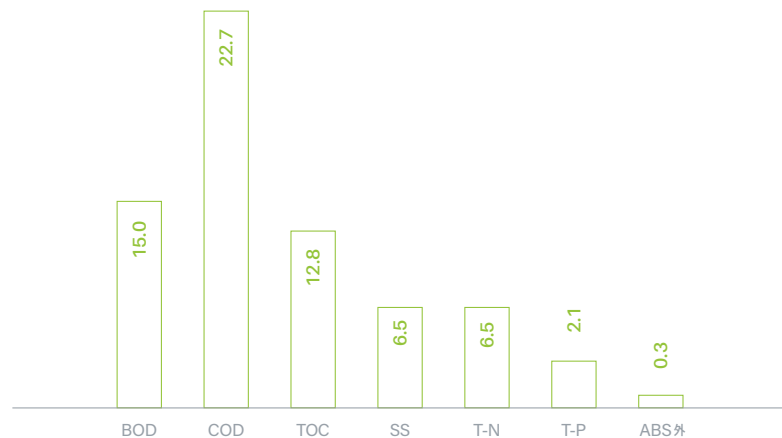
In order to cut emissions of nitrogen oxide (NOx), which is a main driver of particulate matter, Korean Air has been exerting various efforts, such as installing low-NOx burners. In 2020, by investing KRW 3 billion, we helped convert the fuel of Gimhae Tech Center's boilers and cold and hot water dispensers into LNG, and installed low-NOx burners in the center. In the following year, we replaced a total of 16 boilers and cold and hot water dispensers in Seoul and Gyeonggi Province with low-NOx burners. In line with these efforts, aside from Jeju where LNG cannot be supplied, low-NOx burners have been installed in all air-discharge facilities. The efforts we make are contributing to the reduction of nitrogen oxide and particulate matter.

#### Water-pollutant emission-level per legal emission limit

(Unit: %)

##### Water-pollutant emission-intensity level

(pollutant emission intensity ÷ legal emission limit x 100)



## Managing Hazardous Chemicals

When it comes to aircraft maintenance, it is recommended that we use chemical substances designated by aircraft manufacturers. By continuously communicating with aircraft manufacturers, we are working to reduce damages coming from using such products. Moreover, we have established an in-house chemical management system, which allows us to manage information not only via Material Safety Data Sheet (MSDS), but also on the storage and use of chemical substances at each business site. The system enables us to strictly control hazardous substances, and we are developing alternative eco-friendly substances by establishing and implementing the process of reviewing alternative substances in accordance with the standards of the environmental management system.

#### Comparison Between Low-NOx Burners and Typical Burners

(Based on One-Ton Capacity of an LNG Boiler)

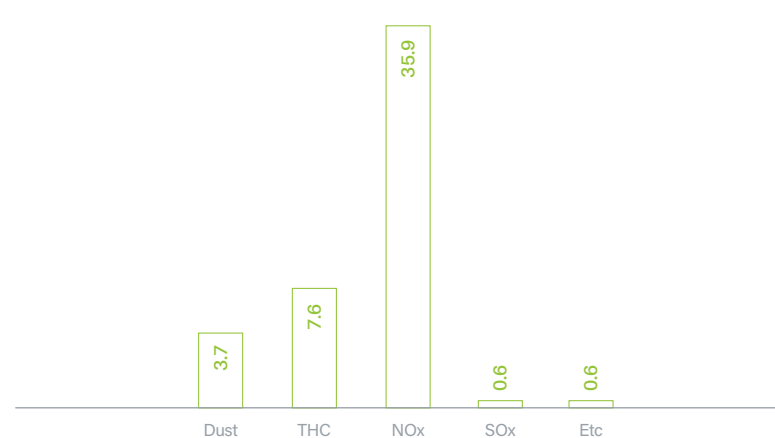
	Unit	Low-NOx burner	Typical burner	Amount of reduction	Rate of reduction
Amount of NOx Emissions	kg/yr	123	309	186	60%
Amount of energy consumption	Gcal/yr	1,585	1,626	41	2.5%

#### Air-pollutant emission-intensity level per legal emission limit

(Unit: %)

##### Air-pollutant emission-intensity level

(pollutant-emission intensity ÷ legal emission limit x 100)



## Managing Noise Pollution

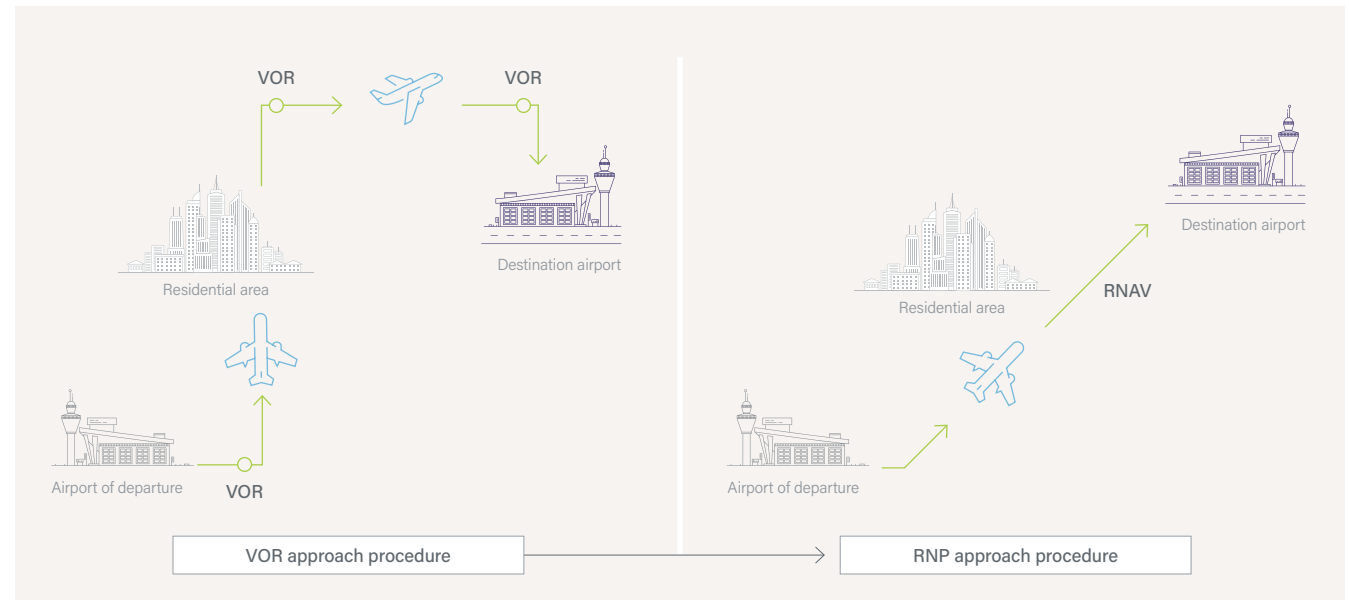
In order to alleviate noise damage, Korean Air has added noise-reduction procedures to the company's operating regulations and flight procedures of each aircraft model. These regulations and procedures are applied during takeoff and landing. We also comply with the noise-reduction procedures each country requires, as well as the Noise Abatement Departure Procedure (NADP) and the Continuous Descent Approach (CDA) of ICAO. Along with the development of aviation technology, we are actively supporting the shift from the original ground navigation facility (VOR, VHF Omni-directional Range)-based method to the regional navigation facility (RNAV, Area Navigation)-based method, which uses the GPS. Moving further on, the Required Navigation Performance (RNP) approach procedure is also being applied. This is a method that ensures circumventing noise-sensitive areas by precisely managing flight routes. To this end, Korean Air has installed advanced satellite navigation devices and wireless facilities in its aircraft, which help minimize noise damage.

Korean Air has also introduced and operated new air fleets in order to minimize noise damage. The newly introduced fleets 787-9, 737-8, and A220-300 have all acquired the lowest noise level domestically, and release 50% less noise compared to the original fleets. Despite these efforts, however, there could be some inevitable noise emissions, to which end Korean Air is fulfilling its role of mitigating the burden of residents living in the area, by paying noise charges.

## Protecting Biodiversity

Korean Air recognizes its role as an air-transportation company to protect biodiversity, and is actively participating in global biodiversity-protection efforts. Accordingly, we have established an internal regulation that bans the air transportation of protected animals and plants, rare animals, primates, and endangered animals. The International Air Transport Association (IATA), which consists of a total of 61 airlines, including Korean Air, signed the Buckingham Palace Declaration in 2016. This declaration slashes the illegal trade of wildlife and wildlife products and states the urgency to combat the trafficking of endangered animals. IATA is also actively pursuing biodiversity efforts through partnerships with environment protection initiatives such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and Reducing Opportunities for Unlawful Transport of Endangered Species (ROUTES).

RNP Approach Procedure for Minimizing Noise Damage





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## ✈ Human Rights Management

### HR Policies That Respect Human Rights and Diversity

Korean Air abides by the policies and laws of each nation, and strongly prohibits all forms of forced labor, child labor, and wage exploitation, as stipulated by the regulations of the International Labor Organization (ILO). Moreover, we refrain from discrimination based on gender, age, race, religion, disability, country of origin, and political opinions — when it comes to hiring, appointment, evaluation, and compensation of employees. We are constantly making various efforts to strongly prevent workplace harassment and sexual harassment in the workplace. Korean Air vows to respect employees' rights in every country, and create an optimal environment in which all employees can work safely and get treated fairly.

### Operating an In-house Channel Dedicated to Respecting Employees' Human Rights

Korean Air operates an in-house channel (sh\_report@koreanair.com), dedicated to counseling and reporting cases of sexual and workplace harassment. The reported cases are handled in accordance with the guidance provided by the Ministry of Employment and Labor. We go through detailed investigations, in order to ensure confidentiality and prevention of secondary damage. Afterwards, by taking into consideration the investigation results and victims' opinions, the perpetrator is referred to the Punishment Committee or separated from the victim. Moreover, we also operate an in-house channel (selipinfo@koreanair.com) dedicated to handling employees' HR-related difficulties or personal inquiries. After investigating the cases received, we take adequate measures to handle them, and the results are then notified to the complainant. Likewise, Korean Air is consistently working to create a pleasant atmosphere in which all employees' rights are fully respected.

#### BUSINESS ENVIRONMENT

As ESG management is attracting wide interest at home and abroad, companies have begun to put more emphasis on human rights management, so as to internalize ESG management in all business activities. In 2014, human rights guidelines were established domestically, and today, the Framework Act on Human Rights Policy, which stipulates the importance of human rights management, is in effect. Moreover, global investors have begun to evaluate companies' human rights-related risks management capacities. Likewise, companies are increasingly being encouraged to respect stakeholders' human rights, and take into account their dignities and values.

#### MANAGEMENT APPROACH

Based upon the 2022 materiality assessment conducted on internal and external stakeholders, human rights management issues were selected as one of the key issues. Korean Air is currently implementing policies that comply with the laws and policies of each nation, and respects diversity and human rights. We communicate with our employees through various channels, and also hold regular training sessions on human rights. Moreover, Korean Air holds labor-management council meetings in order to dissolve labor-management conflicts and promote the welfare of union members.

#### PERFORMANCE IN 2021

##### Number of persons who received human rights training (percentage)

Index	2019	2020	2021
Creating a bright and pleasant workplace	18,855 persons (90%)	18,710 persons (100%)	17,415 persons (100%)
Improving respect for people with disabilities in the workplace	18,937 persons (100%)	18,132 persons (100%)	17,357 persons (100%)

\* Participation rate is the number of employees who have completed the training course per the total number of employees required to take the course.



## Human Rights Education for Employees

Korean Air realizes respect for human rights and promotes awareness on human rights management by conducting various training sessions. We hold the following sessions to eradicate workplace bullying and illegal discrimination, promote employees' physical and psychological wellbeing, and provide them with a safe and healthy work environment.

### Training on handling of sexual harassment and workplace harassment

In order to prevent cases of sexual harassment and workplace harassment, Korean Air annually conducts "Creating a Bright and Pleasant Workplace" training. At the end of the course, employees are required to sign a pledge against sexual harassment and workplace harassment. For employees who are unable to take the training course during the period due to reasons such as leave of absence, we are uploading the course to the in-house online training website.

### Improving respect for people with disabilities in the workplace

For training on improving awareness of people with disabilities in the workplace Korean Air annually conducts "Improving awareness of people with disabilities in the workplace" training. An in-house instructor who has completed the instructor training course at the Korea Employment Agency for Persons with Disabilities (KEAD) makes and uploads the course to the in-house online training website.

### Improving employees' physical and mental welfare

In accordance with Article 29 of the Occupational Safety and Health Act, Korean Air has been working to enhance safety and health awareness by providing a regular training course on health every quarter. According to the study on people's mental health during the ongoing COVID-19 pandemic, due to the pandemic, people are feeling increasingly depressed and suicidal. Accordingly, we have an expert in clinical psychology, always ready to provide in-house consultation for mentally distressed employees. Moreover, in order to promote our employees' mental wellbeing and manage their workplace stress levels, we have also conducted training courses in 'managing stress levels during the COVID-19 pandemic,' and 'recognizing warning signals for mental health.' Aside from these courses, we are also providing courses titled 'radiation and health' and 'seasonal health management'

### Occupational safety and health

Korean Air is conducting regular training every quarter for workers under the Occupational Safety and Health Act. In the first quarter of 2021, the topic of our training course was understanding the Occupational Safety and Health Act and occupational safety and health management, along with the correct use of health masks. In the second quarter, the main topic was understanding the definition of industrial accidents and the insurance system that compensates workers for industrial and occupational accidents. Moving on to the third quarter, our training course was about the definition of accidents such as electric shock and falling, and the measures to be taken to prevent such accidents from happening. In the fourth quarter, we trained our employees on the importance of managing occupational environments and the safety of employees. Aside from these training courses, we also provided 16 hours of company-wide regular training for our supervisors. We provided eight hours of group training, and eight hours of 'contactless' online training.

Human rights training status		
Course title	Participants (participant rate)	Total hours
Creating a bright and pleasant workplace	17,415 persons (100%)	17,415 hours
Improving respect for people with disabilities in the workplace	17,357 persons (100%)	17,357 hours
Dealing with stress in the COVID-19 era	9,596 persons (100%)	28,788 hours
Seasonal health management	9,600 persons (100%)	28,800 hours
Recognizing mental health risk factors	10,014 persons (100%)	30,042 hours
Health implications of radiation	10,329 persons (100%)	30,987 hours
Occupational safety and health	(1 <sup>st</sup> quarter regular training)	Safety 7,006 persons (100%) 21,018 hours
	(2 <sup>nd</sup> quarter regular training)	Safety 7,230 persons (100%) 21,690 hours
	(3 <sup>rd</sup> quarter regular training)	Safety 6,119 persons (100%) 18,357 hours
	(4 <sup>th</sup> quarter regular training)	Safety 6,449 persons (100%) 19,347 hours
Regular training for occupational safety and health supervisors	523 persons (100%)	8,368 hours

\* Participation rate is the number of employees who have completed the training course per the total number of employees required to take the course.



## Status of Strengthened Management of Employee's Physical Health and Mental Stress

According to the 2020 Community Health Survey (Korea Disease Control and Prevention Agency, 2021), due to the prolonged COVID-19 pandemic, people's physical activities sharply declined, and consumption of delivery food picked up. In the past, it was typical to get treated after the onset of a disease, but the importance of preventive health care is increasingly being emphasized during the COVID-19 pandemic. In addition, in accordance with the new Serious Accidents Punishment Act enacted in 2022, in order to prevent employees' occupational diseases, companies are now required to strengthen safety and health measures and conduct health promotion activities in various fields in order to provide employees with a healthier environment to work in. Accordingly, Korean Air, with help from the Korean Air Aeromedical Center, is carrying out health promotion activities in various fields that are tailored to each occupational category, by analyzing major health problems of workers in diverse aviation professions.

## Cooperative Relationship between Labor and Management

### Labor union overview

As of the end of December 2021, a total of 15,702 employees are eligible to become members of the labor union, of which 89%, or 14,041 employees, are currently members.

### Operation status of labor-management council

In 2021, at least one labor-management council meeting was held every quarter in order to enhance mutual understanding and cooperative relationships between labor and management. Through the meetings, we discussed ways to promote the welfare of union members and facilitate sound development of the company by collecting and reviewing opinions from relevant departments.

### 2022 health promotion activities by job type conducted by the Korean Air Aeromedical Center

#### All employees



- Second walking program, tailored to employees' preferences
- Quarterly online mental health programs
  - Ways to manage stress, mind control tactics, personality types, relationship know-how, etc.
- 1:1 doctor's consultation on health checkup results
- Cerebrovascular disease screening and follow-up program
- Provide accurate COVID-19-related health information

#### Flight crew



- Metabolic syndrome management program (send health information to high-risk groups)
- Open contactless classes on nutrition education which is what crew members want the most (biannual)
- Sleep apnea prevention and fatigue management program
- Healthy drinking/drug use education and self-health report system

#### Cabin crew



- Musculoskeletal disease prevention and management program

#### Aircraft maintenance



- Provide health information for prevention of occupational diseases and health counseling at the workplace

### Number of union members

	Category	Member	Non-member	Total	Membership percentage
General	Korean Air Labor Union	11,888	1,271	13,159	90%
	The Korean Public Service and Transport Workers' Union (KPTU) <sup>1)</sup>	-	-	-	-
Flight operation	Korean Air Pilot Union	2,153	390	2,543	85%

<sup>1)</sup> As the KPTU does not disclose its membership status, the figure only includes what could be ascertained.

## ✈ Safety Management

### Strengthening Korean Air's Safety Committee

Korean Air established its Safety Committee under the Board of Directors in 2018, and has ever since been consistently monitoring safety measures and advising the BOD on safety-related issues, thereby maintaining an objective and transparent safety management system.

In the first half of 2021, a new independent director was appointed to the Safety Committee as part of our efforts to enhance safety independence, which in turn contributed to further improving the safety levels of Korean Air. In addition, we are providing safety education for new employees and annual SMS(Safety Management System) online education for all employees. Additionally, for executives, team leaders, and working-level employees within the SMS organization, we are providing training according to different levels and occupations, thereby maintaining our operations at the highest level of safety.

#### Safety Committee



#### MANAGEMENT ENVIRONMENT

With the enforcement of the Serious Accidents Punishment Act in January 2022, preventing serious industrial accidents and serious civil accidents is becoming ever more important. Aircraft accidents typically entail large-scale damages, and thus, safety management is absolutely essential in the aviation industry. In addition, with the recent changes in the aviation industry such as passenger identification verification using biometric information and the increase in drone usage, preparing relevant aviation security measures and strengthening security is required.

#### MANAGEMENT APPROACH

According to the results of the materiality assessment conducted on internal and external stakeholders in 2022, aviation safety was selected as the most important issue, just as in 2021. Korean Air has maintained a record of accident-free flights for the past 21 years through systematic flight safety management. We have also been strengthening occupational safety and health management by appointing a CSO (Chief Safety & Operating Officer) to be exclusively responsible for in-house safety and health-related tasks. Aside from these efforts, we are also establishing a preventive aviation security operation system, and we will work to soundly maintain our absolutely safe flight operation system, through continuous improvement of our safety management system.

#### 2021 ACHIEVEMENTS

Indicators	2019	2020	2021
Ongoing efforts for absolute safety	19 years of operation without loss of human lives	20 years of operation without loss of human lives	21 years of operation without loss of human lives

## Systematic Operation of a Company-wide Safety Management System

Korean Air, with the Corporate Aviation Safety & Security Department at its center, has established a company-wide SMS system in all areas of operation, and in all domestic and international service contact points, and thereby manages an efficient and systematic safety management system. In particular, through the integrated change management procedure established in 2019, in order to identify internal and external risk factors in advance and strengthen the safety management system, we are preemptively managing safety issues in preparation for the post-coronavirus era. We have also been closely monitoring a total of 32 issues underway including management of safety issues (such as the construction of a new airport and the introduction of new aircraft) and integrated safety program for the integration with Asiana Airlines.

### Development of a new safety management IT system

Korean Air is developing a new company-wide safety management system for more efficient safety management, in preparation for changes in domestic and international safety management requirements and the merger and acquisition of Asiana Airlines. It collects and analyzes aviation safety data derived from accident investigation, flight data analysis, and aviation safety reporting - to ensure systematic and data-based safety management that handles the entire safety management process including the recognition and evaluation of risk factors, along with the monitoring of risk mitigation measures.

### Strengthening cargo transportation management

Korean Air has achieved safety goals composed of indicators provided internally and those provided externally by the Ministry of Land, Infrastructure and Transport for four consecutive years. This was made possible by systematic safety management of our cargo transportation sites. In 2021, we conducted a monthly on-site safety inspection at airports operated by cargo planes and cargo-only planes and were able to preemptively discover 170 safety risk factors and control them in advance. Even in a limited environment brought about by the COVID-19 pandemic, we are conducting contactless quality audits at overseas branches in order to provide a comprehensive diagnosis of the overall status of our transport operation and enhance the quality management of the entire process. As a result, in 2021, we obtained evaluation results above the international standard in terms of cargo transportation from international safety evaluation agencies (IOSA, DOD).

## Managing Safe Operation for Continued Accident-free Operation

In 2021, Korean Air added another year of operation without the loss of human lives, thanks to consistent data-based flight operation management. We also achieved the national aviation safety performance goal as well as our in-house aviation safety performance goal, which allowed us to maintain an 'acceptable' level of safe operation. This year, we will continue to maintain this level of aviation safety by implementing a preventive 'leading indicator' through data analysis in each sector, so as to achieve the national safety performance goal and our in-house safety performance goal, which have been further strengthened this year.

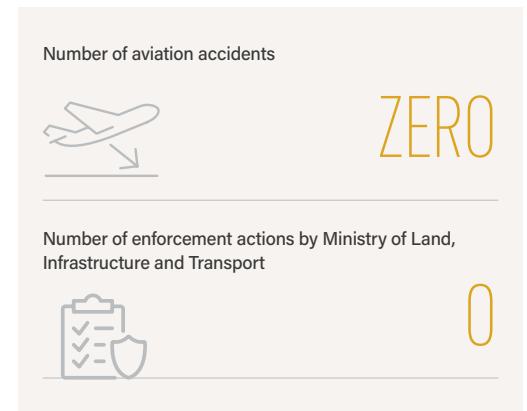
In 2022, we plan to further advance the analysis and utilization of flight data for each crew member. After the completion of the first phase of development in 2021, we are proceeding with the second phase of development, which is to expand the scope and items of self-study data provided to crew members. Based on this data analysis, we are endeavoring to recognize potential risk factors and carry out adequate risk mitigation measures, thereby managing the core risk factors and carrying out safety management through continuous SMS.

## Stronger Aviation Security in Accordance with Changes in the Airline Industry

The importance of aviation security is growing with the recent increase in air cargo demand, the introduction of ID verification through biometrics, and the risks posed by drones. Accordingly, there are calls for the establishment of aviation security measures and emphasizing the importance of a culture that promotes security.

In an effort to continuously strengthen its aviation security compliance, Korean Air conducts a regular risk assessment every month, based on the information collected from domestic and overseas sites, as well as via various other channels. Korean Air stresses the importance of each site taking adequate security measures that fit its aviation security level. Furthermore, we provide training sessions on aviation security for security staff members at home and abroad on a regular basis.

Korean Air will monitor international security trends and take prompt action by actively participating in international organizations including IATA SAC (Security Advisory Council) and SkyTeam ASG (Aviation Security Group), while at the same time sparing no efforts to establish an operating system for preventative aviation security.





## Safety Certification Program

### IOSA (IATA Operational Safety Audit) Certification

- An international safety audit program developed by IATA for commercial airlines
- Certification issued after the IATA certified institution's inspection on a total of 8 sections (organization/operation/control/maintenance and repair/cabin/ground handling/cargo/security) and 937 inspection items
- Acquired the certification in 2005 and has since retained its qualification through IATA's biennial inspection visits



### Airlift Transportation Certification

- The U.S. Pentagon's safety certification program that classifies civilian airlines that can be used for business trips of U.S. nationals, including employees and soldiers
- Inspection on a total of 337 items on safety operations, including operation/maintenance and repair/cabin
- Korean Air has maintained its qualification status since 2001 through the Pentagon's biennial inspection visits.

## Emergency Medical Response System for Flight Operation

Korean Air's 24-hour Emergency Medical Call System (EMCS) is comprised of experienced doctors who can provide medical care in various in-flight medical emergencies and swift and accurate medical consultation.

In addition, all of our aircraft are equipped with medical devices to prevent the spread of infectious diseases inside the plane, and to provide adequate assistance for emergency patients. Cabin Crew Training Team and our own Aeromedical Center jointly provide training for all cabin crew to be able to perform accurate first aid. Moreover, the Passenger Airport Customer Service Team and our Aeromedical Center work together to ensure safety and better services for passengers who can experience emergency events at the airport.

## Korean Air Aeromedical Center's Infectious Disease Response System

Korean Air has set up the COVID-19 emergency response committee in the face of the COVID-19 pandemic to share information on response measures among business units on a regular basis. We are making company-wide efforts to ensure safe flight operations and to protect our customers and employees.

The Korean Air Aeromedical Center has in place an evidence-based infectious disease response system to protect employees, and continue to guarantee safety. We monitor measures taken at home and abroad for infectious diseases and prevention and control actions to create and distribute our own disease prevention guidelines. Based on these guidelines, the on-site quarantine managers and staff are making every effort to prevent the spread of disease in the workplace, taking into account the nature of each site. We do our best to contain the spread of the disease by taking swift medical action, including preemptive in-house epidemiological investigations in case a staff member is suspected of having been infected with COVID-19. Moreover, Korean Air provides support to employees confirmed as COVID-19 positive and checks their health status so that they can safely return to the workplace in accordance with quarantine regulations.

## Stronger Company-wide Occupational Safety and Health Management System

Korean Air has strengthened its occupational safety and health management system in compliance with the Serious Accidents Punishment Act passed in January 2022 to protect the lives and safety of not only employees, but also citizens and customers. We have also appointed a new Chief Safety & Operating Officer (CSO) to be responsible for the company's safety and health management, and established the Occupational Safety & Health Department that reports to the CSO and performs company-wide health and safety tasks and inspections.

In addition, we have appointed safety and health managers in major areas including aircraft maintenance, passenger transport, cargo transport, cabin management, and aerospace – as well as additional managers in charge of safety and health respectively, thus establishing a new disaster prevention centered occupational safety and health management system.

Korean Air abides by the rules and obligations stipulated in regulations related to health and safety including "Occupational Safety and Health;" and operates the Occupational Safety and Health Committee, which is comprised of the management and the workers' representatives, on a quarterly basis to debate and decide on important matters related to workplace safety and health. We also do our best to manage the safety and health of citizens in accordance with "Occupational Safety and Health," to ensure that passengers enjoy safe flights. In 2021, we conducted a special safety inspection of all of our facilities, identified risk factors and made improvements, and we have made various efforts to prevent disasters that can happen to employees and citizens.

### Risk Assessment System

Korean Air conducts annual and ad-hoc risk assessments in accordance with Article 36 of the Occupational Safety and Health Act on all employees and contractors of the business sites where accidents may happen to identify, replace, and control risk factors. The risk assessment system, introduced in 2008 to create a safe workplace environment, evaluates various risk factors that can lead to injuries and diseases, to establish measures to reduce risks to an acceptable level. An evaluation team is organized for each business division during the risk assessment to identify risk factors for each site in depth and put in place improvement measures. In addition, Korean Air effectively manages the risk factors in a systematic manner by testing the effectiveness of the risk-reduction measures on a regular basis and following up on the completion status.

### Safety and Health Management System

Korean Air operates an Occupational Safety & Health Management System (hereinafter referred to as "KOSHA") for its Aerospace Business Division in Busan and the Engine Maintenance Center in Bucheon, sites classified as manufacturing sites among all business sites. As a result, we have obtained KOSHA-MS and KOSHA 18001 certifications respectively from the Korea Occupational Safety & Health Agency. KOSHA refers to an autonomous safety and health management system established to systematically carry out disaster prevention and loss reduction activities in a sustainable manner. It is a domestic standard, in which business owners incorporate safety and health measures into their management policies, define standards and detailed implementation instructions accordingly, and make improvements after self-evaluating the results of implementation of the health and safety plans.

### Campaign to Promote a Safety Culture

Korean Air runs safety campaigns on a regular basis for employees and employees of partner companies to promote their safety awareness and introduce a healthy safety culture. In 2021, we launched a safety and health campaign with the slogan "Adding safety and dividing happiness" to encourage employees to voluntarily follow safety procedures. We have distributed popsockets and leaflets with a QR code that opens a video on how to prevent accidents that can happen during maintenance of aircraft, passenger and cargo transport, in the cabin, in step cars, and in the office of the Incheon and Bucheon sites as well as five different regional airports. Korean Air focuses on building a foundation for a culture of safety and a virtuous circle where its own employees and employees from partner companies alike can freely raise issues on safety and all stakeholders communicate to resolve risks.



KOSHA-MS Certification acquired by the Aerospace Business Division



KOSHA 18001 Certification acquired by the Engine Maintenance Center



## ✈ Customer Satisfaction

### Active Establishment of a Consumer Centered Management (CCM) System

Korean Air became the first airline to acquire the Consumer Centered Management (CCM) certification of the Fair Trade Commission operated by the Korea Consumer Agency. The CCM certification is a national statutory certification based on the Consumer Basic Act, and it is awarded to companies that perform customer centered business activities and continue to make improvements. Korean Air acquired the CCM certification in recognition of its continued efforts to improve consumer convenience across all business sectors based on the management philosophy of "Service Excellence," and implementation of social contribution activities through global public service projects.

After acquisition of the CCM certification, Korean Air has set up a dedicated team for establishment of the CCM system and has implemented a variety of activities, including operation of a Service Improvement Committee to practice consumer-centered management and introduction of NPS (Net Promoter Score) to realize consumer-centered service improvement by listening to the different voices of consumers.

Korean Air will continue to carry out active consumer-centered management activities and build a CCM-based culture to bring more convenience to air travel consumers and improve consumer welfare.



#### BUSINESS ENVIRONMENT

Amid changes in the business environment of a number of companies including airlines due to the pandemic, there is growing importance of service excellence and winning back the hearts of our customers. Numerous companies have strengthened their competitiveness despite the challenging business environment by providing products or services that exceed customers' expectations. With customers demanding and expecting more from airlines due to technological advancements and diversity of customer experience, companies are taking a multi-faceted approach to delight and satisfy customers

#### MANAGEMENT APPROACH

Under the business philosophy of "Service Excellence," Korean Air considers customer satisfaction as the highest priority. After becoming the first airline to acquire Consumer Centered Management (CCM) certification, we have continued to carry out customer centered management activities to build a CCM culture. We also practice service excellence by actively reflecting the opinions received through the Voice of Customer (VOC) channel and improving services. We communicate with customers through social media and various marketing activities, and will commit to improving customer services by continuing to invest in customer communication.

#### PERFORMANCE IN 2021

Indicators	2019	2020	2021
The APEX Airline Ratings	Five Star Global Airlines for 3 consecutive years	Five Star Global Airlines for 4 consecutive years	Five Star Global Airlines for 5 consecutive years
Global Customer Satisfaction Competency Index (GCSI)	Ranked first for 15 consecutive years	Ranked first for 16 consecutive years	Ranked first for 17 consecutive years



## Operation of Voice of Customer (VOC)

In accordance with our management approach, we improve our services by reflecting opinions received from customers, and utilize “Voice of Customer” as a means to manage customer contact points and understand service trends. As such, Korean Air will continue to prioritize customer satisfaction and safety, and achieve innovation of services in accordance with changes in customer demand.

### Service improvement by reflecting VOC

**Full-scale digitalization of travel documents (e-Document System)** Korean Air has become the first airline in the world to launch an e-Document System, introducing full-scale digitalization of 23 types of travel documents passengers previously had to fill out by hand. Accordingly, passengers are now able to use their digital devices to fill out documents, including pet transportation declaration forms, unaccompanied minor application forms, and the health condition declaration forms anywhere and anytime they want. Customers’ reservation information is automatically reflected in the system when the documents are filled in, and the documents can be viewed in real time from branches located at home and abroad. As a result, customers experience a significantly higher level of convenience, as the new service reduces customer wait time, and the contact information and e-mail addresses recorded in the documents are automatically updated to Skypass. In addition, customer data is automatically stored on a secure server and disposed of, which shows a stronger protection of personal information.

**Expansion of Chatbot services** In October of 2021, Korean Air introduced chatbot services that have until now been available only via mobile applications including Kakaotalk and Facebook Messenger to its website. Furthermore, we have upgraded the convenience of our customers from English-speaking countries by launching an English chatbot feature as of December 2021. The expansion of chatbot services has provided information on air travel to many more customers through a larger number of channels faster than ever.

**Introduction of specialty coffee and diversification** The growth of the global coffee market has made customers demand and expect more from in-flight coffee. To keep up with the trend, Korean Air has changed its coffee provider to the most popular coffee brands including illy and Starbucks, introduced iced coffee on flights, and improved the quality of the coffee beans used to serve coffee for economy class passengers. As such, we were able to provide a satisfying experience to our passengers by upgrading our in-flight coffee services and introducing a broader choice of products.

**Overall restructuring of the system for managing lounge users** Previously, a staff member had to let passengers into the lounge after checking their boarding passes and looking up their membership information on a separate system, which meant passengers had to wait for a certain amount of time. After the implementation of a new lounge operation management system in March 2021, scanning passengers’ boarding passes will automatically integrate their membership information in real time, which means they are able to enjoy the lounge without any waiting time. In addition, Korean Air uses an AWS-based big data analytics platform to forecast the demand for lounge usage by collecting and analyzing various variables that impact lounge use. Forecasting the demand helps enhance customer convenience as we prevent the lounge from becoming overly crowded and offer services that reflect customer preferences.

## Service Excellence System

By implementing the “Service Excellence” system, Korean Air rewards employees who contribute to customer satisfaction with their excellent service skills, thereby encouraging employees to provide customers with superior services. Over 450 employees have received prize money and a gold badge as a reward since the system was first introduced in 2005. The rewards are intended for employees to take pride in their contributions to enhancing the service level of Korean Air and to share award-winning cases to set an example for the other employees.

## New Opportunities to Use Miles

Korean Air is offering passengers more opportunities to use miles easily. Besides the typical ways of using miles, which is to purchase award tickets and upgrade seats, passengers are now able to use their miles for a variety of services and products, including to book a hotel and purchase a restaurant voucher, logo-inspired product, or an admission ticket. Cash and Miles, a combined payment system that was introduced in January 2021 allows customers to use 500 miles at a minimum when they purchase flight tickets, and thus is garnering much interest from passengers who want to use small value miles.

Through the partnership formed with Naver in July 2021, customers can use their miles for Naver Plus membership and enjoy a number of shopping advantages and digital content. Customers can also use their miles to receive a discount on the items they want to purchase at E-mart through the partnership between the two companies introduced in January 2022.

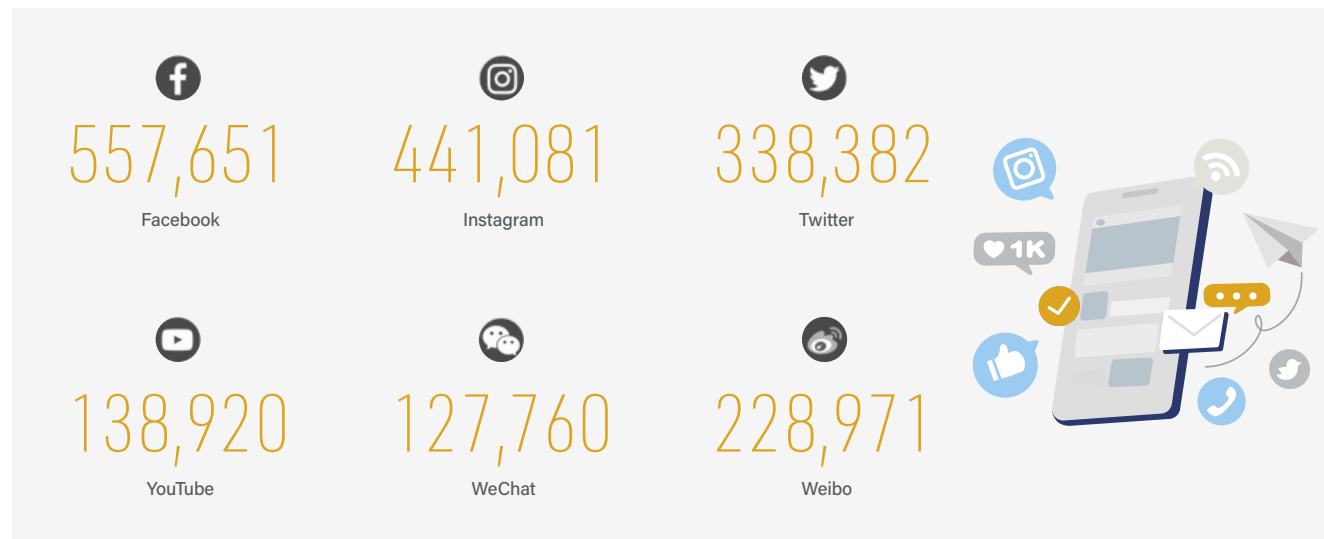
## Social Media Communication

Korean Air closely communicates with its customers through various social media at home and abroad, including Instagram, Facebook, and YouTube. We are producing content to introduce Korean Air destinations and transportation services to promote the brand image, and meeting with customers through a variety of customer participation events. We especially focus on creating and planning content targeting the MZ generation, including YouTube videos with various formats, to keep pace with the fast-changing online trends. In addition, we are continuing to communicate with our customers around the world in a variety of languages through creation of regional social media channels, including LINE channel of Japan.



KALMAN Kim Ju-hyun from the Maintenance & Engineering Division

Number of SNS followers of January 2022 (Domestic and overseas)



## Customer Service Awards

### Korean Air wins ATW's "Airline of the Year" Award

Air Transport World (ATW), a world-class aviation publication, has selected Korean Air as the winner of the 2021 Airline of the Year Award. ATW's Airline of the Year Award is a prestigious award often referred to as the "Oscars of the airline industry." Korean Air winning ATW's 2021 Airline of the Year Award is especially meaningful when considering the unprecedented crisis caused by the pandemic that wreaked havoc on the global aviation industry. Furthermore, Korean Air has received a silver medal in September 2021 in the Onboard Hospitality Cabin of the Year Award competition, hosted by Onboard Hospitality, a magazine for the airline, rail, and cruise hospitality of the UK. With this series of awards it has received, Korean Air is strengthening its standing in the global aviation industry, gaining recognition as an airline that provides safer and more convenient services and realizes customer satisfaction.

### Selected as a 5-star airline for Skytrax COVID-19 Safety Rating

Korean Air has been certified as a 5-star, COVID-19 safe airline by Skytrax, one of the world's most prestigious air transport rating organizations. Skytrax's COVID-19 Airline Safety Rating is an assessment program that gives various airlines around the world scores based on a scale of 1 to 5, for their effective safety measures against COVID-19 across all processes. Korean Air's 5-star certification this time was attributed to the airline's efforts to actively prevent the spread of COVID-19 and improve the safety of passengers and employees through the Care First Program, a comprehensive quarantine program launched in August 2020. The Care First Program is a systematic quarantine activity which requires cabin disinfection, non-face-to-face check-in procedures, and temperature checks of passengers, social distancing between passengers, and enhanced sanitation of in-flight meals. We have also created the COVID-19 Update Center page on our website to provide passengers with easy access to the latest information on COVID-19 prevention measures and immigration restrictions by country.

### Selected as a 5-star global airline in the APEX Ratings for five consecutive years

APEX is a non-profit association headquartered in New York, which has 482 airline industry members, including airlines and aircraft manufacturers. APEX's assessment program is based on customer feedback collected from more than 1 million flights and 600 airlines around the world, verified by external audit organizations. Korean Air has received the 5-star award for five consecutive years since 2018, which reflects the airline's efforts to promote the quality of customer services, including becoming the first airline in Korea to implement the Baggage Reconciliation System (BRS), a home-grown system, and operation of the Care First comprehensive quarantine program to offer differentiated services and to promote safe travel amidst the risks posed by COVID-19. Services provided by Korean Air include its comfortable seating, such as first class Kosmo Suites 2.0 and in-flight meals using seasonal ingredients and a selected wine list. Among the many airlines around the globe, only 11 airlines including Korean Air, Singapore Airlines, Japan Airlines, Lufthansa, and Delta Air Lines have enjoyed the honor of receiving a 5-star award for five consecutive years.

### Winner of the Global Customer Satisfaction Competency Index (GCSI) developed by the Global Management Association (GMA) for 17 consecutive years

Korean Air has topped the ranking in the air passenger transport sector of the Global Customer Satisfaction Competency Index (GCSI) developed by the Global Management Association, which evaluates airlines every year in terms of customer satisfaction on quality, global competency, and customer loyalty. The airline has maintained its position as a winner in global customer satisfaction for 17 consecutive years through its various efforts to promote customer services despite the pandemic, including introduction of differentiated services and next-generation eco-friendly aircraft.

### Obtained the highest grade in air transportation service for two consecutive years

Korean Air has received the highest rating in all items of the 2020 Air Transportation Service Evaluation conducted by the Ministry of Land, Infrastructure and Transport. The Air Transportation Service Evaluation is the most prestigious aviation service assessment in Korea conducted every year to assess airlines' punctuality, safety, and consumer protection and satisfaction pursuant to Article 63 of the Aviation Business Act.

Despite the travel restrictions due to the pandemic, Korean Air has proven that following last year it continues to offer world class aviation services to customers, through faithful implementation of consumer protection and satisfaction measures and promptly changing its approach. We will continue our efforts to enhance the quality of customer services across a variety of areas.



**Safe Air Travel  
during COVID-19**



### 2020 Air Transportation Service Evaluation items and results

Punctuality



Safety



Faithful implementation of  
consumer protection measures



User satisfaction





## NPS Customer Survey

Korean Air became the first airline in Korea to introduce the Net Promoter Score (NPS) customer survey in January 2021. Underscoring the importance of customer-centered management, Korean Air has created a team dedicated to survey management, which was once operated by a Task Force team, to better collect feedback and listen to the voice of customers. The survey asks questions such as, "Would you recommend Korean Air to others?"— and Korean Air uses the feedback collected to come up with solutions to improve services by creating a database for feedback received and sharing it through the in-house NPS dashboard. In preparation for the post-COVID-19 era, Korean Air will continue to strengthen communication with customers through NPS to improve services.

## Advanced Customer Services Enabled through Digital Innovation

Three years since Korean Air announced its plan for cloud migration in 2018, it successfully completed migrating all of its IT systems to the cloud for the first time among large conglomerates in Korea and large airlines around the world. As a result, Korean Air is now capable of using the cloud to enhance efficiency and drive service innovation faster than ever.

Data analytics and machine learning, both features provided by the cloud, will help Korean Air innovate its business processes, promote passenger services, enhance efficiency and convenience of the reservation and ticketing system, and improve punctuality by promoting the accuracy of weather forecasts. Customers are now able to use the mobile application introduced in early 2021 to purchase flight tickets more conveniently; and the customer data platform in the cloud environment is expected to be capable of offering customized customer information, by providing unique digital identification information according to customers' characteristics.

In addition, to ensure continuity of its global services despite disasters that could occur domestically, Korean Air has set up multiple data centers in Korea, and an overseas disaster recovery center. Starting with migration to the cloud, Korean Air has accelerated innovation in an era of digital innovation, and at the same time, is developing futuristic groundbreaking services that bring convenience and satisfaction to customers around the world.

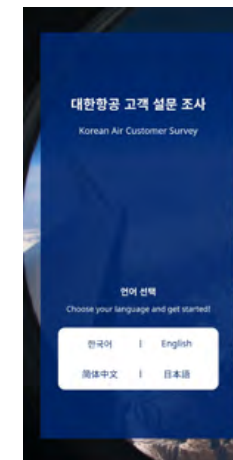
## Customer Personal Information Protection and the Information Security Management System

Korean Air has expanded and restructured the Information Security team to better protect customer personal data and to promote business stability. Korean Air has acquired domestic and international information security management system certifications including ISO 27001<sup>1)</sup>, ISMS<sup>2)</sup>, and PCI-DSS<sup>3)</sup>, and is compliant with the global security standards. We also hold information security training sessions for employees to promote awareness of the importance of voluntary protection of information, and we follow the Personal Information Protection, the Act on Promotion of Information and Communications Network Utilization and Information Protection, the General Data Protection Regulation (GDPR), and other relevant laws.

- <sup>1)</sup> ISO 27001: An international standard published by the International Organization for Standardization (ISO) on information protection management
- <sup>2)</sup> ISMS: Information Security Management System
- <sup>3)</sup> PCI-DSS: Payment Card Industry Data Security Standards



ISMS Certification



## Integrated Cyber Security Operation Center

Korean Air is the first global airline to migrate all of its IT systems into the cloud. We have created a separate team for cyber security planning and operation to strengthen our core capabilities on the IT security front, which is becoming increasingly important. Moreover, we have moved the 24/7 Security Operation Center to the Korean Air Tactical Cybersecurity Center(KE-TCC) that directly reports to the headquarters to respond quickly and efficiently to cyber threats at home and abroad. Furthermore, we are continuing to expand the scope of security operation in line with the recent IT security trends, and to protect our information assets by arranging joint mock training sessions with relevant stakeholders and promoting digital forensic capabilities.

### Employee training on information security

(Unit: persons)

	Agenda	Korea	Overseas
2019	Information security	17,676	2,616
	Personal information protection	18,499	2,836
2020	Information security	17,707	2,038
2021	Information security	17,258	1,728

\* Due to the COVID-19 restrictions and rotation-based schedules, only one course was offered in 2020 and 2021.

### Reported case(s) of privacy leakage

(Unit: cases)

Category	2019	2020	2021
Reported case(s) of privacy leakage	0	0	0

## Communication through Customer Marketing Activities

### Korean Air transports masterpieces of Picasso to a special exhibition in Korea in celebration of the 140th anniversary of the artist's birth

Korean Air promotes the brand value through a number of marketing activities. As part of its arts & culture sponsorship program, Korean Air has helped display Picasso's artworks in the "Pablo Picasso Retrospective," one of the major exhibitions of 2021. The special exhibition, which began at Seoul Arts Center in May 2021, ended in success four months later. Korean Air successfully completed its mission to transport to Korea 110 artworks of Picasso from the National Picasso Museum in Paris. Air transport of artwork has garnered much interest, and has become a brand marketing opportunity to promote Korean Air to exhibition visitors.

### Enhancing global awareness through sports marketing activities

Korean Air makes every effort to use active sports marketing activities as a means to promote brand awareness among customers. Korean Air also has been operating the Excellence Program from 2006, through which it sponsors people who have raised Korea's national status and awareness in culture and sports. The airline especially sponsors Park Sung-hyun, and Ko Jin-young, professional golf players playing on the LPGA circuit, thereby promoting the airline's brand name around the globe. In addition, we also sponsor Jack Aitken (Han Se-yong), who has attracted attention in Korea and abroad as the first British-Korean racing driver to compete in the F1 race as a member of the F1 Williams Racing Team.

### Customer-engaging Travel Photo Contest

Korean Air held the 27th Annual Travel Photo contest in 2021. Photos that showcase memorable moments customers have experienced and cherished and make others want to travel should be submitted to the General section, and pictures of happy daily lives that have helped them get through COVID-19 and life without travel to the Special section. Korean Air continues to actively communicate with customers through photo exhibitions to share previous memories of traveling even in a situation where air travel is restricted due to COVID.

## MOU Signed between Korean Air and the Korea Tourism Organization (KTO) to Strengthen the Tourism Industry

On December 17, 2021, Korean Air signed a Memorandum of Understanding (MOU) for cooperation on the development of the national tourism industry. The agreement signed will bring together the capabilities and resources of the two companies to attract foreign tourists. Korean Air's global network and differentiated customer services will meet the KTO's travel know-how and quality content to create synergy. The partnership between the two companies will bring more international tourists to Korea, and significantly revitalize the slumped domestic tourism industry, heavily hit by COVID-19. In accordance with the agreement, Korean Air plans to carry out various marketing activities that foreign customers find interesting, using data coming from KTO's foreign language website. The airline will also encourage foreign travelers to visit Korea by displaying content on traveling in Korea and tourist attractions recommended by the KTO in the SKYPASS newsletter, the official social media channel, and Morning Calm, our in-flight magazine. Furthermore, "Feel the Rhythm of Korea," a viral video developed by the Korea Tourism Organization to promote trips to Korea, was played as an in-flight AVOD by Korean Air. Korean Air and the KTO will work together to produce advertisements and content that promote Korea's national brand, jointly participate in offline travel expos, and jointly develop new flight routes.



## ✈ Shared Growth Management

### Shared Growth Policy

Based on more than 40 years of experience accumulated as an aerospace system integration company, Korean Air strives to achieve sustainable growth in emerging aerospace technologies, such as drones, unmanned devices, Maintenance, Repair and Overhaul (MRO), and Urban Air Mobility (UAM), all garnering attention as the new growth engines of the aviation industry.

In order to create a shared growth system with suppliers and promote a win-win ecosystem, Korean Air is implementing and introducing various support systems based on the three areas of "establishment of fair trade," "strengthening of supplier competitiveness," and "communication facilitation."



### Establishment of Fair Trade

Korean Air has established and has been following in good faith the "Four Action Items for Shared Growth" principle for implementation of the Fair Trade Guidelines for large and small businesses issued by the Fair Trade Commission. We comply with the Fair Transaction Agreements signed with supplier companies every year based on mutual trust.

### Major Activities of Shared Growth

Despite the uncertainty surrounding the recovery of international passenger flights due to the prolongation of the pandemic, Korean Air continues to strengthen major shared growth programs for suppliers, including providing funding from the Korea Technology Finance Corporation and technology and welfare assistance.





### Sustainable supply chain management

As of 2021, Korean Air's aerospace business division procures parts and materials required to manufacture aircraft from its global supply chain consisting of 442 partners from 19 countries around the world. We continue to seek shared growth with our suppliers by implementing various programs for mutual cooperation and growth, joint development projects, and helping them attract government projects to establish a sustainable supply chain and secure the business stability of suppliers.

### Production system based on hybrid drones

Korean Air has shown tangible results by partnering with suppliers in the development and manufacturing of unmanned aircraft systems, a cutting-edge technology intensive area. The hybrid drones with a hybrid battery and combustion propulsion system developed exclusively by Korean Air are suitable for various public operations and works. By signing an agreement with suppliers to create a hybrid-drone-based production system, Korean Air was able to supply its aircraft to the Defense Acquisition Program Administration and Jeju Fire Safety Headquarters. As a leading UAV System Integration company in Korea, Korean Air will continue to maintain and cultivate healthy partnerships with partner companies to further strengthen the drone industry ecosystem.



### Cooperation in cutting-edge aerospace technology

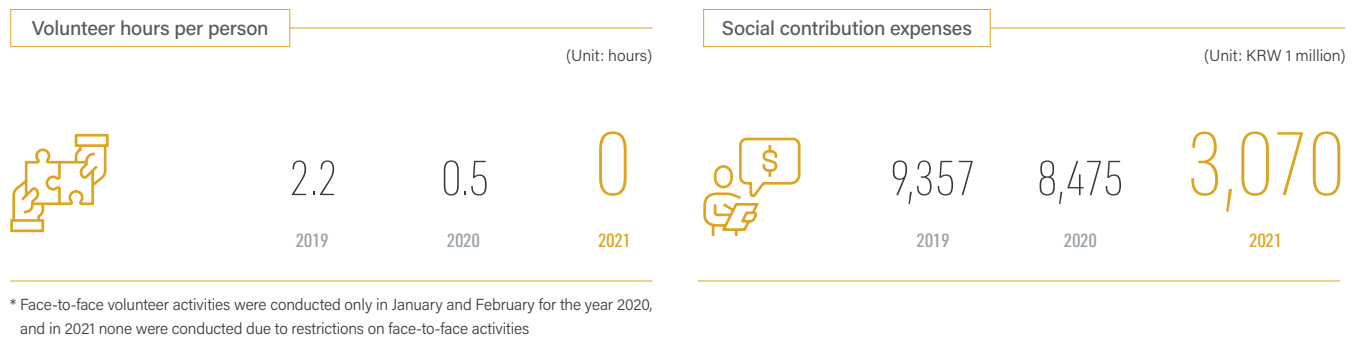
With technical skills accumulated from various development projects for satellites and Space Launch Vehicles, including satellites Mugunghwa and Arirang and the Naro space rocket, Korean Air formed a consortium with partners to participate in the Ministry of Science and ICT's "Space Pioneer Project" and has started to jointly develop common bulkhead propellant tanks for small satellite launch vehicles. Common bulkhead propellant tanks developed using state-of-the-art welding and insulation technology simplify structures and lower the cost of production, and are expected to play a key role in promoting the competitiveness of domestic small launch vehicles.

Korean Air will spare no efforts to ensure that the development project ends in success based on strong communication and trust with partner companies.

# Social Contribution

Korean Air promotes the value of sharing with local communities and the global village based on its responsibilities as a global airline. However, the restrictions imposed on face-to-face activities due to the spread of COVID-19 raised difficulties for the social contribution activities Korean Air has implemented so far. During 2021, we carried out our annual events, including employee fundraising and rice donation, and have resumed our travel photo contest and sisterhood activities in rural villages that were once stopped due to the pandemic.

When COVID-19 subsides, Korean Air will resume its social contribution activities and realize the value of sharing across the world with new active sharing programs that befit the post-COVID-19 era.



Social contribution activities	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Monthly donations from employees																			
Habitat for Humanity																			
Korean Air travel photo contest																			
Free tree-planting kits on Arbor Day																			
Rice donation																			
Afforestation project in Mongolia (Korean Air Forest in Baganuur, Mongolia)																			
Sisterhood ties with rural villages																			
Angels of the Sky's volunteering activities																			
Creation of Korean Air Green Ecological Park in Kubuqi Desert of China																			
Korean language audio guide service project at international museums																			
Love & Care Plans																			
Medical volunteering projects by the Korean Air Aeromedical Center																			
Hanuel Sarang (Sky Love) English Class																			
Children's Airplane-Drawing Contest																			
Make Your Dream Come True field trip																			
Free flight-tickets to Korea for adopted Koreans living abroad																			
Sisterhood ties with military units																			
Fascinating Tour Programs with Korean Air																			

## ✈ Talent Management

### Employee Demographic

As of the end of December 2021, Korean Air has a total of 19,409 employees, including overseas employees. The percentage of female employees, which is an important indicator of diversity, has remained at 45% for the past three years. The average length of service (based on full-time employees working in Korea) is 16.8 years. Korean Air offers the highest level of wage and welfare benefits in the airline industry in Korea, and ensures consistency of starting salary regardless of gender and job type.

#### Employee demographic

(Unit: persons)

Category	Employment type		Job position/Level*	
	Full-time	Temporary	Manager level	Non-manager level
Male	10,625	159	3,079	7,546
Female	8,394	231	2,047	6,347
<b>Total</b>	<b>19,019</b>	<b>390</b>	<b>5,126</b>	<b>13,893</b>

\* Job position/Level: Based on full-time employees (As of the December 31, 2021, excluding executive directors)

#### Business Environment

In the past, companies viewed employees as resources, meaning that employees following instructions from managers well were considered the best talents. However, companies have recently started to practice talent management, viewing employees as active players with a desire for growth and advancement and the growth engine of the company. There is a growing emphasis on the importance of promoting employees' competitiveness and satisfaction level, including improving individual capabilities and expertise, appropriate compensation following fair evaluation, and a balance between work and life.

#### Management Approach

Korean Air was founded based on the management philosophy of "A company is the sum of its people." As such, Korean Air views people as the driving force behind its growth. Based on this belief, we pursue HR policies that respect diversity and a variety of welfare programs that promote work and life balance. We also strive to build a flexible organizational culture by diversifying communication channels with employees and operate a systematic talent-development program to foster the capabilities of individuals.

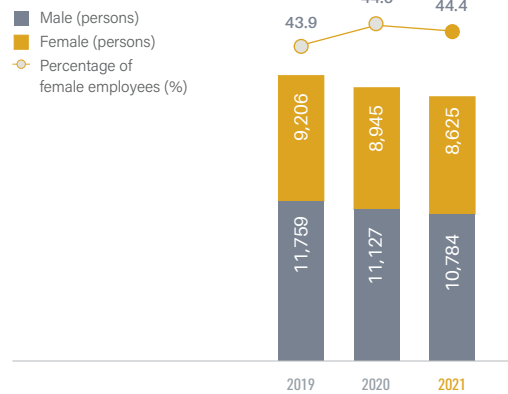
#### Performance in 2021

Indicators	2019	2020	2021
Percentage of female employees at manager level	35.4%	37.5%	39.9%
Female one-year retention rate after returning to work from parental leave	88%	90%	99%

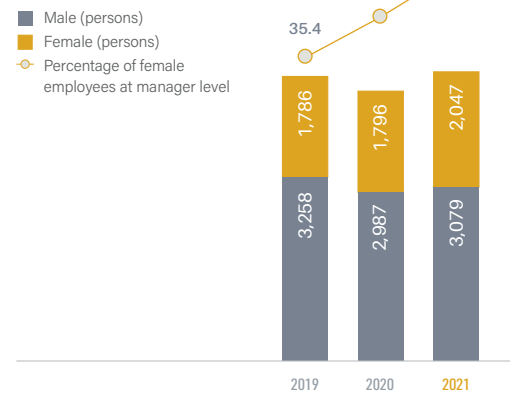


## Female employees

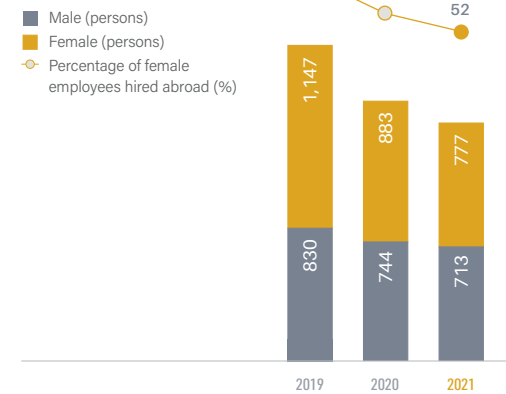
Percentage of female employees



Percentage of female employees at manager level



Percentage of female employees hired abroad



## Employment of Overseas Talent

Recognizing localization as the most important task for expansion into the global market, Korean Air actively seeks to secure and foster global talents. We are actively recruiting intellectuals, without discrimination against nationality, race, gender, culture, and religion and actively nurturing overseas managers based on our various ability-centered talent development policies, and programs implemented to strengthen the capabilities of overseas talents.

## Employees working at overseas business sites



\* As of December 31, 2021 (excluding executive directors)

## Domestic and local employees

(Unit: persons)

Category	Location	
	Hired Domestically	Hired Locally
Male	10,071	713
Female	7,848	777
<b>Total</b>	<b>17,919</b>	<b>1,490</b>

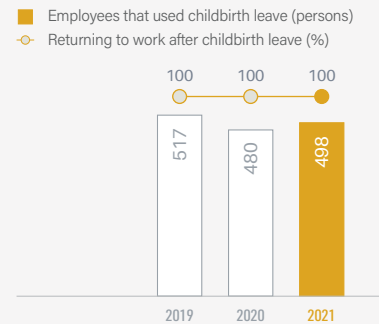
## Maternity Protection System

Korean Air has continued to elevate the status of women by steadily increasing the number of women hired and promoting maternity protection policies. According to our maternity protection system, female employees can take maternity leave before and after childbirth, take time off to take care of children or family, and use a reduced work-hour system, all in compliance with the legal standards. Our maternity protection system offers more than the legal standards, to include allowing all female employees to take infertility leave and maternity leave for female flight attendants from the day they become aware of their pregnancy.

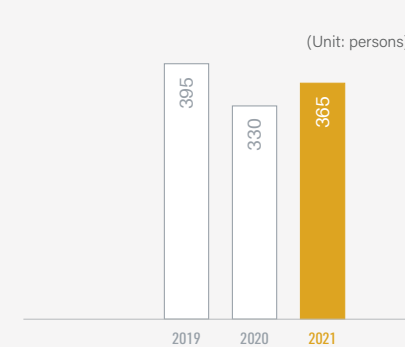
Furthermore, Korean Air also offers long-term/short-term voluntary leave for self-development and family care to all employees; and employees who need to adjust their working hours due to reasons including childcare, etc. can use the flexible working system. Korean Air aims to enable work and life balance by introducing a remote working system and work-from-home measures, and promotes a flexible workplace environment.

### Utilization of the maternity protection system

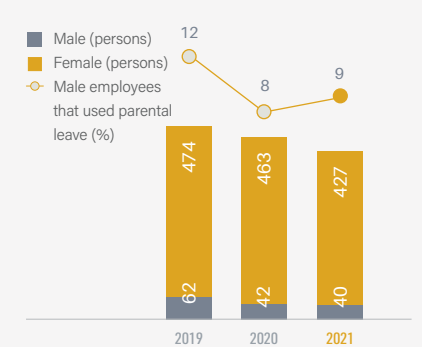
Employees that used childbirth leave/Returning to work after childbirth leave



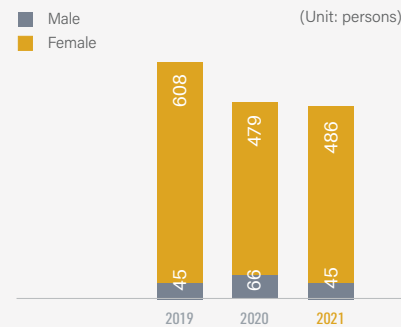
Employees that used maternity leave<sup>1)</sup>



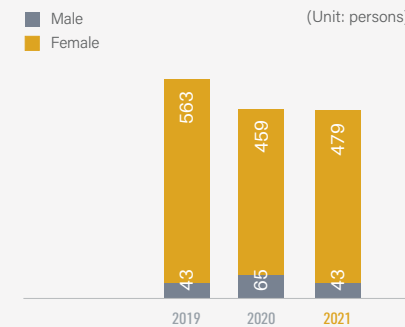
Male employees that used parental leave



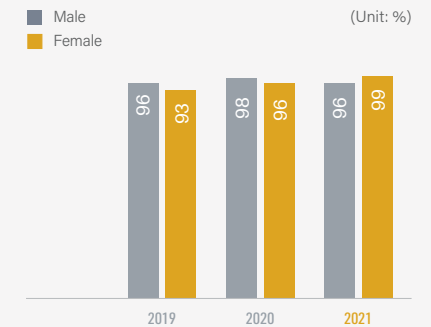
Employees expected to return from parental leave (A)



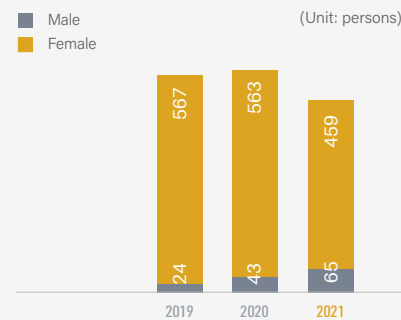
Actual employees returned from parental leave (B)



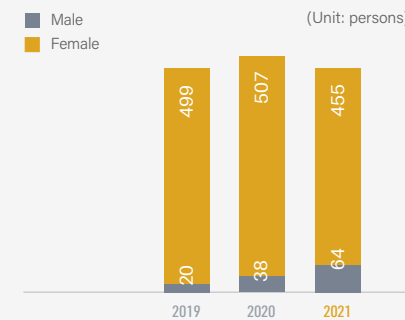
Parental leave return rate (= B/A\*100)



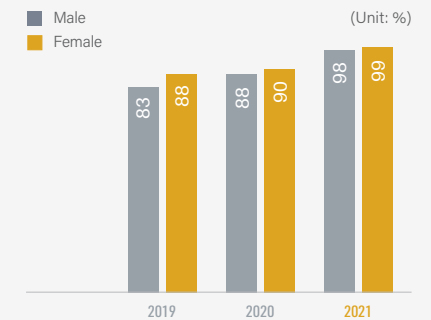
Employees returned from parental leave in the previous year (C=Previous year B)



Employees working for one year after returning from parental year for the current (D)



One-year retention rate after returning to work from parental leave (= D/C\*100)



<sup>1)</sup> Only flight attendants are eligible for taking maternity leave

# Fair Evaluation·Compensation System

## Multi-faceted evaluation system

All employees are evaluated based on fair standards for their contribution to the organization and their competency. Korean Air consists of employees of various occupations, and accordingly operates a multi-faceted evaluation system. Standardized work performance reports are used for field departments performing standardized tasks, whereas flight crews are evaluated based on the nature of their work, including flight operation skills for a certain aircraft or region and ability to perform emergency procedures in urgent situations. The evaluation results are incorporated into the salaries and decisions for promotion for each job-type and position.

## Fair Compensation System

Korean Air's HR management system, which is non-discriminatory and transparent, is based on a fair evaluation system that evaluates employees for their performance and competence. The airline provides equal treatment for both full-time and temporary employees, including basic salary, performance-based incentives, and safety subsidies. Other benefits provided regardless of employment type include discount flight tickets, which is a representative welfare benefit package, congratulations and condolences allowance, medical support, and condominium use.

## Welfare System

Korean Air offers the highest level of salary and welfare among companies in the airline industry to improve employees' quality of life. We offer a variety of welfare programs, including discount flight tickets for employees and families to cultivate global leadership skills and provide quality rest time, housing, tuition fees, leisure support, medical expenses, and financial security for retirement.

Category		Details
Health support		<ul style="list-style-type: none"> <li>Subscription to the national health insurance scheme</li> <li>Self-insurance support (allowances for sickness/accidents/death of employees and/or their spouses)</li> <li>Support for flu vaccination</li> <li>Medical bill subsidies for overseas flight attendants and employees on business trips</li> <li>Operation of in-house clinics and a counseling center (with resident aviation specialists, nurses, and psychological counselors)</li> </ul>
Leisure support		<ul style="list-style-type: none"> <li>From 25 to 35 free flight tickets annually (tickets separately provided for marriage/filial piety/long service)</li> <li>Partner condominiums (resorts) in Korea</li> <li>Discounts for prestigious hotels in Korea and abroad</li> <li>Support for in-house club activities</li> </ul>
Daily living		<ul style="list-style-type: none"> <li>Company-housing provision (1,079 units)</li> <li>Housing and Jeonse loans</li> <li>Tuition support for children                             <ul style="list-style-type: none"> <li>Support for childcare expenses and tuition subsidies for domestic and overseas high school/university/special school for the disabled</li> <li>Tuition and language course subsidies for children of expatriates</li> </ul> </li> <li>Tuition support for employees attending a designated university/graduate school to earn a degree in a job-related field</li> <li>Bottled water for all employees every month</li> <li>Congratulatory and condolence support (emergency leave, expenditure for congratulations and condolences, wreath, and funeral supplies)</li> <li>Support for anniversaries (birthdays of employees, children entering elementary school, etc.)</li> </ul>
Retirement support		<ul style="list-style-type: none"> <li>Subscription to the national pension plan</li> <li>Monthly subsidies for all employees' personal pension plans (KRW 50,000)</li> <li>Operation of Korea's largest corporate credit union and subsidization of contribution to the corporate credit union upon retirement</li> </ul>
Incentives		<ul style="list-style-type: none"> <li>Performance-based incentive</li> <li>Safety performance incentive</li> </ul>

# Talent Development

"People are at the heart of corporate management, and nurturing of people starts from proper education."

"People" are the number one value and resource of Korean Air, and we develop and operate a variety of training curricula to nurture global talents based on this belief.

## Korean Air's training system

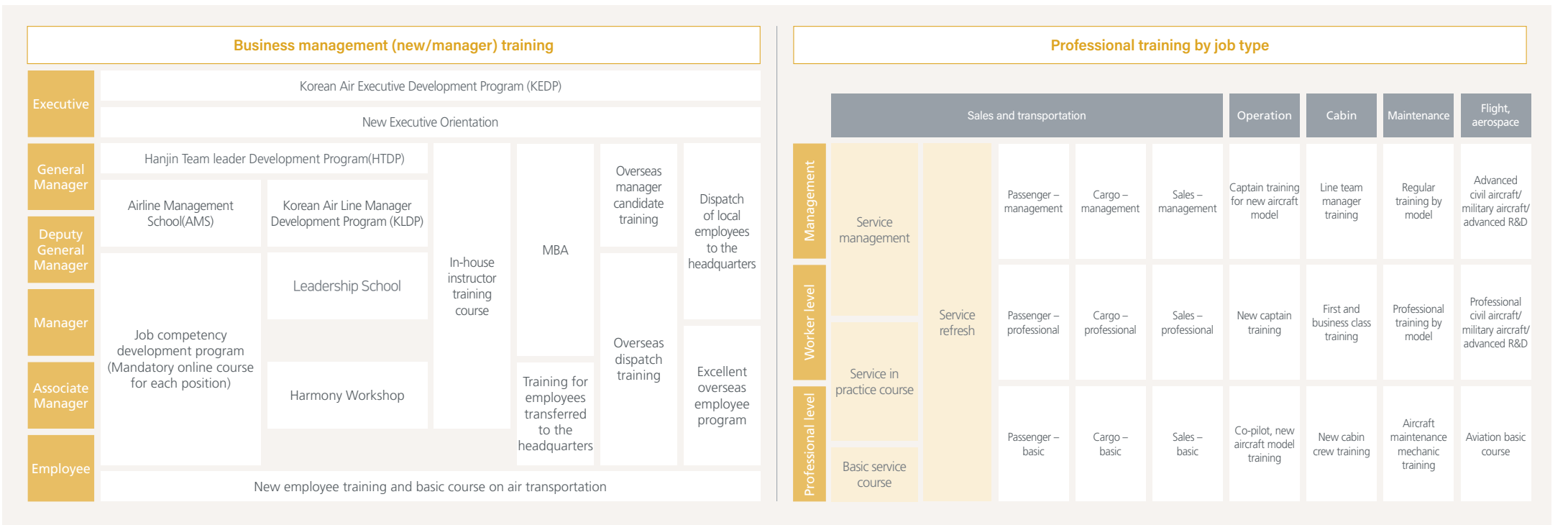
Under the education policy of "fostering global talents based on expertise," Korean Air operates a training system that provides systematic training by job position/ job type based on two competency models: management competency; and job competency. The human resources management headquarters is responsible for efficient operation of training, by establishing and executing education policies and a company-wide common training course. We also put in place professional training organizations specializing in each field, including flight operations/cabin/ maintenance.

### Employee Training Performance (2021)

Category	Performance
Total	38 hours
Training hours per person	
Male	44 hours
Female	31 hours
Training budget per person	1,163 (unit: KRW 1,000)
Number of trainees by position (percentage)/ hours	
Executive	80 persons (0.4%)/1,526 hours
Manager and above	11,238 persons (56%)/ 409,428.9 hours
Assistant manager and below	8,750 persons (43.6%)/ 328,294.7 hours

### Online training content

(Unit: ea)





### Flexible online/offline education in response to external factors

The prolongation of the pandemic has imposed restrictions on carrying out planned training throughout 2021. However, Korean Air utilized IT systems including Google Meet to provide new hire orientation sessions, training for overseas manager candidates, and other statutory training courses online. We will flexibly respond to external factors in 2022, including COVID-19 and the government's quarantine guidelines, and carry out both online and offline training activities. However, in the event that the pandemic subsides in 2022 due to increased vaccination rates and treatment development, the airline is expected to expand planned training courses including sessions for team/group leaders.

### Training overseas local hires

We have developed and are operating an overseas local employee training system in order to cultivate global talents who can contribute to establishing the foundation for overseas localization. Representative courses include our "Excellence Employee Program," which is designed to enhance understanding of our business and Korean culture, "Company Orientation" for new foreign flight attendants and cabin crew, and the "English Instructor Training Course" to nurture local instructors. In addition, under instruction of the branch manager, new hires of the European/Southeast Asia regions are required to take the New Employee Orientation course either online or offline. The course helps prepare the new hires as new members of Korean Air.

We have added real-time remote classes by business area/region to meet the growing demand for training regarding passenger/cargo basic/maintenance following COVID-19- induced changes in the number of employees working at overseas business sites. Through close interaction and communication between the Service Academy of the headquarters' Human Resources Development Center and overseas branches, Korean Air provides timely services to promote the quality of local employees' services. We are expanding our real-time remote training courses for overseas employees to overcome the restrictions in training and education caused by COVID-19. We are also providing more service education opportunities by regularly producing and distributing self-learning content and online training courses to enable repetitive learning and easier access to education for employees abroad.

### Lifelong learning and retiree assistance program

Korean Air operates Jungseok College, Korea's first in-house tech school, and supports lifelong learning of employees by providing full scholarships to all students. Jungseok College was founded in 2000 to nurture talents who will play a pivotal role in the aviation and logistics industries based on the combination of rich hands-on experience and academic theories. Since the school opened in 2000, a total of 1,479 degrees have been awarded a total of 21 times, including 1,038 bachelor's degrees and 441 associate degrees. Jungseok College is becoming a platform for nurturing future-oriented intellectuals by providing employees opportunities to be creative and pursue self-development, and allowing employees to engage in lifelong learning.

Furthermore, Korean Air provides scholarships to employees continuing studies in the Graduate School of Aviation and Management of Korea Aerospace University and the MBA program for logistics at Inha University. We provide 10% of the tuition fee as scholarship to encourage employees' continuous self-development and to nurture talents in the aviation and logistics field. Through these efforts, we promote employees' motivation to learn and desire for lifelong learning. Korean Air is currently operating a post-retirement program to support employees reaching retirement age. The program includes courses on post-retirement time management, life/career design, individual financial situation, and asset management.

Training performance for prospective retirees (2021)				
Course	Target employees	Employees that took the course	Hours	Total hours
INTRO (life design)	205	103	1	103
Post-retirement time management (life design)	205	86	1.5	129
Useful first-aid procedures (life design)	205	79	1	79
Physical therapy for a healthy life (life design)	205	60	1	60
Understanding leadership (life design)	205	56	1.5	84
Communication in an organization (life design)	205	53	1	53
Successful relationships (life design)	205	63	1	63



## Organizational Culture Based on Trust and Communication

### Operation of a proposal board

In January 2021, Korean Air introduced "Idea#," an in-house online bulletin board, where employees can freely share their ideas and create a productive work environment. Idea# is a company-wide platform that consolidates all of the suggestion systems that were implemented separately for the headquarters and each business division. Employees are able to share opinions without limitation on topics, regardless of their team and organization, and all employees are free to give constructive feedback and share their own thoughts. Relevant teams would thoroughly review the opinions posted, and any opinions that are selected receive awards. Every day, 510 employees visit the bulletin board on average and share their opinions on their colleagues' ideas. In-house contests are held for certain themes and topics that require collective intelligence.

A large number of employees have already shown their enthusiasm for themes including ESG and CCM by taking part in in-house idea contests, and we have also developed features to increase participation in surveys and polls. Idea# is quickly becoming a representative channel for in-house communication and contributing to improved productivity by encouraging employee participation.

#### Idea# activities in 2021



### Stronger Together campaign

Korean Air is conducting a company-wide innovation campaign first launched in 2020, titled "Stronger Together," to build a dynamic and forward-looking organizational culture. The objective of the campaign is to prepare for the post-COVID-19 era and strengthen the competitiveness of the airline, by improving the organizational structure and ways of doing business and communication. The organizational structure was partially reformed to enhance manpower efficiency and eliminate inefficiencies that hinder fast decisions. We also redefined the roles and responsibilities of each team to eliminate gray areas.

By sharing department and team objectives, Korean Air set a clear direction for each department, improved employees' understanding of other teams, and built the basis for cooperation between teams. Furthermore, Korean Air launched an awareness improvement campaign, under which employees can lead changes in the way work is done. We post 10 critical themes, including meetings, reporting, and communication on the company-wide news bulletin board and in-house display to encourage employees' voluntary efforts to make changes. In addition, we have replaced complicated documentation requirements with emails to eliminate unnecessary procedures and inefficiencies, and simplified processes across the company. We have also established a standard terminology system to systematically manage expert knowledge in aviation. Using the system and standardization of work, we further strengthen communication among employees and expertise in the aviation field.

Based on respect for diversity and a transparent culture of communication, Korean Air will continue to implement the Stronger Together campaign to create a flexible organizational culture capable of responding to the fast-changing environment.

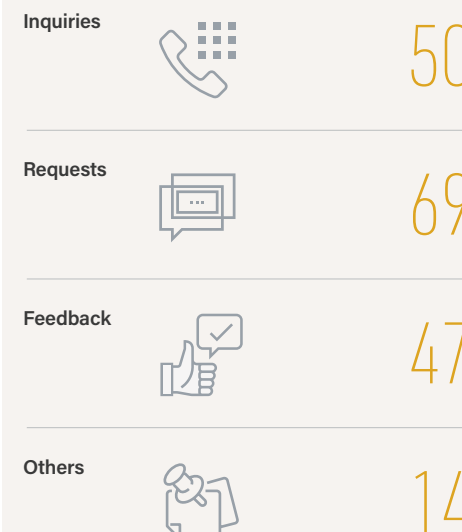
### Communication plaza

Korean Air operates the "communication plaza" bulletin board on the airline's website for employees to improve organizational culture based on flexible communication and mutual trust. The communication plaza is an online bulletin board that employees use as a constructive platform for communication to anonymously submit questions, and send complimentary and encouraging messages to each other. By strictly protecting anonymity, employees are free to share ideas without limitation to topics. Departments in charge swiftly respond to inquiries and requests submitted by employees and take relevant measures, which leads to vitalization of in-house communication and substantial improvement of the organizational culture.

### Korean Air launches "Daehan TV," an in-house broadcasting YouTube channel

In June 2021, Korean Air launched Daehan TV, its in-house YouTube channel. Korean Air strives to create a channel for "Korean Air to become one," by highlighting various aspects of employees' activities and their hard work, and spreading the culture and values of the airline through YouTube videos. Since its founding, Daehan TV has received high praise for contributing to creating an energetic and positive atmosphere within the company by providing employees with various topics, including new hires' onboarding process, introduction of free dress code, experience working overtime, interviews during cargo peak seasons, interviews with developers of unmanned vehicles, and a variety of events.

#### 2021 Communication plaza activities





# GOVERNANCE

**65**

Sound Governance

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Ethical and Compliance Management

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Risk Management



## ✈ Sound Governance

### Board of Directors

Korean Air's Board of Directors consists of three executive directors with rich industry experience and nine independent directors with diverse backgrounds in finance/economics, law, governance, and ESG. Independent director candidates are nominated by the Independent Director Recommendation Committee and are appointed by a resolution of the general shareholders' meeting. In this procedure, shareholders with certain qualifications can nominate independent director candidates in accordance with prescribed procedures. Profiles of independent directors and candidates are disclosed on the DART website prior to the general meeting of shareholders.

#### Independence of the BOD

In March 2020, Korean Air made amendments to its Articles of Association to appoint different persons as the CEO and the chairman of the BOD; and appointed Jeong Kap-Young as the new chairman, thereby strengthening the independence of the Board of Directors. A total of three independent directors were appointed at the 2021 general shareholders' meeting considering the independence and objectivity of the BOD. The directors appointed include Kim Se-Jin, an expert on corporate management and economy; Jang Yong-Sung, a finance specialist; and Lee Jae-Min, a legal expert. The percentage of independent directors increased from 67% to 75%, which reinforced the independence and management transparency of the BOD. Furthermore, four committees (Independent Director Recommendation Committee, Audit Committee, ESG Committee, and the Compensation Committee) except for the Safety Committee that requires in-house safety specialists, all consist of independent directors, which promote the independence and objectivity of the Board of Directors.

#### BOD's expertise and diversity

Korean Air focuses on expertise and diversity in the Board of Directors to drive balanced decisions based on a broader perspective. The Independent Director Recommendation Committee, which is made up of independent directors, nominates candidates with expertise and a high social reputation that can contribute to achieving the company's overall direction and objective. The independent directors are appointed by a resolution of the general meeting of shareholders. The airline's Board of Directors is currently composed of highly professional and prestigious professionals from various fields, including management, finance, corporate governance, and law.

#### BUSINESS ENVIRONMENT

In accordance with recognition of the growing importance of establishing sound governance structures for global investment - and more demand for an advanced governance system from home and abroad - establishment of a sound governance structure has become the backbone of a company's sustainable growth. Recently, the importance of the roles and responsibilities of the Board of Directors on not only financial performance, but also non-financial factors, including ESG (Environmental, Social, and Governance) has grown. More emphasis is being put on the independence, expertise, and diversity of the directors.

#### MANAGEMENT APPROACH

In order to fulfill corporate social responsibilities to stakeholders, Korean Air has set "establishment of a sustainable governance structure" as its main mission, and is striving to internalize ESG management and introduce an advanced Board of Directors-centered governance structure. In 2021, Korean Air established the ESG Committee under the Board of Directors to lead ESG activities and introduced a systematic ESG management system. In addition, we have incorporated our respect for diversity by making revisions and changes to the Corporate Governance Charter, which serves as the backbone for corporate governance structure. Understanding that a sound corporate governance structure contributes to customers, employees, various stakeholders, and even the society, Korean Air will continue to make efforts to achieve sustainability management centered on the Board of Directors.

#### PERFORMANCE IN 2021

Indicator	2019	2020	2021
Number of BOD meetings	7	12	9
Number of approved resolutions	39	53	49
Attendance rate	96%	95%	99%



In addition, the BOD achieved gender diversity by appointing the first female independent director in 2020, and has reflected various values in the Corporate Governance Structure Charter in 2021 to ensure that directors are not discriminated against due to factors such as gender, age, region, ethnicity, religion, and disability. Korean Air will continue to reinforce the expertise and diversity within the Board of Directors to accomplish advanced management led by the BOD.

## BOD Achievements

Throughout the year 2021, Korean Air held a total of nine board meetings, including seven regular meetings and two extraordinary meetings, to vote on a total of 49 agenda items. The BOD holds regular meetings at least quarterly to discuss major topics in-depth and conducts thorough reviews, and convenes extraordinary meetings whenever necessary.

The annual BOD meeting schedule is notified in advance to ensure a higher attendance rate. In 2021, the average attendance rate was 99% for all directors and 100% for independent directors. Executives from various business divisions, including passenger, cargo, finance, and technology, attend the BOD meetings to enhance the directors' understanding of the agenda items, and executives in charge of each item assist in explaining the relevant issues to the board and answer questions.

Furthermore, the Board of Directors has organized and begun to operate the "Board Secretariat" for professional and efficient operation of the BOD and to support independent directors. The Board Secretariat also provides educational opportunities for newly appointed independent directors, including Company Orientation, a chance to visit major business sites to enhance their understanding of the business, and provision of briefing materials when major management issues arise.

Board of Directors						
	Name	Gender	Position	Date of appointment	Terms	Remarks
Executive directors	Cho Won-Tae	Male	Chairman & CEO	March 26, 2021	3 years	-
	Woo Kee-Hong	Male	President	March 27, 2020	3 years	-
	Lee Soo-Keun	Male	Chief Safety & Operating Officer	March 27, 2020	3 years	-
Independent directors	Jeong Kap-Young	Male	Honorary Professor at Yonsei University	March 27, 2020	3 years	BOD Chairman
	Rim Che-Min	Male	Advisor at Lee & Ko Law Firm	March 26, 2021	3 years	-
	Kim Dong-Jae	Male	Professor at the Graduate School of International Studies at Yonsei University	March 26, 2021	3 years	-
	Park Nam-Gyoo	Male	Professor at Seoul National University Business School	March 23, 2022	3 years	-
	Cho Myeong-Hyeon	Male	Professor at Korea University Business School	March 27, 2020	3 years	-
	Park Hyon-Joo	Female	Country Executive for Korea at BNY Mellon	March 27, 2020	3 years	-
	Jang Yong-Sung	Male	Collaboration Professor at Hanyang University Business School	March 26, 2021	3 years	-
	Kim Se-Jin	Male	CEO of Korea Fund Ratings Co.	April 27, 2021	3 years	-
	Lee Jae-Min	Male	Professor at Seoul National University School of Law	March 26, 2021	3 years	-

\* As of May 2022

Major activities of the BOD in 2021		
Date	Agenda	Attendance of independent directors
February 4, 2021	Seven agenda items including the FY2020 Account Settlement	6/6
March 11, 2021	Five agenda items including the 59th Annual General Shareholders' Meeting	6/6
March 26, 2021	Five agenda items including the appointment of the CEO (proposal), and composition of committees within the BOD (proposal)	8/8
May 13, 2021	Five agenda items including the first quarter of 2021 FY2021 Account Settlement (proposal)	9/9
June 28, 2021	Three agenda items including finalization of the PMI plan for the acquisition of Asiana Airlines	9/9
August 12, 2021	Nine agenda items including FY2021 Semi-Annual Close (proposal)	9/9
November 11, 2021	Six agenda items including the third quarter of the FY2021 Account Settlement (proposal)	9/9
December 2, 2021	Eight agenda items including 2022 business plan (proposal)	9/9
December 23, 2021	Conclusion of sales contract for the Songhyeon-dong site (proposal)	9/9

\* Directors Jang Yong-Sung and Lee Jae-Min have been appointed as independent directors as of March 26, and Kim Se-Jin as of April 27

## Committees within the BOD

Korean Air has established and is operating five committees: namely, the Audit Committee; Independent Director Recommendation Committee; ESG (Environmental, Social, and Governance) Committee; Safety Committee; and Compensation Committee - within the BOD, to ensure efficient operation of the BOD and to comply with relevant laws and regulations. Four out of five committees, with exception of the Safety Committee that requires an in-house safety specialist, are composed solely of independent directors.

## ESG Committee Achievements

Korean Air's ESG Committee met four times in 2021 and submitted and deliberated on a total of 15 agenda items. The ESG Committee, composed of all independent directors, is held on a quarterly basis to actively reflect non-financial factors of the company, including the Environment, Society, and Governance into management tasks and activities. Activities performed by the Committee include deliberation of internal transactions in accordance with relevant laws and regulations including the Fair Trade Act, review and overall management of the company's ESG tasks, and preliminary review of major management issues that have a significant impact on shareholder value. Furthermore, in January 2021, a systematic ESG management system was introduced by establishing an ESG Secretariat dedicated to ESG management to ensure that ESG management activities are efficiently and effectively reported to the Committee and the BOD through collaboration among departments.

Committee information			
Committee Name	Composition	Directors	Purpose and responsibilities of the committee
Independent Director Recommendation Committee	All independent directors	Jeong Kap-Young (Chairman), Rim Che-Min, Kim Dong-Jae, Park Nam-Gyoo, Kim Se-Jin	Nominating independent directors pursuant to relevant laws and regulations, including the company's Articles of Association and the BOD's regulations.
Audit Committee	All independent directors	Kim Se-Jin (Chairman), Rim Che-Min, Kim Dong-Jae, Park Hyon-Joo, Jang Yong-Sung, Lee Jae-Min	Auditing the books and business operations while dealing with matters commissioned by the BOD in accordance with the governing laws, including the Articles of Association and the BOD's regulations
ESG Committee	All independent directors	Kim Dong-Jae (Chairman), Park Nam-Gyoo, Cho Myeong-Hyeon, Jang Yong-Sung	Review and control over ESG (Environmental, Social, and Governance) related activities; preliminary review of major management matters that have a significant impact on shareholder value; deliberation/decision on internal transactions prescribed by relevant laws and Fair Trade Act
Safety Committee	Executive (2) Independent (3)	Lee Soo-Keun (Chairman), Woo Kee-Hong, Rim Che-Min, Cho Myeong-Hyeon, Lee Jae-Min	Monitoring and making proposals on safety performance and management, and making decisions on the agendas and items commissioned by the BOD
Compensation Committee	All independent directors	Park Nam-Gyoo (Chairman), Kim Dong-Jae, Park Hyon-Joo	Obtaining objectivity and transparency in the decision making process for directors' compensation, and determining matters related to directors' compensation and delegation of the BOD

\* As of May 2022

Major activities of the ESG Committee in 2021		
Date	Agenda	Attendance of independent directors
March 5, 2021	<ul style="list-style-type: none"> <li>Report on carbon regulations and ways to reduce carbon emissions</li> <li>Deliberation of large-sized intercompany transactions (products/services) in the 2<sup>nd</sup> quarter of 2021</li> </ul>	3/3
June 25, 2021	<ul style="list-style-type: none"> <li>Appointment of the Chairman of the ESG Committee</li> <li>Deliberation of large-sized intercompany transactions (products/services) in the 3<sup>rd</sup> quarter of 2021</li> <li>ESG bond issuance plan (proposal)</li> <li>Report on the signing of the MOU for cooperation on bio-jet fuel</li> <li>Publication of the Corporate Governance Report</li> </ul>	4/4
September 8, 2021	<ul style="list-style-type: none"> <li>New lease contract (proposal) for Jin Air's B737-800 (1 unit)</li> <li>Extension of lease contract (proposal) for Jin Air's B777-200ER (1 unit)</li> <li>Deliberation of large-sized intercompany transactions (products/services) in the 4<sup>th</sup> quarter of 2021</li> <li>Publication of the 2021 ESG Report</li> </ul>	4/4
December 10, 2021	<ul style="list-style-type: none"> <li>Deliberation of large-sized intercompany transactions (products/services) in the 1<sup>st</sup> quarter of 2022</li> <li>Partial revisions to Korean Air's Corporate Governance Charter</li> <li>Report on the 2021 ESG assessment results and future tasks</li> <li>Report on results of the ESG management idea contest</li> </ul>	4/4

\* Director Jang Yong-Sung has been appointed as an independent director as of March 26

## Stakeholder Communication Channels

Through a range of channels, including business reports, semi-annual and quarterly reports, Corporate Governance Report, IR information on the website, general shareholders' meetings, IR sessions, and the DART system, Korean Air shares and communicates on major business issues with stakeholders and shareholders swiftly and receives their feedback. The ESG report, which serves as the main channel of communication with stakeholders, is published with the approval of the heads of each division, the vice president, and the president.

## Value of Diversity in the Corporate Governance Charter

Korean Air reflected its respect for diversity into the Corporate Governance Charter, the backbone of its corporate governance structure, by making partial revisions and amendments to it in December 2021. The Charter stipulates matters pertaining to shareholders' rights, the roles and responsibilities of the BOD, operations of auditing bodies, and protection of stakeholders' rights. Korean Air has strived to further improve the governance structure after first enacting the Corporate Governance Charter in November 2019.

To follow the global trend of governance structure and pursue diversity, Korean Air appointed a female independent director in March 2020, and announced in June that the company would take part in IATA 25 by 2025\*, an IATA-led campaign, to promote diversity and inclusiveness in the aviation industry. In addition, the airline has stipulated respect for diversity at the board-level in Article 5(4) of Chapter 2 of the Corporate Governance Charter in December.

\* IATA 25 by 2025: An IATA-led campaign for members to improve female executives' representation by 25%, or up to a minimum of 25% by 2025

### Article 5 of Chapter 2 of Korean Air's Governance Charter (Composition of the Board of Directors and Election of Directors)

④ Directors shall not be discriminated against by factors such as gender, age, region, race, religion, education, or disability, and should contribute to enhancing the Company's value and shareholder interests.

[View full text of Korean Air's Corporate Governance Charter](#)

## Korean Air Receives "Grade A" in KCGS ESG Evaluation for the Second Consecutive Year

Korean Air obtained an "overall Grade A" in the ESG evaluation conducted by the Korea Corporate Governance Service (KCGS), Korea's largest ESG evaluation and proxy advisor body. Korean Air's grade for the Governance section was upgraded from B+ to A, based on its improvement efforts, including separation of the chair and CEO roles, appointment of a female independent director, and establishment of an ESG Committee composed only of independent directors. The company received an A+ in the Society section, and an A in Environment. Korean Air will continue to carry out management activities, taking into account non-financial factors including ESG to promote corporate value and sustainability.

Year	E (Environmental)	S (Social)	G (Governance)	Overall Grade
2021	A	A+	A	A
2020	A	A+	B+	A

# ✈ Ethical and Compliance Management

## Ethical Management Activities

Defining “corporate ethics” as the foremost value for corporate management and business activities, Korean Air is at the forefront of practicing ethical management based on transparency, fairness, and reasonableness. The Charter of Ethics, the basis of corporate ethical activities, clearly defines the corporate values and objectives that the company pursues. The Charter of Ethics states transparent and responsible management as the corporate philosophy, and reflects the company's desire and will to promote public values through corporate compliance activities and respect for the free competitive market in pursuit of mutual prosperity. Moreover, the company operates a specific and substantive corporate ethics program, including <Guidelines on the Implementation of Code of Ethics>, <Guidelines on Dealing with Ethical Issues>, and the <Whistleblowing System> to practice the rules of ethics stated in the <Charter of Ethics>.

### Korean Air Charter of Ethics

Korean Air regards transparency and responsibility as vital management values. We respect free market principles and abide by relevant rules and regulations in our business practices. With these principles, we strive to promote prosperity for the company and society as a whole.

As a result, Korean Air institutes a Charter of Ethics, which we vow to put into practice at all times.

- Regard customer satisfaction and safety as our highest priority.
- Exert best efforts to increase investment value for our investors.
- Respect all employees and make an effort to enhance their quality of life.
- Promote joint development with our business partners based on mutual trust.
- Respect the principles of free competition and that we are the front-runner in the development of the airline transport industry.
- Contribute strongly to the development of society and to the preservation of the environment.
- Acknowledge the corporate principles set forth by the company and uphold all of our obligations and responsibilities

### Whistleblowing system

Korean Air operates a channel<sup>1)</sup> for reporting internal corruption within the internal portal system and the company website, as one of its measures to achieve ethical management. Through the channel, stakeholders including employees, customers, and shareholders can report misconduct within the company with regard to violation of regulations, corruption, fraudulent activities, and other irregularities that often arise in supplier transactions. In addition, employees reporting such incidents are protected from any disadvantage in accordance with the relevant principles and procedures.

<sup>1)</sup> E-mail: jebo@koreanair.com or whistleblower@koreanair.com

### Business ethics programs

In-house guidelines and regulations on ethical management	Details
➞ Charter of Ethics	Management philosophy and guiding principles in all business activities
➞ Guidelines on the Implementation of Code of Ethics	Detailed business conduct guidelines for implementing the Charter of Ethics
➞ Guidelines on Dealing with Ethical Issues	Guidelines for employees to make correct decisions and act on the basis of sound judgment
➞ Whistleblowing System	System to deter the occurrence of illegal misconduct within the organization and prevent retaliation against employees reporting such activities

### History of cases reported and violation

#### Number of cases reported

Category	2019	2020	2021
Cases reported	15	15	32

#### Misconduct

Category	2019	2020	2021
Violation of ethical regulations	5	5	8
Sexual harassment/ workplace bullying	9	2	7
Issues related to unfair competition	0	0	0
<b>Total</b>	<b>14</b>	<b>7</b>	<b>15</b>

#### Personnel measures

Category	2019	2020	2021
Light punishment	2	0	4
Severe punishment	12	4	15
Dismissal/resignation under instruction	5	2	4
<b>Total</b>	<b>19</b>	<b>6</b>	<b>23</b>



## Compliance Activities

### Compliance management

Korean Air appointed "compliance management specialists" in over 20 different areas at home and abroad, and published the Legal Risk Management Guidebook that prescribes the respective governing laws and matters to be attended to. Employees from each division are required to complete the company's training course to prevent potential legal risks that may arise related to work.

### Compliance Officer's compliance review report

For compliance management, Korean Air monitors transactions with subsidiaries pursuant to Fair Trade Act, and performs legal reviews on transactions exceeding KRW 1 billion on a quarterly basis, before preparing a compliance review report signed by the Compliance Officer.

### Compliance response

Upon enforcement of a new decree, Korean Air not only shares with all employees and notifies them of the legal issues relevant to the company, but also establishes a new system or improves existing work processes, and performs self-inspection to review whether the new system is functioning as intended. The company has created a manual to follow in case a security accident or issue that is in violation of the General Data Protection Regulations (GDPR) of the EU arises, and has conducted a drill to prepare for website-related personal information leakage. We also perform reviews on compliance standards and the adequacy of compliance levels, including confirmation of a checklist related to the UK Modern Slavery Act 2015, and statement disclosure, maintenance of systems related to the Serious Accidents Punishment Act (SAPA), and preparation for the China Personal Information Protection Law (PIPL), on a regular basis.

## Strengthening Ethical and Compliance Management Training

Through a variety of systematic ethical management/compliance training programs, Korean Air helps employees acquire, practice, and comply with principles and codes related to ethical management and compliance.

Every other year, employees at home and abroad are required to complete the "Our Ethical Management" course, an online training course provided for each business area, which is about the importance of ethical management activities and corporate philosophy. The employees are required to pledge their compliance with the responsibilities and obligations stated in the company's ethical management guidelines.

Korean Air strives to promote employees' compliance awareness by conducting training on the Improper Solicitation and Graft Act and Fair Trade Act for new hires and employees hired overseas. The airline also requires employees to complete courses on Compliance with Antitrust Laws, Understanding the Improper Solicitation and Graft Act, and Understanding of the Abuse of Market Dominance and Unfair Trading Practices. Furthermore, Korean Air also strengthens employees' compliance management responsibilities by publishing the Compliance Newsletter every quarter.

Ethical and compliance management training for employees			
(Unit: persons (participation rate))			
Courses	2019	2020	2021
Our Ethical Management <sup>1)</sup>	-	17,408 (95%)	-
Compliance with Antitrust Laws <sup>2)</sup>	1,198 (88%)	1,055 (81%)	886 (79%)
Understanding the Improper Solicitation and Graft Act <sup>1)</sup>	16,783 (80%)	-	10,538 (89%)
Understanding the Abuse of Market Dominance and Unfair Trading Practices <sup>3)</sup>	-	-	13,779 (76%)
Understanding the Compliance System	-	-	12,714 (71%)

<sup>1)</sup> Conducted every other year for all employees, when training new hires, and as an open course

<sup>2)</sup> Conducted every year for domestic and overseas sales personnel (Decrease in the number of employees due to the COVID-19 closure)

<sup>3)</sup> Scheduled to be implemented in 2022 as a biennial course, but postponed to 2021 due to the closure caused by COVID-19

## ✈ Risk Management

### Non-Financial Risks

#### Strategic and operational risks

A high-level consultative body composed of heads of business divisions is convened to review and discuss economic, environmental, and social trends from a company-wide perspective, as a means to maximize corporate value. In addition, internal audits are conducted to evaluate the risk-level of each business division and review the efficient use of resources.

#### Regulatory risks

Korean Air established a monitoring system to ensure compliance with relevant laws and regulations, and actively responds to regulatory risks by using various resources including the legal department and legal advisors. Moreover, the Compliance Program is implemented to prevent the possibility of unfair transactions.

#### Accident-related risks

The Corporate Aviation Safety & Security Department was established to oversee all matters related to safety and security, including preventing aircraft accidents and hijacking, and minimizing losses. Regulations, manuals, and guidelines on emergency and accident responses are published and the emergency-response system is inspected, while company-wide drills and training are conducted at least once per year to enhance the airline's ability to respond to unexpected aircraft accidents.

#### Environmental risks

The company makes a lot of efforts to minimize environmental risks, including a company-wide initiative to prevent environmental risks, establishment of rules on environmental accident/crisis responses, and drills on potential oil and chemical leakages caused as a result of emergency response drills. To hedge against ground pollution emergencies, Korean Air conducts emergency response drills for each department as a means to prevent risks associated with environmental accidents. Furthermore, the adoption of high-efficiency aircraft and the development of short-cut routes are some of the actions taken by Korean Air to minimize the negative impacts of climate change on the environment.

### Financial Risks

Korean Air established and operates a separate team to manage financial risks under the Finance Planning Team of the Corporate Finance Division. The team performs systematic risk management activities including monitoring risk factors in the market to minimize financial risks.

#### Exchange rate fluctuation risks

Korean Air is exposed to risks associated with exchange rate volatility because it deals with transactions in foreign currencies. The high percentage of foreign currency loans makes Korean Air's profit/loss and cash flow vulnerable to fluctuations in the exchange rate. As a result, the airline aims to reduce the share of its dollar loans by diversifying the portfolio of borrowing currencies and expanding the borrowing of KRW based on a fixed rate as much as possible. Korean Air especially focuses on continuing to manage the exchange rate fluctuation risk through currency derivatives contracts. In addition, the airline's Cash Management System helps monitor income and expenditures on a regular basis and maintain an adequate level of balance by currency, which minimizes negative impacts associated with exchange rate volatility.

#### Interest rate fluctuation risks

Korean Air's borrowings are based on both fixed and variable interest rates, and floating rate loans affect the profit/loss and cash flow of the company in accordance with fluctuations in the exchange rate. By closely monitoring current market interest rate levels and the monetary policies of major countries, Korean Air works to effectively manage risks related to interest rate fluctuations, through increasing the amount of fixed rate loans in surplus currencies with low interest rates (Yen, Euro, etc.) and interest rate swap agreements.

#### Oil price risks

The air transport industry is an industry in which oil prices account for a high percentage of the overall operating costs. Therefore, fluctuations in oil prices affect the profit/loss and cash flow of the company. Various factors, including crude oil production volume, demand forecasts, crude oil inventories, and speculative demand in the commodity market play a huge role in the fluctuation of market prices for petroleum products, such as jet fuel. The average amount of jet fuel consumption of Korean Air for the past five years was approximately 28 million barrels, so the airline is managing oil price risks through introduction of new fuel-efficient aircraft and materials and oil derivatives.

#### Tax risks

In all its business operations, Korean Air's priority is to comply with tax laws and regulations and to faithfully report and pay taxes. To that end, Korean Air collaborates with the internal tax organization and experts from inside and outside the company to conduct preliminary assessment of and follow up on tax risks that may occur in the process of major goods/services transactions, contract modifications, and initiation of new business projects. In addition, the airline contributed to the creation of tax revenue by paying various direct and indirect taxes through sales activities, investment, and employment.

# KEY ESG INDICATORS

## Economy

	Unit	2019	2020	2021
<b>Sales Performance</b>				
Sales	KRW 1 million	12,017,745	7,405,006	8,753,416
Cost of sales	KRW 1 million	10,570,101	6,542,353	6,627,388
Gross profit	KRW 1 million	1,447,644	862,653	2,126,028
Selling and administrative expenses	KRW 1 million	1,243,011	624,318	661,590
Operating profit (loss)	KRW 1 million	204,633	238,335	1,464,438
Non-operating profit	KRW 1 million	(974,039)	(1,227,144)	(564,943)
Net profit (loss) before tax	KRW 1 million	(769,406)	(988,809)	899,495
Tax expense (profit)	KRW 1 million	(134,050)	(100,677)	260,805
Continuing operating profit (loss)	KRW 1 million	(635,356)	(888,132)	638,690
Discontinued operating profit (loss)	KRW 1 million	66,623	693,501	-
Net profit (loss)	KRW 1 million	(568,733)	(194,631)	638,690
<b>Financial position</b>				
Current assets	KRW 1 million	3,303,526	3,717,781	6,373,788
Non-current assets	KRW 1 million	22,454,850	21,029,509	19,819,244
Total assets	KRW 1 million	25,758,376	24,747,290	26,193,032
Current liabilities	KRW 1 million	7,679,641	7,833,504	7,942,924
Non-current liabilities	KRW 1 million	15,260,302	13,544,364	11,272,012
Total liabilities	KRW 1 million	22,939,943	21,377,868	19,214,936
Capital stock	KRW 1 million	479,777	876,603	1,744,658
Other paid-in capital	KRW 1 million	1,825,592	2,150,593	4,202,298
Other components of equity	KRW 1 million	582,659	572,866	581,639
Retained earnings (deficits)	KRW 1 million	(69,595)	(230,640)	449,501
Total equity	KRW 1 million	2,818,433	3,369,422	6,978,096
Total equity and liabilities	KRW 1 million	25,758,376	24,747,290	26,193,032

## Environmental

		Unit	2019	2020	2021
<b>Fuel and energy</b>					
Fuel consumption on domestic and international flights	Jet fuel	tons	4,176,907	2,387,247	2,367,133
	Jet-fuel energy consumption	GJ	121,965,684	69,707,603	69,120,284
Direct energy-consumption from domestic ground operations (a)	Gas/diesel	GJ	107,375	52,998	34,622
	By-product fuel no. 1	GJ	8,708	7,357	5,602
	By-product fuel no. 2	GJ	275,144	142,972	0
	Gasoline	GJ	11,780	7,335	6,106
	Jet fuel	GJ	6,172	1,371	5,353
	LNG	GJ	274,711	231,613	344,739
	LPG	GJ	5,146	2,942	3,917
Indirect energy consumption from domestic ground operations (b)	Electricity	GJ	1,317,038	986,977	851,684
	Steam	GJ	31,548	17,052	14,547
Total energy consumption from domestic ground operations (a+b)		GJ	2,037,622	1,450,617	1,266,571
Energy intensity	Aircraft operation	MJ/RTK	11.98	7.09	6.69
	Ground operation	GJ/KRW 1 billion	160.65	195.90	144.69
<b>GHG Emissions</b>					
GHG emissions from domestic and international flight operation (c)	Scope1 (direct emissions)	tCO <sub>2</sub> eq	13,291,765	7,598,830	7,482,666
GHG emissions from domestic ground operations (d)	Scope1 (direct emissions)	tCO <sub>2</sub> eq	44,048	27,744	21,254
	Scope2 (indirect emissions)	tCO <sub>2</sub> eq	65,331	48,655	41,398
Total GHG emissions (c+d)			13,401,144	7,675,229	7,545,318
GHG-emission intensity	Aircraft operations	kg_CO <sub>2</sub> e/100RTK	83.56	77.32	72.45
	Ground operations	ton_CO <sub>2</sub> e/KRW 1 billion	8.62	10.32	7.16
<b>Water Resources</b>					
Water consumption	Total water intake	tons	1,469,305	784,409	558,014
	Surface water	tons	-	-	-
	Underground water	tons	246,852	158,421	48,959
	Waterworks or other supply systems	tons	1,222,453	625,988	509,055
Water-resource recycling	Recycling amount	tons	25,000	14,898	12,845
	Recycling rate	%	1.7	1.9	2.3



## Environmental

		Unit	2019	2020	2021
<b>Water Resources</b>					
Water-pollutant discharge *	BOD	tons	37,995	10,918	0.481
	COD	tons	17,524	5,705	0.466
	TOC	tons	-	-	0.524
	SS	tons	12,545	3,208	0.261
	T-N	tons	1,748	1,306	0.236
	T-P	tons	0.812	0.318	0.007
<b>Air</b>					
Air-pollutant emissions	Particulates	tons	10	4.8	2.3
	THC	tons	22	11.9	13.3
	NOx	tons	70,620	40,574	42,322
	SOx	tons	6.1	1.4	0
	SO <sub>2</sub>	tons	4,162	2,390	2,498
<b>Waste</b>					
Amount of wastes generated	General	tons	28,013	10,911	5,978
	Designated	tons	808	1,042	569
	Total	tons	28,821	11,952	6,547
Waste-recycling rate	General	%	39.2	62.2	74.9
	Designated	%	29.4	19.6	30.1
	Total	%	38.9	58.5	71.0
Waste disposal	Incineration	tons	17,447	4,915	1,890
	Landfill	tons	167	50.1	10.5
	Recycling	tons	11,207	6,988	4,646
<b>Environmental Training</b>					
Environmental Training	Basic training	Man-hour	7,329	170	1,916
	Job-specific training	Man-hour	1,035	0	0
	On-the-job training	Man-hour	4,244	3,948	7,822

\* Reduction of water pollution due to the sale of the in-flight meal business in December 2020

## Social

		Unit	2019	2020	2021
<b>Employee Demographic</b>					
Total no. of employees		Persons	20,965	20,072	19,409
Gender	Male	Persons	11,759	11,127	10,784
	Female	Persons	9,206	8,945	8,625
By age	Under 30	Persons	3,899	2,983	2,206
	30~39	Persons	6,565	6,602	6,458
	40~49	Persons	5,888	5,701	5,752
	50 or older	Persons	4,613	4,786	4,993
By region	Hired domestically	Persons	18,988	18,445	17,919
	Hired locally	Persons	1,977	1,627	1,490
Permanent	Male	Persons	11,041	10,743	10,625
	Female	Persons	7,756	8,104	8,394
Temporary	Male	Persons	718	384	159
	Female	Persons	1,450	841	231
Manager level (permanent)	Male	Persons	3,258	2,987	3,079
	Female	Persons	1,786	1,796	2,047
Non-manager level (permanent)	Male	Persons	7,783	7,756	7,546
	Female	Persons	5,970	6,308	6,347
Female employees	Percentage of female employees at manager level	%	35	38	40
<b>New Hires and Turnover</b>					
New hires	Male	Persons	534	117	137
	Female	Persons	792	90	40
	Under 30	Persons	1,028	92	73
	30~39	Persons	277	104	89
	40~49	Persons	16	7	12
	50 or older	Persons	5	4	3
	Domestic	Persons	1,064	155	126
	Overseas	Persons	262	52	51

## Social

		Unit	2019	2020	2021
<b>New Hires and Turnover</b>					
Turnover	Male	Persons	408	781	487
	Female	Persons	448	466	343
	Under 30	Persons	262	307	201
	30~39	Persons	277	238	170
	40~49	Persons	126	121	62
	50 or older	Persons	191	581	397
	Domestic	Persons	578	888	592
	Overseas	Persons	278	359	238
Turnover rate	Number of employees at the end of the previous year	Persons	18,665	18,988	18,445
	Total turnover	Persons	578	888	592
	Total turnover rate	%	3.1	4.7	3.2
	Voluntary turnover	Persons	426	382	174
	Voluntary turnover rate	%	2.3	2.0	0.9
<b>Employees at Overseas Business Sites</b>					
Overseas business sites	No. of employees at overseas business sites	Persons	2,212	1,836	1,691
	Percentage of local employees	%	89	89	88
	Percentage of local employees at manager level	%	13	15	16
	Percentage of female employees	%	58	54	52
<b>Maternity Protection System</b>					
Leave after/before childbirth	Taking leave after/before childbirth	ea.	517	480	498
	Returning-to-work rate after childbirth	%	100	100	100
	Maternity leave	Persons	395	330	365
Parental leave	Parental leave	Persons	536	505	467
	Percentage of male employees that took parental leave	%	12	8	9
	Male employees' parental leave return rate	%	96	98	96
	Female employees' parental leave return rate	%	93	96	99
	Male employees' one-year retention rate after returning to work after parental leave	%	83	88	98
	Female employees' one-year retention rate after returning to work after parental leave	%	88	90	99

## Social

		Unit	2019	2020	2021
<b>Employee Training</b>					
Training performance	Training hours per employee	Hours	122	45	38
	No. of online training courses	ea.	2,033	2,101	2,100
Lifelong learning support	Scholarship support for graduate studies	Persons	104	100	91
<b>Social Contribution</b>					
Performance	Volunteer hours per employee	Hours	2.2	0.5	0
	Social contribution expense	KRW 1 million	9,357	8,475	3,070
<b>Information Security</b>					
Information security training *	Domestic	Persons	36,175	17,707	17,258
	Overseas	Persons	5,452	2,038	1,728
Customer privacy protection	Reported case(s) of privacy leakage	ea.	0	0	0
<b>Pension Funds and Contributions</b>					
National Pension		KRW 100 million	447.5	460.0	443.1
Personal Pension		KRW 100 million	104.9	103.3	106.1
Contribution to the Credit Union		KRW 100 million	133.6	132.4	133.8
Total		KRW 100 million	686.0	695.7	683.0

\* Throughout 2020 and 2021, two different courses on information security were combined into one because a rotation-based schedule was introduced due to COVID-19



## Governance

Best Practices Recommendation	Adoption	Remarks
Separation of the CEO and the Chairman of the BOD	O	Appointment of independent director as chairman (Jeong Kap-Young)
Introduction of the Corporate Governance Charter	O	Disclosure on website
Introduction of Corporate and Employee Code of Ethics	O	Disclosure on website
Introduction of cumulative voting	X	Not applicable pursuant to the Articles of Association
Composition of the BOD (more than half as independent directors)	O	Includes 75% independent directors (nine out of twelve)
Regular BOD meetings	O	At least once a quarter
Provision of information on directors prior to the meeting	O	Distribute presentation materials and bill of agenda
Disclosure of BOD activities in detail, attendance rate, and voting results of major agenda items	O	Disclosure of business reports including on the website
Enactment of Board Operational Regulations	O	Disclosure on website
Establishment of Operational Regulations of committees	O	Disclosure on website
Establishment of committees within the BOD	O	Operation of five committees (Audit Committee, Compensation Committee, Safety Committee, ESG Committee, and the Independent Director Recommendation Committee)
Subscription to director's liability insurance at the company's expense	O	Subscription to Directors and Officers Insurance
Audit committee (all independent directors)	O	Six independent directors
Independence of independent directors	O	Operation of Independent Director Recommendation Committee, composed of all independent directors
Validation of accuracy of business reports, etc.	O	Validation of the CEO and executives in charge
Provision of comparisons to Code of Best Practices for Corporate Governance	O	Disclosure on website
BOD level review/oversight of non-financial (ESG) risks	O	Operation of the ESG Committee within the BOD

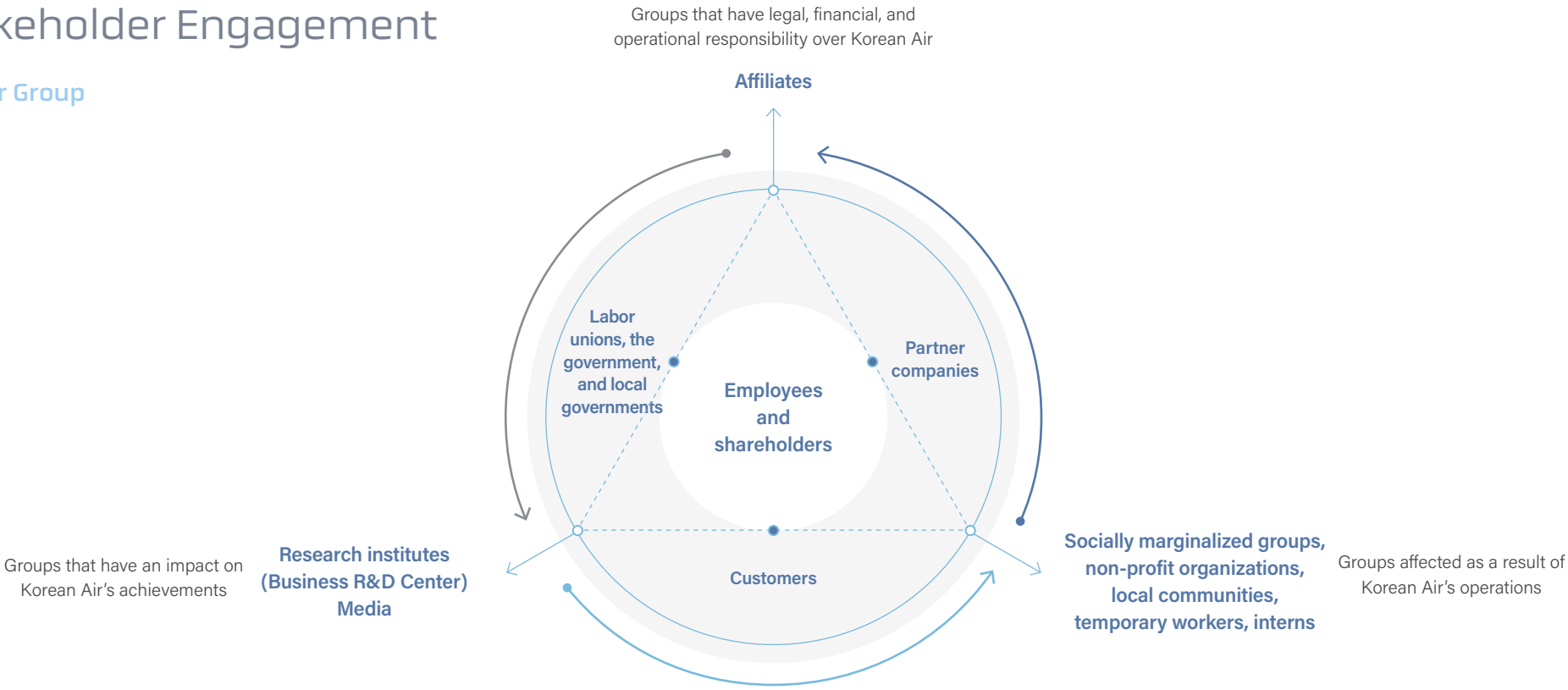
The 27th Korean Air Travel Photo Contest / Special Sector Merit Prize / Park, Yeong-im / The baby's first ocean

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# ✈ Stakeholder Engagement

## Stakeholder Group



## Distribution of economic value to stakeholders in 2021

(Unit : KRW 100 million)

Total **48,296**

Employees	Shareholders	Creditors	Tax Authorities	Local Communities	Suppliers
					
Labor expenses 13,430 Welfare expenses 3,503	Dividends 0	Interest expenses 3,637	Corporate income taxes 1,473	Donations 30	Rent expenses 16 Fuel expenses 18,000 Manufacturing expenses 1,602 Airport expenses 6,605

## Stakeholder Communication

\* Frequency of Communication: ○ Always ■ Regularly ○ Weekly 🕒 Monthly ● Semi annually ◆ Annually ▲ Business day

						
Category	Customers	Shareholders/ Investors	Employees	Partner companies	Local communities	Government/ related organizations
<b>Main interests of shareholders</b>	<ul style="list-style-type: none"> <li>• Safety and punctuality</li> <li>• Service quality</li> <li>• Diverse routes</li> <li>• Provision of accurate information</li> <li>• Prompt response to customer complaints/ inquiries</li> </ul>	<ul style="list-style-type: none"> <li>• Sales and financial performance</li> <li>• Business outlook</li> <li>• Risk management</li> <li>• Governance structure</li> <li>• Improvement of shareholder communication and shareholder values (dividends, etc.)</li> <li>• Response to ESG issues</li> </ul>	<ul style="list-style-type: none"> <li>• Welfare-support program</li> <li>• Handling employee grievances</li> <li>• Fair evaluation and compensation</li> <li>• HR policy without discrimination</li> <li>• Training courses and career development</li> </ul>	<ul style="list-style-type: none"> <li>• Shared growth and fair trade</li> <li>• Promotion of production efficiency</li> <li>• Enhancement of competencies in technology, quality, and human resources</li> <li>• Share information and communication</li> <li>• Promote welfare</li> </ul>	<ul style="list-style-type: none"> <li>• Communication with local communities</li> <li>• Social contribution activities</li> <li>• Environmental protection, relief activities</li> </ul>	<ul style="list-style-type: none"> <li>• Aviation safety/ aviation security</li> <li>• Improvement of aircraft fuel efficiency</li> <li>• Response to climate change</li> <li>• Domestic and international aviation policies</li> </ul>
<b>Stakeholder communication channels</b>	<ul style="list-style-type: none"> <li>○ Website</li> <li>■ Korean Air Newsroom</li> <li>📧 Newsletter</li> <li>○ SNS channels</li> <li>○ Service center</li> <li>○ Voice of Customer (VOC)</li> <li>○ Chatbot</li> <li>○ NPS(Net Promoter Score) survey</li> </ul>	<ul style="list-style-type: none"> <li>◆ General meetings of shareholders</li> <li>■ Corporate briefings, IR meetings</li> <li>■ Website (disclosures)</li> <li>○ Operation of IR communication channels (IR e-mail, phone)</li> </ul>	<ul style="list-style-type: none"> <li>■ Labor-management council</li> <li>■ On-site visit of Human Resources Division</li> <li>○ Intranet (communication / employee information system)</li> <li>○ Newsletter</li> <li>▲ KAL Daily Newsbytes</li> <li>○ Internal misconduct reporting system</li> <li>○ Employee grievance management system</li> </ul>	<ul style="list-style-type: none"> <li>○ Portal site for partner companies (Intranet)</li> <li>■ Production Management Council</li> <li>● Workshops and meetings with partner companies</li> </ul>	<ul style="list-style-type: none"> <li>○ Website</li> <li>○ SNS channels</li> </ul>	<ul style="list-style-type: none"> <li>■ Interviews with administrative departments and policy meetings</li> <li>■ Technical meetings, technical consultation</li> <li>■ Participation in international organization meetings</li> </ul>
<b>Major activities</b>	<ul style="list-style-type: none"> <li>• Active customer communication through various channels</li> <li>• Resolving customer complaints and inquiries</li> <li>• Promoting service improvement by analyzing customer opinions</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment and improvement of committees within the BOD</li> <li>• Stronger communication with shareholders/investors</li> <li>• Expanding corporate information disclosure (on website)</li> </ul>	<ul style="list-style-type: none"> <li>• Promoting employee communication activities through labor-management consultation channels</li> <li>• Listening to on-site grievances and improving workplace environment</li> <li>• Operation of training programs customized for each job level/ job type</li> <li>• Career Development Program</li> </ul>	<ul style="list-style-type: none"> <li>• Operation of a dedicated organization to pursue shared growth</li> <li>• Cash payment in full for purchases</li> <li>• Fundraising for win-win cooperation</li> <li>• Technical support and joint development for localization</li> <li>• Supporting exchanges between partner companies</li> <li>• Welfare support program</li> </ul>	<ul style="list-style-type: none"> <li>• Operation of disaster-relief programs</li> <li>• Operation of a community service group composed of employees</li> <li>• Sisterhood and community services</li> <li>• Operation of an airline tour program</li> <li>• Planning Love for China program (building "Dream Library" and donating computers, etc.)</li> <li>• Creating a wind forest to prevent Mongolian deforestation</li> <li>• Servicing nearby areas affected by aircraft noise</li> <li>• Paying airport noise charges near local communities</li> </ul>	<ul style="list-style-type: none"> <li>• Responding preemptively to changes in aviation security environments including adoption of biometrics</li> <li>• Standardization of aircraft fuel reduction technology and propagation of national airline</li> <li>• Introduction and implementation of environment/sustainability systems (CORSIA, GHG Emissions Trading Scheme)</li> <li>• Preemptively responding to changes in domestic and international aviation policies</li> </ul>



## Stakeholder Interviews

Korean Air conducted interviews with one person each from different stakeholder groups, including customers, employees, suppliers, and shareholders/investors, and listened to their opinions on major sustainability management issues. Matters discussed in the interviews include Korean Air's strengths and weaknesses compared to domestic and international companies in similar industries; the latest sustainability management trends in terms of ESG; ways to promote Korean Air's long-term corporate value; and strengthening sustainability management. Discussions with major stakeholders were incorporated into the Issue Pool, which is the foundation of the company's materiality assessment.

Customers expect Korean Air to focus on fulfilling its social and environmental responsibilities as much as it works to introduce quality services



As a person studying in France, I have flown Korean Air's international flights at least once per year since 2014. One of the reasons for flying Korean Air is because its services, including user-friendliness, air cabin cleanliness, and in-flight meals, are superior to that of other airlines. I was particularly impressed by how Korean Air did its best for the safety and convenience of passengers amidst the pandemic during my flight to Korea recently. Korean Air provides detailed easy-to-follow guidelines for customers on COVID-19 response channels and updated instructions on the overall course of departure and entry. As a person working in the fashion industry in France, I know for a fact that the latest trend in fashion is diversity (including in ethnicity and body shape). Korean Air needs to make efforts to pursue diversity accordingly. For example, intellectuals from various backgrounds with diverse experience should be recruited as flight attendants, promoting the company's diversity. In addition, the disposable products frequently used on the plane should be replaced with eco-friendly items for environmental protection. Instead of stopping at mere attempts, Korean Air should strive to have its business operations and processes reflect sustainability and eco-friendliness.

**Kang Eun-Kyung (Customer)** — CEO of Exercise0

The COVID-19 pandemic has posed an unprecedented crisis for the aviation industry. As increasing volatility in external factors is compounding the problem, establishment of a foundation for sustainable growth is becoming a major task. There are increasing calls for strategies for shared growth and coexistence with our suppliers as the small-and-medium sized companies partnering with the company have also faced extreme difficulties due to the market situation. Korean Air is carrying out a variety of activities for sustainable management despite the COVID-19 crisis. A systematic quarantine program is operated to prioritize safety and to offer services that keep customers safe from the coronavirus. We have recently improved our prevention and management system even further in order to strengthen our level of management over occupational health and safety. The company has also participated in efforts to respond to climate change and reduce carbon emissions, by continuing to adopt high-efficiency aircraft and materials and laying the foundation for introducing bio-jet fuel in Korea. I look forward to seeing Korean Air solidify its standing as an ESG leader, based on its continuous efforts to strengthen financial performance as well as create non-financial values.

**Shin Kyung-Taek (Employee)** — Manager at Korean Air

A company that engages in fair competition based on excellent management capabilities and quality service



Korea Airports Corporation provides services, including aircraft ground handling, unloading/loading of baggage, air cargo handling, and aircraft maintenance and repair for domestic airports including Incheon Airport, and is closely related to air transportation. Korea Airports Corporation was able to show strong financial performance when a large number of airlines were financially struggling with travel restrictions imposed due to the pandemic. Despite this great news, the company still needs to drive innovation to develop new businesses, considering that the passenger transport business, a major business area, is still facing difficulties. In addition, the company should pay special attention to issues related to monopoly and oligopoly and pursue fair competition, taking into account that its size will grow even further with the acquisition of Asiana Airlines. With employees working in various job categories and occupations, human rights management has become especially important. It is said that the corporate culture of Korean Air improved significantly due to the company's efforts to promote human rights management. I expect to see Korean Air work to reduce its use of disposables by using eco-friendly items and materials in the cabin and facilities to fulfill its environmental responsibilities. Lastly, it is my sincere hope that Korean Air establishes itself as a company that leads sustainability management in the aviation industry based on these business and promotion activities.

**Kim Nam-Hyuk (Partner Company)** — Assistant Manager at Korea Airport Service

Expecting Korean Air to overtime the COVID-19 crisis in a smart manner and to solidify its position as a leading ESG company



I've been researching Korean Air for the last seven years since 2015 as an analyst in the air transport industry. Advantages of Korean Air include quality services provided to customers and the variety of its international flights. Through the launch of a new joint venture partnership with Delta Air Lines, Korean Air fulfills its social responsibilities and is contributing to the establishment of Incheon Airport and creation of jobs. In order to achieve successful sustainability management, the company would have to focus on minimizing financial risks associated with fluctuations in oil prices, interest rate, and exchange rate, all factors that commonly impact the aviation industry. Furthermore, Korean Air needs to create sustainable growth to prepare for changes in consumers' consumption patterns in the post-pandemic era. It is extremely important for the company to evenly distribute economic values created as a result of its business activities to relevant stakeholders, including employees, customers, and shareholders. Companies that have gained trust from stakeholders can further develop and advance sustainable management activities. Large airlines in the United States and Lion Air were able to successfully achieve sustainability management and create a virtuous circle by securing stable growth and profit in the merger and acquisition processes and by prioritizing dividend payment to shareholders. As a company with great potential, I look forward to seeing Korean Air achieve and demonstrate sustainability management.

**Bang Min-Jin (Investor)** — Researcher at Eugene Investment & Securities

Look forward to seeing Korean Air achieve sustainable management by securing a strategic financial structure to respond to changes in external factors

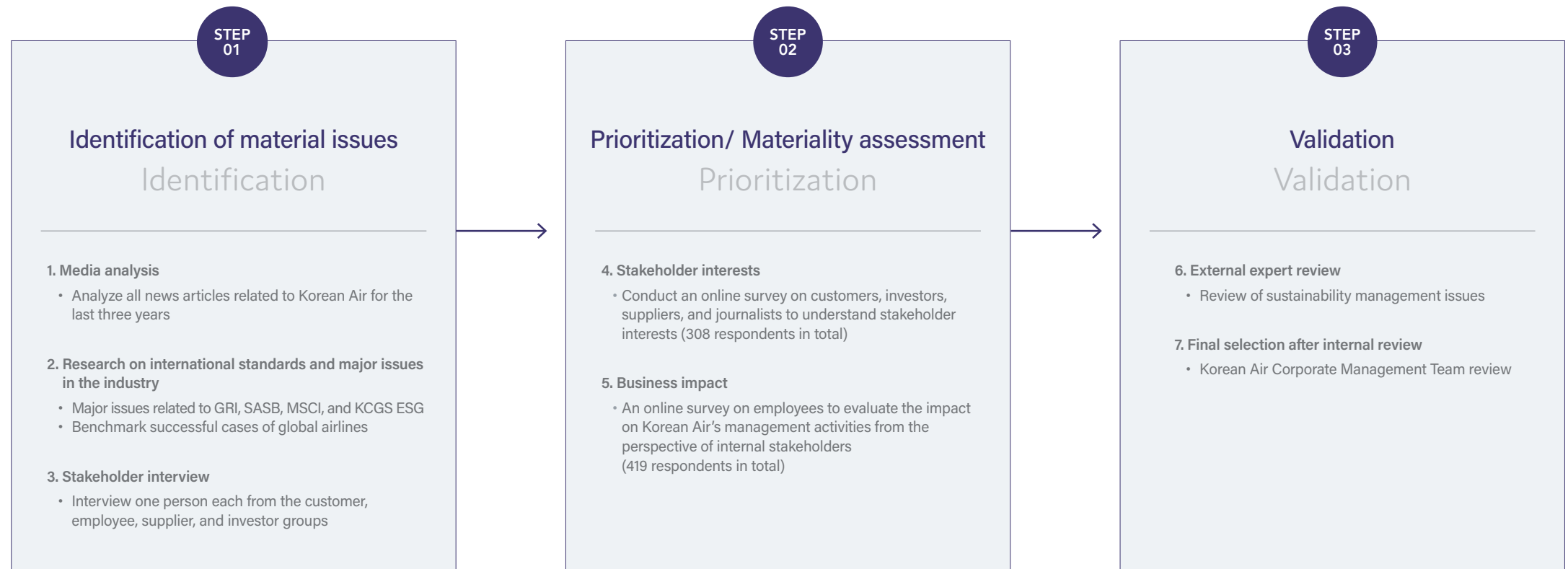


## ✈ Materiality Assessment

Korean Air conducted a materiality assessment to identify various expectations and concerns of internal and external stakeholders and to identify sustainability management issues that have an impact on the business activities of the company. With reference to the evaluation criteria proposed by GRI Standards and ISO26000 guidelines, the company prioritizes issues based on the procedure of identification of material issues, materiality assessment, and validation. The selected material issues were used in the table of contents section and contents of this report.

As a result of the evaluation, ten issues, including aviation safety, ethical management, and protection of personal data, were identified as material issues of this year as well as last year. Human rights management and compliance with fair trade standards were added to the list of issues this year.

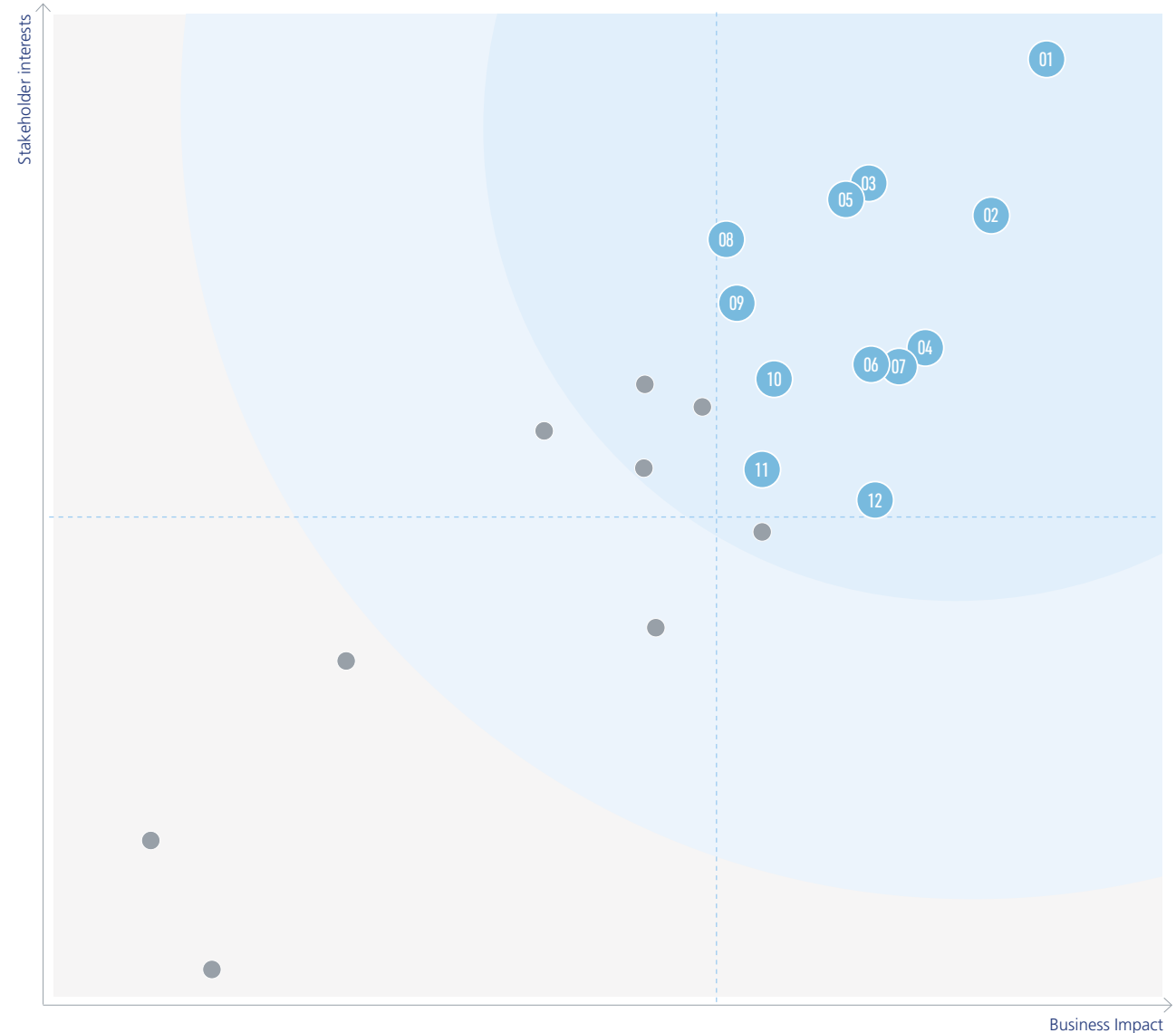
### Materiality Assessment Process



## Materiality Assessment Results

	Issues	GRI Standards Topic	Internal/ External	Page
1	Health and safety of passengers	GRI 416	Internal/ External	
2	Ethical and compliance management	GRI 205	Internal/ External	
3	Customer privacy protection	GRI 418	Internal/ External	
4	Employee health and safety	GRI 403	Internal	
5	Safety and security in cargo transport	-	Internal/ External	
6	Sound governance	-	Internal	
7	Management of financial and non-financial risks	-	Internal	
8	Energy efficiency management and response to climate change	GRI 302, GRI 305	Internal/ External	
9	Human rights management	GRI 412	Internal	
10	Fair trade compliance	GRI 206	Internal/ External	
11	Shared growth between labor and management	GRI 402	Internal	
12	Creation of economic value	GRI 201	Internal/ External	

\* GRI Standards: Sustainability reporting standards provided by the GRI (Global Reporting Initiative)



## ✈ Third-party Assurance Statement

Dear Management and Stakeholders of Korean Air

### Introduction

The Korean Standards Association ("KSA") was commissioned by Korean Air ("Korean Air") to perform a third-party Assurance Engagement of the 'KOREAN AIR ESG REPORT 2022' (the "Report"). KSA presents independent opinions as follows as a result of feasibility of the data contained in this Report. Korean Air has sole responsibility for content and performance contained in this Report:

### Independence

As an independent assurance agency, KSA does not have any kinds of commercial interest in businesses of Korean Air apart from undertaking a third-party assurance on the Report. We have no other contract with Korean Air that may undermine credibility and integrity as an independent assurance agency.

### Assurance Standards and Level

This Assurance Engagement followed the AA1000AS v3 assurance standards to provide Moderate Level assurance. We checked the four principles of inclusivity, materiality, responsiveness, and impact in combination with information credibility of the Report. We also reviewed whether the Report content was created in accordance with the GRI Standards.

### Assurance Type and Scope

This Assurance Engagement followed the AA1000AS v3 assurance standards to provide Type 2 assurance, which means that the assurance assessed the accuracy and reliability of the company's statements and performance data provided in the Report. The assurance scope is from January 1 2021 to December 31 2021, and the assurance focused on systems and activities including policies and goals, businesses and programs, standards, and achievements of the Company's sustainability management. While the company's environmental and social data as well as financial data were verified, the scope of review concerning stakeholder engagement was limited to the materiality test process.

### Assurance Methodology

We used the following methods to gather information, documents and evidence with respect to the assurance scope:

- Research and analyses on the articles related to Korean Air's sustainability management published by media outlets
- Review of the management system and process used in improving the performance of sustainability management and preparing the Report
- Review of the consistency between the financial performance data and the company's audit report/publicly disclosed data
- Examination of internal documents and basic materials

### Assurance Results and Opinions *[On an assurance principle/process level]*

KSA reviewed the draft version of this Report to present our opinions as an assurance provider. Modifications were made to the Report content where deemed necessary. We were not aware of any significant errors or inappropriate descriptions in this Report as a result of our Assurance Engagement. As such, we present our opinions of the KOREAN AIR ESG REPORT 2022 as follows:

#### Inclusivity

##### Has Korean Air engaged its stakeholders in strategically responding to sustainability?

KSA believe Korean Air is aware of the importance of stakeholder participation and is making an all-out effort to establish a process that will increase their participation. Korean Air has selected stakeholders including government and related organization, employees, corporate customers, individuals, partner companies, local communities and local government body to receive diverse feedback and opinions.

#### Materiality

##### Has Korean Air included material information in the Report to help stakeholders make informed decisions?

We are not aware of any significant omissions or exclusions of data that is material to stakeholders. We verified that Korean Air conducted materiality tests with issues identified from analyses of internal and external environments, and reported according to the result.

#### Responsiveness

##### Has Korean Air appropriately responded to stakeholder requirements and interest in this Report?

We verified that Korean Air responded to stakeholders' needs and interests through reflecting stakeholders' opinions in the Report. We are not aware of any evidence that Korean Air's response to significant issues of stakeholders was reported inappropriately.

#### Impact

##### Has Korean Air appropriately monitored its impact on the stakeholders?

We verified that the Company is monitoring and assessing its impact on the stakeholders by conducting an enhanced verification of its standard business activities. Furthermore, it has been verified that the Company appropriately published its findings in the Report.



## GRI Standards Disclosure

We confirmed that this Report was prepared in accordance with the GRI Standards Core Option. Based on data Korean Air provided, we also confirmed the validity of the contents related to General Standard Disclosure and Specific Standard Disclosure.

### Universal Standards

We have verified that the Report complied(s) with the requirements of the Universal Standards of Core Option, and (have) reviewed the following disclosures:

102-1 to 102-13 (Organizational profile), 102-14 (Strategy), 102-16 (Ethics and Integrity), 102-18 (Governance), 102-40 to 102-44 (Stakeholder Engagement), 102-45 to 102-56 (Reporting Practice), 103 (Management Approach)

### Topic-specific Standards

We have checked the material topics identified from a materiality test process in which content was to be disclosed. We examined the disclosures below:

201-1, 201-2, 205-2, 206-1, 302-1, 302-3, 305-1, 305-2, 305-4, 305-5, 305-7, 306-1, 306-2, 306-3, 306-5, 401-1, 401-2, 401-3, 402-1, 403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-8, 404-2, 412-2, 413-1, 416-1, 417-2, 417-3, 418-1

## Opinions and Recommendations [Performance /Issues]

We present the following recommendations to help Korean Air establish a company-wide sustainability management strategy, and respond to continuous issues of sustainability:

### Economy

Despite a significant decrease in global travel due to the impact of COVID-19, Korean Air achieved a record-high operating profit in 2021 by undertaking efforts to maximize profitability in the cargo transportation business and reducing company-wide expenses. Korean Air's excellent performance is being recognized by high-profile ESG (Environmental, Social, and Governance) assessors at home and abroad. In July 2021, Korean Air issued bonds for the first time as a domestic airline, which reflects the company's continuous efforts to implement ESG management. To be able to lead the global aviation market and preemptively respond to the anticipated expansion of passenger demand in the post-COVID-19 era, we recommend that Korean Air continues to improve its overall responsiveness to changes in the global business environment.

### Environment

Korean Air has not stopped publishing ESG reports during the COVID-19 pandemic, and has continued environmental management, including climate response. The continued publication of the report and efforts to respond to the climate crisis are noteworthy achievements in terms of corporate sustainability. In particular, continuous waste-reduction efforts and introduction of new high-efficiency aircraft set a good example in the environmental field. As we enter a new era after the pandemic, air travel is expected to pick up again, which in turn will inevitably increase greenhouse gas emissions. With the growing awareness of the climate crisis, it is recommended that Korean Air sets measurable targets for climate response and establishes implementation strategies to be able to generate organizational performance on key issues.

### Society

Korean Air reflects upon the legislative purposes of the Serious Accidents Punishment Act (SAPA) that came into effect in January 2022, and endeavors to protect the safety of employees, as well as business partners, customers, and citizens, by expanding the scope of application of the occupational safety and health management system for risk management. Risks are managed in three categories: aviation security; industrial safety; and aviation safety. Every month, employees (including contractors) who are in key positions at Korean Air participate in risk assessment to identify and mitigate/remediate risks. For the past two years, Korean Air has engaged in various initiatives such as separation of the CEO and BOD chairman positions, appointment of female directors, and establishment of the ESG subcommittee, to improve its governance. In 2021, Korea Air amended the corporate governance charter to emphasize the value of diversity and launched the ESG secretariat under the BOD to strengthen sustainability management. We hope that the ESG secretariat facilitates implementation of the ESG agenda discussed at the BOD and creates ESG values in cooperation with related departments.

June 2022

**Myung Soo Kang**

KSA Chairman & CEO




**AA1000**  
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000-70/V3-0G5XF

## GRI Index

GRI (Global Reporting Initiative) is an international organization that provides guidelines on ESG reports and recommends companies to prepare and publish such reports. Korean Air's ESG report, which is prepared in accordance with Core Option of the GRI Standards, is disclosed transparently.

GRI Standard	Disclosure	Page number(s)
<b>GRI 102: General Disclosures</b>		
<b>Organizational profile</b>	102-1 Name of the organization	P. 9
	102-2 Activities, brands, products, and services	P. 12~14
	102-3 Location of headquarters	P. 9
	102-4 Location of operations	P. 11
	102-5 Ownership and legal form	P. 9
	102-6 Markets served	P. 11~14
	102-7 Scale of the organization	P. 9
	102-8 Information on employees and other workers	P. 57~58, 75~76
	102-9 Supply chain	P. 54~55
	102-10 Significant changes to the organization and its supply chain	P. 15~19
	102-11 Precautionary Principle or approach	P. 71
	102-12 External initiatives	P. 32, 93~94
	102-13 Membership of associations	P. 95
<b>Strategy</b>	102-14 Statement from senior decision-maker	P. 5~6
<b>Ethics and integrity</b>	102-16 Values, principles, standards, and norms of behavior	P. 69~70
<b>Governance</b>	102-18 Governance structure	P. 65~68
<b>Stakeholder engagement</b>	102-40 List of stakeholder groups	P. 80
	102-41 Collective bargaining agreements	P. 43
	102-42 Identifying and selecting stakeholders	P. 80
	102-43 Approach to stakeholder engagement	P. 80
	102-44 Key topics and concerns raised	P. 81~82

GRI Standard	Disclosure	Page number(s)
<b>Reporting practice</b>	102-45 Entities included in the consolidated financial statements	Annual report
	102-46 Defining report content and topic Boundaries	P. 83~84
	102-47 List of material topics	P. 84
	102-48 Restatements of information	Not applicable
	102-49 Changes in reporting	P. 83
	102-50 Reporting period	P. 3
	102-51 Date of most recent report	Jul. 2021
	102-52 Reporting cycle	P. 3
	102-53 Contact point for questions regarding the report	P. 3
	102-54 Claims of reporting in accordance with the GRI Standards	P. 3
	102-55 GRI content index	P. 87~90
	102-56 External assurance	P. 85~86
<b>Topic-specific Standards</b>		
<b>GRI 200 Economic Standard Series</b>		
<b>GRI 201: Economic Performance 2016</b>	103 Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 14
	201-1 Direct economic value generated and distributed	P. 80
	201-2 Financial implications and other risks and opportunities due to climate change	P. 27~34
<b>GRI 205: Anti-corruption 2016</b>	103 Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 65
	205-2 Communication and training about anti-corruption policies and procedures	P. 69~70
<b>GRI 206: Anti-competitive Behavior 2016</b>	103 Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 65
	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Annual report

GRI Standard	Disclosure	Page number(s)
<b>GRI 300 Environmental Standards Series</b>		
<b>GRI 302: Energy 2016</b>	103 Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 27
	302-1 Energy consumption within the organization	P. 37, 73
	302-3 Energy intensity	P. 37, 73
<b>GRI 305: Emissions 2016</b>	103 Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 27
	305-1 Direct (Scope 1) GHG emissions	P. 29, 73
	305-2 Energy indirect (Scope 2) GHG emissions	P. 29, 73
	305-4 GHG emissions intensity	P. 73
	305-5 Reduction of GHG emissions	P. 28~29
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	P. 38, 74
<b>GRI 306: Waste 2020</b>	306-1 Waste generation and significant waste-related impacts	P. 37, 74
	306-2 Management of significant waste-related impacts	P. 37, 74
	306-3 Waste generated	P. 37, 74
	306-5 Water bodies affected by water discharges and/or runoff	P. 74
<b>GRI 400 Social Standards Series</b>		
<b>GRI 401: Employment 2016</b>	401-1 New employee hires and employee turnover	P. 76
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	P. 60
	401-3 Parental leave	P. 59, 76
<b>GRI 402: Labor/Management Relations 2016</b>	103 Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 41
	402-1 Minimum notice periods regarding operational changes	50 days for layoff, 30 days for dismissal



GRI Standard		Disclosure	Page number(s)
<b>GRI 403: Occupational Health and Safety 2018</b>	103	Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 44
	403-1	Occupational health and safety management system	P. 47
	403-2	Hazard identification, risk assessment, and incident investigation	P. 47
	403-3	Occupational health services	P. 43
	403-4	Worker participation, consultation, and communication on occupational health and safety	P. 47
	403-5	Worker training on occupational health and safety	P. 42
	403-6	Promotion of worker health	P. 43
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	P. 47
	403-8	Workers covered by an occupational health and safety management system	100%
<b>GRI 404: Training and Education 2016</b>	404-2	Programs for upgrading employee skills and transition assistance programs	P. 61~62, 77
<b>GRI 412: Human Rights Assessment 2016</b>	103	Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 41
	412-2	Employee training on human rights policies or procedures	P. 41~43
<b>GRI 413: Local Communities 2016</b>	413-1	Operations with local community engagement, impact assessments, and development programs	P. 56
<b>GRI 416: Customer Health and Safety 2016</b>	103	Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 44
	416-1	Assessment of the health and safety impacts of product and service categories	P. 45
<b>GRI 417: Marketing and Labeling 2016</b>	417-2	Incidents of non-compliance concerning product and service information and labeling	No cases of violation
	417-3	Incidents of non-compliance concerning marketing communications	No cases of violation
<b>GRI 418: Customer Privacy 2016</b>	103	Explanation of the material topic and its boundary. The management approach and its components. Evaluation of the management approach	P. 48
	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	P. 52

## SASB Index

SASB (Sustainability Accounting Standards Board) refers to an organization that established industry-specific standards for reporting non-financial factors of the company in connection with financial performance. Korean Air discloses key sustainability information relevant to the aviation industry based on the SASB Index.

Category		Code	2021
Activity Metrics	Available seat kilometers (ASK)	TR-AL-000.A	23,519 million
	Passenger load factor	TR-AL-000.B	36.7%
	Revenue passenger kilometers (RPK)	TR-AL-000.C	8,634 million
	Revenue ton kilometers (RTK)	TR-AL-000.D	11,459 million
	Number of departures	TR-AL-000.E	87,478
	Average age of fleet	TR-AL-000.F	11.3 years
Greenhouse Gas Emissions	Gross global Scope 1 emissions	TR-AL-110a.1	7,481,920 tCO <sub>2</sub> eq
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	TR-AL-110a.2	Response to Climate Change (P. 27~34)
	(1) Total fuel consumed	TR-AL-110a.3	2,367,133 tons
	(2) Percentage alternative	TR-AL-110a.3	0%
	(3) Percentage sustainable	TR-AL-110a.3	0%
Labor Practices	Percentage of active employees covered under collective bargaining agreements	TR-AL-310a.1	91.5%
	(1) Number of work stoppages	TR-AL-310a.2	0
	(2) Total days idle	TR-AL-310a.2	0
Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	TR-AL-520a.1	N/A
Accident * Safety Management	Description of implementation and outcomes of a Safety Management System	TR-AL-540a.1	Safety Management (P. 44~47)
	Number of aviation accidents	TR-AL-540a.2	0
	Number of governmental enforcement actions of aviation safety regulations (Ministry of Land, Infrastructure and Transport)	TR-AL-540a.3	0

## ✈️ TCFD Index

TCFD (Task Force on Climate-Related Financial Disclosures) is an organization established by the Financial Stability Board (FSB) as per requested by G20, recognizing the importance of disclosing information related to climate change. Understanding the impact of climate change on businesses and to help stakeholder make informed decisions, Korean Air discloses relevant information in accordance with the TCFD's recommendation.

TCFD Recommendation		Page
Governance	a. BOD audits on risks and opportunities associated with climate change	Governance on Response to Climate Change (P. 28)
	b. Management evaluation and management of risks and opportunities associated with climate change	
Strategy	a. Short-term, mid-term, and long-term risks and opportunities associated with climate change	Risks and Opportunities Related to Climate Change (P. 33-34)
	b. Impact of risks and opportunities associated with climate change on the business, strategy, and financial planning of a company	
	c. Explanation on the resilience of a company's climate change strategies, taking into consideration the "below 2°C" scenario	
Risk Management	a. Procedure for identification and evaluation of risks pertaining to climate change	Risks and Opportunities Related to Climate Change (P. 33-34)
	b. Procedure for managing risks pertaining to climate change	
	c. Procedure for incorporating processes for identification, evaluation, and management of climate change risks into the company's overall risk management system	
Indicator & Goals	a. Indicators used to evaluate risks and opportunities related to climate change in accordance with the company's management strategies and risk management procedures	Objectives of Response to Climate Change (P. 27), Greenhouse gas emissions (P. 29, 73)
	b. Risks associated with Scope1, Scope2, and Scope3 greenhouse gas emissions	
	c. Explanation on the goals used to manage risks and opportunities related to climate change and achievements	

\* Aside from TCFD, Korean Air also provides and discloses detailed information on responses to climate change through the Carbon Disclosure Project (CDP) platform.

## ✈ Contributions to the UN SDGs

The UN Sustainable Development Goals (SDGs) are a collection of 17 common goals for peace and prosperity for people, the planet, and promotion of global partnership, all to be achieved by 2030. As a member of the global community, Korean Air supports the SDGs and feels responsible for achieving these goals. The company is striving to identify the potential impact of our business activities on the SDGs in order to further advance positive impacts and reduce negative impacts.

⊕ Positive impact   ⊖ Negative impact

Goals		Potential Impacts	Korean Air's Efforts   Pg. on Report
	Goal 3 Ensure healthy lives and promote well-being for everyone of all ages	⊕ Rapid transportation of medicines, aid, and medical services necessary to promote health ⊖ Possibility of aviation safety accidents and workplace safety accidents	Transportation of COVID-19 Vaccines (P. 19) Emergency Medical Response System for Flight Operation (P. 46) Korean Air Aeromedical Center's Infectious Disease Response System (P. 46) Stronger Company-wide Occupational Safety and Health Management System (P. 47)
	Goal 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	⊕ Provision of professional education and training on the aviation industry and vocational training	Talent Development (P. 61~62)
	Goal 5 Achieve gender equality and empower all women and girls	⊕ Creation of jobs for women's economic independence; expand opportunities for women's participation in decision-making by fostering female leadership	HR Policies That Respect Human Rights and Diversity (P. 41) Employee Demographic (P. 57~58) Maternity Protection System (P. 59)
	Goal 6 Ensure availability and sustainable management of water and sanitation for all	⊕ Sustainable use and management of water resources ⊖ Risk of spilling pollutants; indirect impact on local community water scarcity	Management of Air/Water Pollutants (P. 38)
	Goal 7 Ensure access to sustainable energy for all	⊕ Expanding the use of SAF(Sustainable Aviation Fuel) to respond to climate change ⊖ Indirect impact from the aviation industry's high energy consumption	Sustainable Aviation Fuel (P. 28~29)
	Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	⊕ Create quality jobs; ensure a safe workplace environment ⊖ Potential violations of human rights for service workers	Maternity Protection System (P. 59) Status of Strengthened Management of Employee's Physical Health and Mental Stress (P. 43) Stronger Company-wide Occupational Safety and Health Management System (P. 47)
	Goal 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	⊕ Reasonable price and mobility provision; provide easier access to infrastructure ⊕ Develop innovative technologies related to flight operation and service ⊖ Indirect impact associated with developing countries' indiscriminate industrialization	Urban Air Mobility R&D (P. 31) Managing Noise Pollution (P. 39)
	Goal 10 Reduce inequality within and among countries	⊕ Provision of means of transportation to promote cultural exchange and mutual understanding ⊕ Provide social inclusion by providing equal access and services to the socially marginalized	Improving Respect for People with Disabilities in the Workplace (P. 42) Value of Diversity in the Corporate Governance Charter (P. 68)
	Goal 11 Make cities and human settlements inclusive, safe, resilient and sustainable	⊕ Provide safe and accessible means of transportation for the vulnerable ⊖ Indirect impact on indiscriminate tourism that damages the worlds' culture and natural heritages and the residential environment of locals	Afforestation Project in Mongolia (P. 56) Creation of Korean Air Green Ecological Park in Kubuqi Desert of China (P. 56) Sisterhood Ties with Rural Villages (P. 56)
	Goal 12 Ensure sustainable consumption and production patterns	⊕ Vitalize sustainable tourism that promotes local culture and specialties ⊖ Wastewater and waste generation throughout the value chain; including in-flight services, aircraft and facility management, and aircraft purchase and disposal	In-flight Resource Circulation Initiative (P. 21) Retired Aircraft Upcycling (P. 23)
	Goal 13 Take urgent action to combat climate change and its impacts	⊕ Reduce carbon dioxide emissions generated from transportation ⊖ Indirect impacts associated with climate change and air pollution	Response to Climate Change (P. 27~34)
	Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	⊕ Operation of a security system to prevent illegal trafficking of protected plant and animal species and illegal wildlife products ⊖ Indirect impacts associated with habitat destruction and ecosystem disturbances	Protecting Biodiversity (P. 39) Afforestation Project in Mongolia (P. 56) Creation of Korean Air Green Ecological Park in Kubuqi Desert of China (P. 56)
	Goal 17 Strengthen management and revitalize the Global Partnership for Sustainable Development	⊕ Create synergy-effects to achieve SDGs through global partnerships with various stakeholders	SKYTEAM (P. 11) SkyTeam 'The Sustainable Flight Challenge' (P. 25) Joining and Supporting the UN Global Compact (P. 94)



# ✈ UN Global Compact

The UN Global Compact is an international agreement launched by the United Nations to call on companies' joint efforts and alignment on ten principles on human rights, labor standards, and anti-corruption efforts. In support of the ten principles, Korean Air joined the UN Global Compact in July 2007. We have been submitting the Communication on Progress (COP) report every year, and will continue to do our best to fulfill our corporate social responsibilities and uphold the ten principles.

Category	Principle	Reporting Page
Human Rights	1. We support and respect the protection of internationally-proclaimed human rights	P. 41~43
		P. 57~63
	2. We ensure we are not complicit in human rights abuses.	P. 69~70
Labor	3. We uphold the freedom of association and effective recognition of the right to collective bargaining.	
	4. We uphold the elimination of all forms of forced and compulsory labor.	P. 41~43
		P. 57~63
	5. We uphold the effective abolition of child labor.	P. 69~70
Environment	6. We uphold the elimination of discrimination in respect of employment and occupation.	
	7. We support a precautionary approach to environmental challenges.	
Anti-corruption	8. We undertake initiatives to promote greater environmental responsibility.	P. 26~39
	9. We encourage the development and diffusion of environmentally friendly technologies.	
	10. We are against corruption in all of its forms, including extortion and bribery.	P. 69~70

## ✈ Key Awards and Memberships

### Major Awards

Awards	Awarded by	Date of Award
Grand Prize in the Large-sized Business Category at the 24th Korea Logistics Awards	Korea Logistics Association/Korea Chamber of Commerce and Industry	2021.05.21
COVID-19 Airline Safety Rating : 5-Star Airlines	Skytrax	2021.05.27
2021 Global Customer Satisfaction Index (GCSI) awards	Global Management Association (GMA)	2021.07.08
Airbus A220 Best Operational Excellence 2021	Airbus	2021.10.04
2021 Airline of the Year	ATW (Air Transport World)	2021.10.05
2021 Best Airline for International First Class and Best Business-Class Seat Design	Global Traveler	2021.12.01
Official Airline Ratings: Five Star Global Airlines	Airline Passenger Experience Association (APEX)	2021.12.03
2021 Excellent Institutions in Seoul City for Public-Private Partnerships	Seoul	2021.12.29

### Memberships

Category	Associations / Organizations
Aviation	IATA(International Air Transport Association), SkyTeam, KCA(Korea Civil Association), Aviation Management Society of Korea, Korea Aeronautical Engineers' Association, Korean Association of Air and Space Law, Korean Society for Aeronautical & Space Sciences, Korean Society for Composite Materials, Korea Institute of Military Science and Technology, Society for Aerospace System Engineering, Korean Society for Propulsion Engineers, Korea Association of Defense Industry Studies, Korea Remotely Piloted Aircraft Safety Association, Korea UVS Association, Korea Defense Industry Association, Korea Aerospace Industries Association, Korea Industrial Technology Association, Daedeok Innopolis Defense Industries Committee, Korea Aerospace Technology Research Association, Korean Defense Industry Council on Security, Korea Fire Safety Association
Economy	Korea Business Council for Sustainable Development, Federation of Korean Industries, Korea Economic Research Institute, Korea Employers Federation, Korea Chamber of Commerce and Industry, Federation of Economic Organizations, Korea-U.S. Economic Council, Korea-Japan Economic Association, Korea Listed Companies Association, Korea Exchange, Korea Customs Logistics Association, Korea International Trade Association
Environment	Gangseo Business Group for Environmental Practices, Voluntary Agreement of the Aviation Industry on Greenhouse Gas Reductions
Society	UN Global Compact, Asia Society Korea Center, Korea AEO Association, Korea Management Association, Korea-Mongolia Forum, Korea Defense Transportation Association

