



LUFTHANSA GROUP



Sustainability Fact Sheet

2020



Dear Readers,

In 2020, the impact of the Corona pandemic brought our operations to an almost complete standstill. A large part of our Group fleet had to be grounded, we were dependent on stabilization funds from all the home countries of our airlines, and one in five employees already left our company last year. It is now already clear that the consequences of this pandemic will continue to have a negative impact on our business for years to come.

Despite these particularly challenging times, sustainability remains our guiding principle. Our corporate business activities have been closely aligned to the ten principles of the UN Global Compact since 2002, and since 2015 also to the Sustainable Development Goals of the United Nations. We continue to stand by our responsibility to minimize the impact of flying on the environment. We have continued our fleet modernization, as new aircraft are significantly more fuel-efficient and correspondingly more environmentally friendly. At the same time, we are expanding our commitment to Sustainable Aviation Fuels. After all, in the medium term, they are the key to making the future of flying climate-friendly. We are actively involving our customers in this transformation process: Via our digital compensation platform "Compensaid", they can already fly almost CO₂-neutral with Sustainable Aviation Fuel.

We have set ourselves ambitious climate protection targets: By 2030, we want to halve our CO₂ emissions of our flights compared to 2019 and achieve a neutral CO₂ balance by 2050. We are doing everything in our power to emerge stronger from this crisis and actively shape the decarbonization of aviation.

In addition, we are maintaining our social commitment even in the Corona pandemic: For example, we supported more than 40,000 disadvantaged people with our aid organization help alliance in the reporting year. In this context, the wide-ranging voluntary work of our employees, whether at help alliance or in medical facilities, is also impressive.

Despite this global crisis and its consequences for our company, our goal is to secure sustainable jobs for 100,000 people in the Group. Because as a service company, our employees are our capital.

It is therefore important to us to provide all employment groups with the best possible protection against the Corona virus through hygiene and protection concepts and to make it as easy and safe as possible for them to work on board and from home.

For our passengers, too, we have established extensive protective measures along the travel chain that meet the highest standards. The Lufthansa Group is also a pioneer in this respect and sets standards for the industry.

I thank you for your interest in our commitment with regard to sustainability and wish you an informative read.

A handwritten signature in black ink, appearing to read "C. Spohr". The signature is stylized and fluid.

Carsten Spohr

Chief Executive Officer
Deutsche Lufthansa AG

INTRO

Living responsibility together

Sustainable and responsible business conduct is an integral part of the corporate strategy of Lufthansa Group. We believe that it is our duty to create more value for customers, employees and investors and to live up to our responsibility towards the environment, people and society. We are constantly improving climate and environmental protection, treat our employees responsibly and fairly, and are involved in numerous social issues as a company.

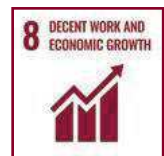
The core aim of our business model is to connect people, cultures and economies. In doing so, we also provide major social benefits. Lufthansa Group pursues the strategic goal of using appropriate measures and concepts to strengthen positive impacts of its business activities and reduce negative effects in order to further consolidate its leading position in the airline industry, also with regard to its corporate responsibility.

Therefore, the company supports the Sustainable Development Goals (**SDGs**) of the 2030 Agenda adopted by the United Nations member states in 2015. Due to the impact of its business model, Lufthansa Group puts particular emphasis on the seven SDGs 4, 5, 8, 9, 12, 13 and 17.

The continuous development of the reporting system of Lufthansa Group ensures transparency in matters of sustainability – this **sustainability fact sheet**, which presents facts and figures on key sustainability topics for the 2020 reporting year, also contributes to this. Lufthansa Group has been reporting on its commitment to sustainability regularly since 1995, and the reporting is continuously developed in accordance with internationally recognized reporting standards such as the **GRI Standards 2016**. In addition to the documentation in the **non-financial declaration** of the annual report, Lufthansa Group has also followed the recommendations of the Task Force on Climate-related Financial Disclosures (**TCFD**) for transparent reporting on climate risks and opportunities since 2020 and has been listed as a **TCFD supporter** since 2021. At the same time, **ESG Reporting** (Environmental, Social, and Governance) was expanded to include the **SASB standard** (Sustainability Accounting Standards Board). Since 2006, Lufthansa Group has disclosed its CO₂ emissions in detail in accordance with the greenhouse gas (GHG) protocol as part of the **CDP rating**.

As a company that has participated in the **UN Global Compact** since 2002, Lufthansa Group also reports annually via the communication on progress (CoP) in the area of sustainable corporate governance in accordance with the ten principles of the UN Global Compact in the form of a progress report.

All reports are available at [➤ lufthansagroup.com/en/responsibility](https://lufthansagroup.com/en/responsibility)



At a glance

PERSONNEL DATA		2020	2019	Change
Number of employees (on December 31, respectively)		110,065	138,353	-20.4%
of these, in Germany		64,058	73,552	-12.9%
of these, outside Germany		46,007	64,801	-29.0%
Staff costs	million €	6,436	9,121	-29.4%
Revenue/employee	€	108,532	264,356	-58.9%
Staff costs/revenue	percent	47.4	25.0	+22.4 PP
Average age	years	42.4	41.6	+0.8 years
Part-time ratio ¹	percent	34.0	28.5	+5.5 PP
Part-time ratio, men	percent	18.2	14.8	+3.7 PP
Part-time ratio, women	percent	53.0	45.1	+7.9 PP
Share of women in management positions (worldwide)	percent	17.7	16.9	+0.8 PP
Share of women in management positions (Germany)	percent	19.4	18.2	+1.2 PP

ENVIRONMENTAL DATA ^{2,3}		2020	2019	Change
Resource consumption				
Fuel consumption	tonnes	3,507,461	10,435,324	-66.4%
Fuel consumption, specific, passenger transportation	l/100 pkm	4.18	3.67	+14.0%
Fuel consumption, specific, freight transportation	g/tkm	214	213	+0.5%
Emissions				
CO ₂ ⁸	tonnes	11,048,504	32,871,272	-66.4%
CO ₂ , specific, passenger transportation	kg/100 pkm	10.52	9.22	+14.1%
Nitrogen oxide emissions	tonnes	54,873	165,668	-66.9%
Nitrogen oxide emissions, specific, passenger transportation	g/100 pkm	51.6	46.0	+12.2%
Carbon monoxide emissions	tonnes	8,342	23,925	-65.1%
Carbon monoxide emissions, specific, passenger transportation	g/100 pkm	8.9	7.1	+25.4%
Unburned hydrocarbons	tonnes	805.4	2,326.5	-65.4%
Unburned hydrocarbons, specific, passenger transportation	g/100 pkm	0.831	0.686	+21.1%

TRAFFIC DATA 2020		Fact Sheet ^{2,3}	Change vs. 2019	Annual Report ^{6,7}	Change vs. 2019 ⁶
Flights ⁴		377,120	-65.9%	390,900	-67.1%
Passengers carried ⁵	thousand	34,131	-74.9%	36,354	-75.0%
Seat kilometer offered, SKO	million pkm	108,834	-68.4%	109,828	-69.4%
Freight tonne kilometers offered, FTKO	million tkm	8,869	-45.9%	10,591	-39.1%
Passenger kilometers transported, PKT ⁵	million pkm	67,597	-76.5%	69,462	-76.6%
Freight tonne kilometers transported (including third-party performance), FTKT	million tkm	5,852	-38.3%	7,373	-30.9%

1 Scope = Group consolidation without exclusions **2** The following companies are included for the 2020 reporting year: Lufthansa (including Lufthansa CityLine and Air Dolomiti), SWISS (including Edelweiss Air), Austrian Airlines, Eurowings (including Germanwings), Brussels Airlines, Lufthansa Cargo. This does not include other flights (see footnote 4, p. 5) and services provided by third parties, as their performance can only be influenced to a limited degree (see table "Third Party Share", p. 5). **3** Types of flights considered: all scheduled and charter flights (excluding ground services). **4** Segments (operational perspective); annual report: route (customer perspective). A route can contain several segments, for

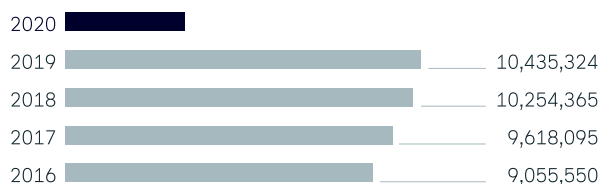
example stopovers. **5** Based on all passengers on board. **6** Included companies as in 2, but also including services provided by third parties that contribute to the group's earnings. **7** Figures of the previous year adjusted in keeping with the 2019 annual report. **8** Actual fuel consumption / carbon dioxide emissions in tonnes from flight operations based on all flight events under the respective operating flight number. Figures given are consumption / carbon dioxide emissions from gate to gate, i.e. including taxiing on the ground as well as holding patterns and flight detours.

Environmental Data

FUEL CONSUMPTION^{1,2}

in tonnes

3,507,461



SPECIFIC FUEL CONSUMPTION OF PASSENGER TRANSPORTATION IN COMPARISON^{1,2} 2020

in liter/100 pkm

	2020	2019	Change in %
Group fleet	4.18	3.67	+14.0
Lufthansa	4.21	3.74	+12.7
Swiss	3.70	3.26	+13.4
Austrian Airlines	4.73	3.80	+24.6
Eurowings	4.97	4.11	+20.9
Brussels Airlines	3.86	3.48	+11.0

FUEL DUMPS³ 2020

	2020	Change vs. 2019
Total events	10	-14
thereof medical reasons	2	-9
technical reasons	8	-3
other reasons	0	-2
Quantity³	383.9t	-47.3%

1 Actual fuel consumption / carbon dioxide emissions from flight operations in tonnes based on all flight events under the respective operational flight number. Figures given are consumption / carbon dioxide emissions from gate to gate, i.e. including taxiing on the ground as well as holding patterns and flight detours. **2** The following companies are included for the 2020 reporting year: Lufthansa (including Lufthansa CityLine and Air Dolomiti), SWISS (including Edelweiss Air), Austrian Airlines, Eurowings (including Germanwings), Brussels Airlines, Lufthansa Cargo. This does not include other flights (see footnote 4) and services provided by third parties, as their performance can only be influenced to a limited degree (see table "Third Party Share", p. 5). **3** Projections used in some cases. **4** Ferry flights, special flights, test flights, training flights, aborted flights. **5** The CO₂ emissions resulting from this fuel consumption (times 3.15) differ slightly from the value of 11.4 million tonnes

FUEL CONSUMPTION¹ 2020

in tonnes

	Passengers	Freight	Total	Share
Scheduled flights²				
Lufthansa	1,315,465	908,450	2,223,915	60.9%
Swiss	384,976	279,183	664,159	18.2%
Austrian Airlines	163,807	30,062	193,869	5.3%
Eurowings	230,366	1,979	232,345	6.4%
Brussels Airlines	164,010	29,164	193,174	5.3%
			3,507,461	96.0%
Other flights ⁴			76,945	2.1%
Reg. + other flights⁵			3,584,407	98.1%
Third parties ⁶	64,638	4,703	69,341	1.9%
Total flights			3,653,748	100%

EMISSIONS^{2,9} 2020

in tonnes

	Passengers	PY	Freight ⁸	PY	Total ⁵	PY
CO ₂	7,114,667	-72.1%	3,933,837	-38.2%	11,048,504	-66.4%
NO _x	34,950	-73.6%	19,923	-40.2%	54,873	-66.9%
CO	6,017	-70.5%	2,325	-34.1%	8,342	-65.1%
UHC	563	-71.5%	243	-31.3%	805	-65.4%

THIRD PARTY SHARE^{6,7} 2020

Flights	4.1%
Passengers	3.2%
Tonne kilometers transported, TKT (tkm)	0.2%
Fuel consumption (tonnes)	1.9%
CO ₂ (tonnes)	1.9%

reported in the 2020 non-financial declaration. This is due to system adjustments at Brussels Airlines, the addition of further data systems for calculating the specific data in the fact sheet, and the associated rounding differences. **6** Airlines that are outside the scope of this fact sheet but provide services for Lufthansa, e.g. in the event of capacity bottlenecks. **7** Excluding Road Feeder Service and chartered-in partial capacities of Lufthansa Cargo, as information on fuel consumption and emissions is not available for these services. **8** Based on freight tonne kilometers (FTKT), transported in both cargo and passenger aircraft. **9** Absolute emissions in tonnes from flight operations (all scheduled and charter flights). Emissions are recorded from gate to gate, i.e. including taxiing on the ground as well as holding patterns and flight detours.

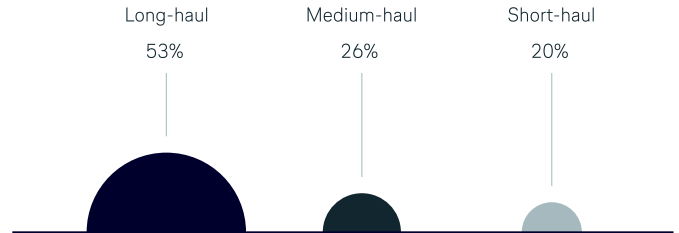
Environmental Data

SPECIFIC FUEL CONSUMPTION AND SPECIFIC CO₂ EMISSIONS OF THE LUFTHANSA GROUP¹ 2020

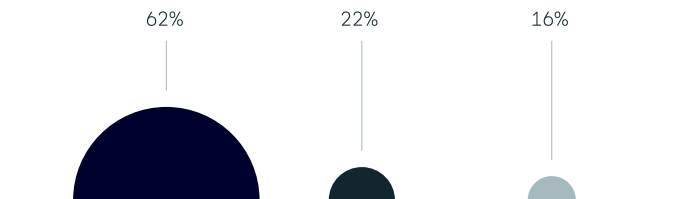
- 🔹 Values for specific fuel consumption in liters per 100 passenger kilometers (l/100 pkm)
- ☁️ Values for specific CO₂ emissions in kilograms per 100 passenger kilometers (kg/100 pkm)

	Total	Long-	Medium-	Short-haul
🔹	4.18	3.64	4.12	7.10
☁️	10.52	9.15	10.38	17.90

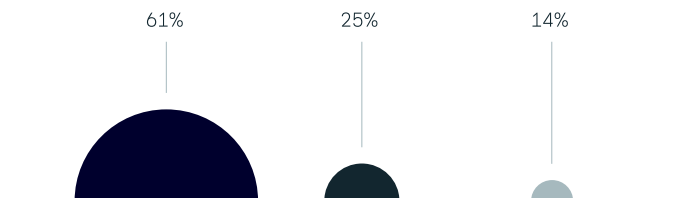
SHARE OF FUEL CONSUMPTION BY TRAFFIC AREAS¹ 2020



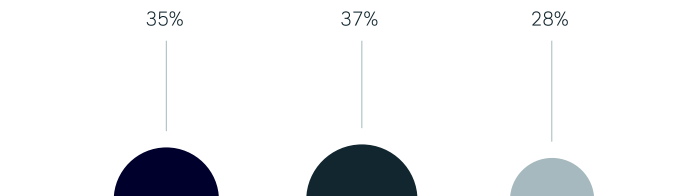
	Total	Long-	Medium-	Short-haul
🔹	4.21	3.80	3.99	7.26
☁️	10.60	9.54	10.06	18.32



	Total	Long-	Medium-	Short-haul
🔹	3.70	3.33	4.02	5.55
☁️	9.28	8.37	10.11	13.98



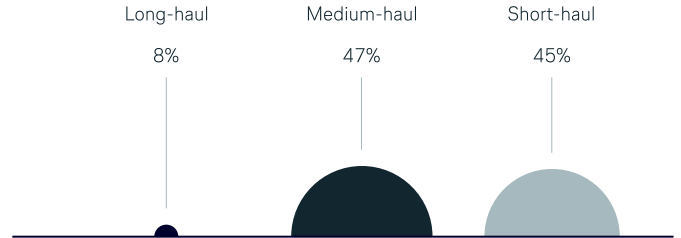
	Total	Long-	Medium-	Short-haul
🔹	4.73	3.74	4.82	6.88
☁️	11.85	9.33	12.08	17.27



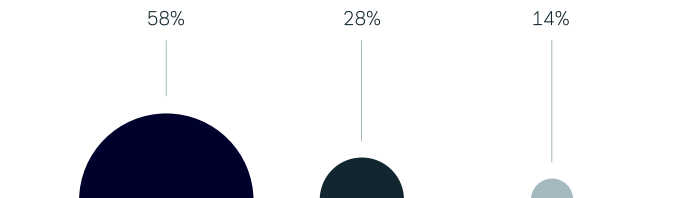
¹ Definitions of route categories: long-haul over 3,000 km; medium-haul 800 to 3,000 km; short-haul under 800 km.

Environmental Data

EUROWINGS				
	Total	Long-	Medium-	Short-haul
🔴	4.97	3.02	4.07	7.56
☁️	12.55	7.62	10.26	19.11

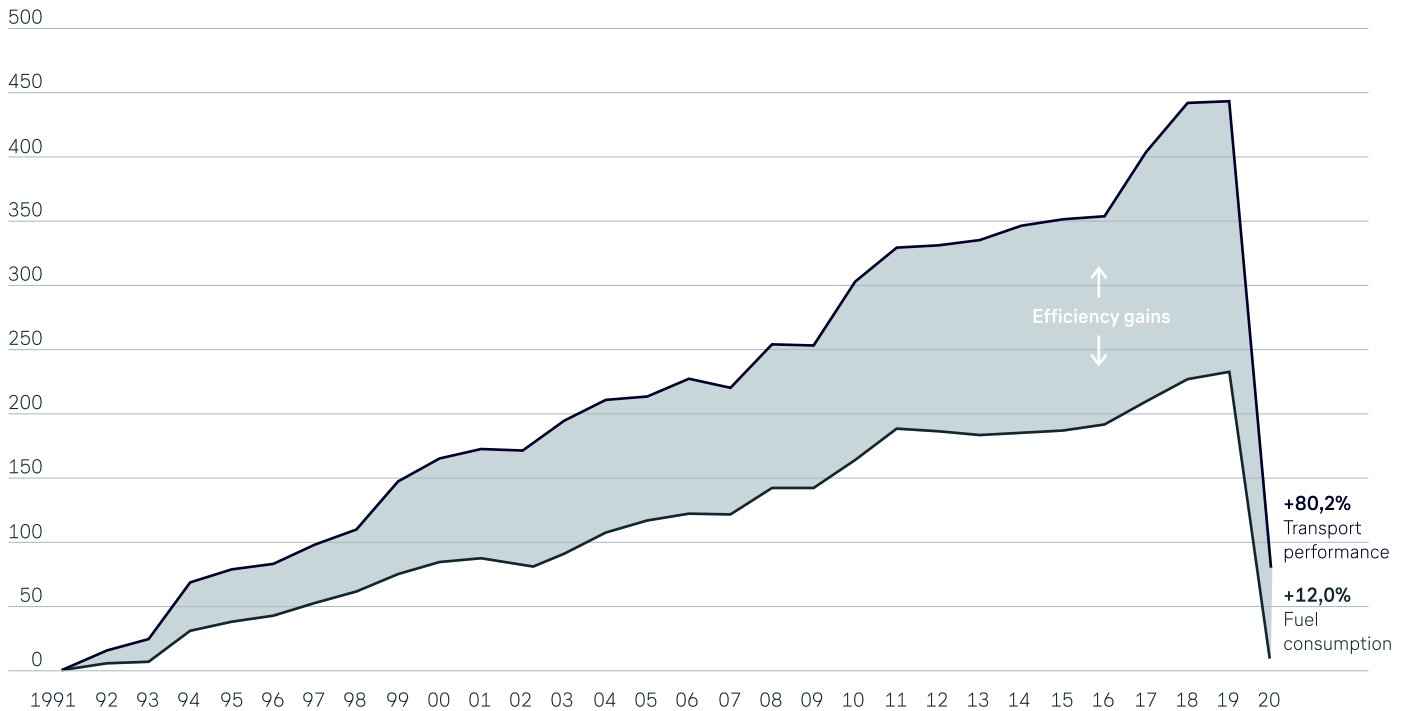


BRUSSELS AIRLINES				
	Total	Long-	Medium-	Short-haul
🔴	3.86	3.35	4.28	6.79
☁️	9.75	8.45	10.80	17.15



DECOUPLING OF TRANSPORT PERFORMANCE AND FUEL CONSUMPTION^{2,3,4} SINCE 1991

The transport performance of Lufthansa Group in tonne kilometers (TKT) increased continuously from 1991 to 2019, by up to 450%. Fuel consumption, however, only rose by about 230% over the same time period – a clear increase in efficiency. In spite of the sharp decline in transport volume in 2020 to only +80.2% above 1991 levels, the associated fuel consumption is only +12.0% above the level of 1991. This means that Lufthansa Group was able to stabilize fuel efficiency at 2016 levels in spite of the crisis.



¹ Definition of route categories: long-haul over 3,000 km; medium-haul 800 to 3,000 km; short-haul under 800 km. ² For the 2020 reporting year, the following applies: all routes and charter flights operated by Lufthansa (including Lufthansa CityLine and Air Dolomiti), SWISS (including Edelweiss Air), Austrian Airlines, Eurowings (including Germanwings),

Brussels Airlines, and Lufthansa Cargo. Services provided by third parties are excluded, as their performance can only be influenced to a limited degree (see table "Third Party Share", p. 5). ³ Transport performance in TKT. ⁴ 2019 transport performance corrected due to system adjustments.

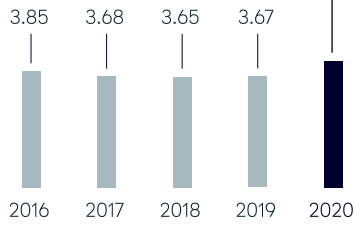
Environmental Data



SPECIFIC FUEL CONSUMPTION PASSENGER TRANSPORTATION **LUFTHANSA GROUP**

in liters/100 passenger kilometers (l/100 pkm)

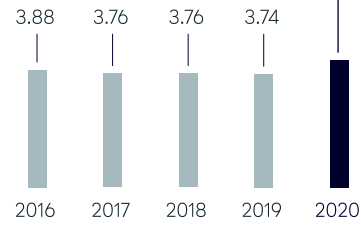
4.18



SPECIFIC FUEL CONSUMPTION PASSENGER TRANSPORTATION **LUFTHANSA**

in liters/100 passenger kilometers (l/100 pkm)

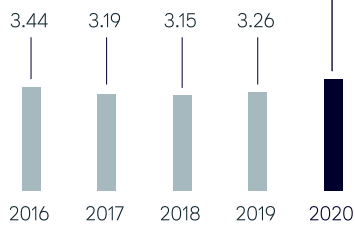
4.21



SPECIFIC FUEL CONSUMPTION PASSENGER TRANSPORTATION **SWISS**

in liters/100 passenger kilometers (l/100 pkm)

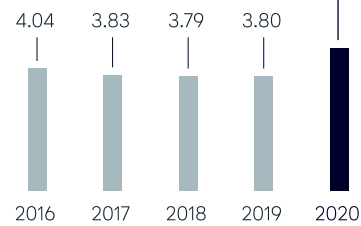
3.70



SPECIFIC FUEL CONSUMPTION PASSENGER TRANSPORTATION **AUSTRIAN AIRLINES**

in liters/100 passenger kilometers (l/100 pkm)

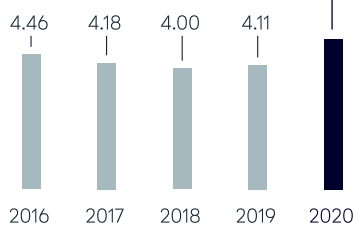
4.73



SPECIFIC FUEL CONSUMPTION PASSENGER TRANSPORTATION **EUROWINGS**

in liters/100 passenger kilometers (l/100 pkm)

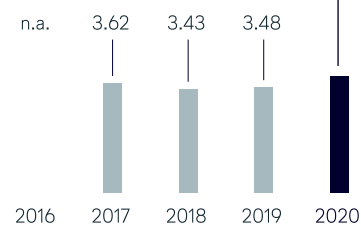
4.97



SPECIFIC FUEL CONSUMPTION PASSENGER TRANSPORTATION **BRUSSELS AIRLINES**

in liters/100 passenger kilometers (l/100 pkm)

3.86

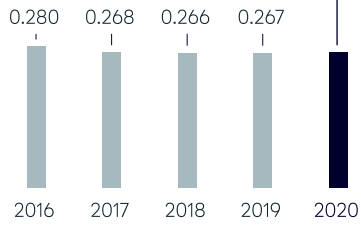


Environmental Data

SPECIFIC FUEL CONSUMPTION FREIGHT TRANSPORTATION¹

in liters/tonne kilometers (l/tkm)

0.268



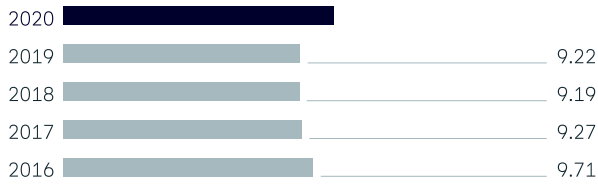
¹ Based on freight tonne kilometers (FTKT), transported in both cargo and passenger aircraft.

Environmental Data

Specific CO₂ emissions separated by passenger and freight traffic as well as by direct and indirect CO₂ emissions (Scope 1, 2 and 3) according to GHG protocol

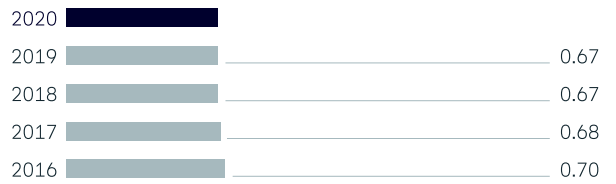
PASSENGER TRANSPORTATION^{2,3} 2020

CO₂ emissions
in kilogram/100 Passenger kilometers (kg/100 pkm) **10.52**



FREIGHT TRANSPORTATION^{2,3} 2020

CO₂ emissions
in kilogram/freight tonne kilometers (kg/tkm) **0.67**

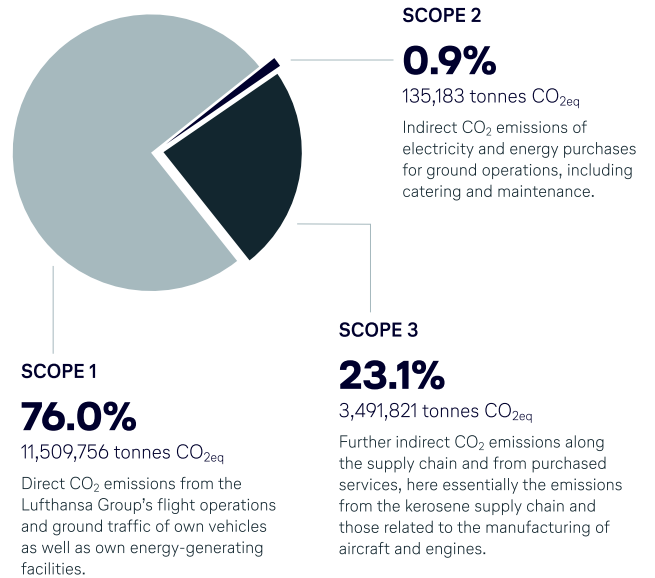


DIRECT AND INDIRECT CO₂ EMISSIONS OF THE LUFTHANSA GROUP IN COMPARISON¹

in tonnes CO_{2eq}

	2020	2019	2018
Scope 1	11,509,756 76.0%	33,349,293 75.6%	32,790,778 74.4%
Scope 2	135,183 0.9%	199,817 0.4%	194,059 0.4%
Scope 3	3,491,821 23.1%	10,588,707 24.0%	11,089,327 25.2%

DIRECT AND INDIRECT CO₂ EMISSIONS OF THE LUFTHANSA GROUP 2020



¹ Scope 1 audited with high assurance for the 2020 reporting year. Scope 2 and 3 audited with limited assurance (see Page 13). ² The following companies are included for the 2020 reporting year: Lufthansa (including Lufthansa CityLine and Air Dolomiti), SWISS (including Edelweiss Air), Austrian Airlines, Eurowings (including Germanwings), Brussels Airlines, Lufthansa Cargo. ³ Based on freight tonne kilometers (FTKT), transported in both cargo and passenger aircraft.

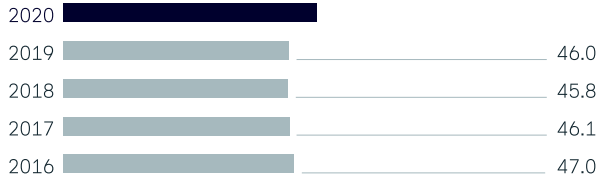
Environmental Data

Specific non-CO₂ emissions separated by passenger and freight traffic

NO_x emissions

in grams/100 Passenger kilometers (g/100 pkm)

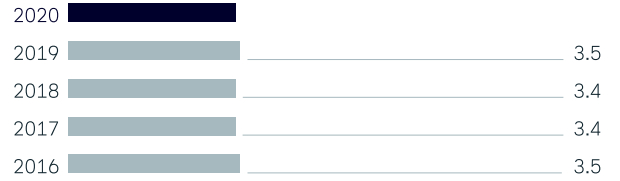
51.6



NO_x emissions

in grams/freight tonne kilometers (g/tkm)

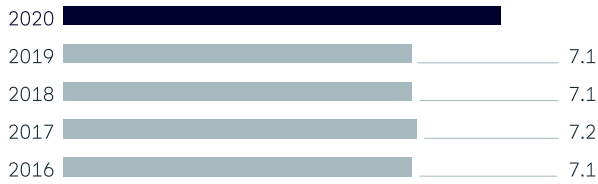
3.4



CO emissions

in grams/100 Passenger kilometers (g/100 pkm)

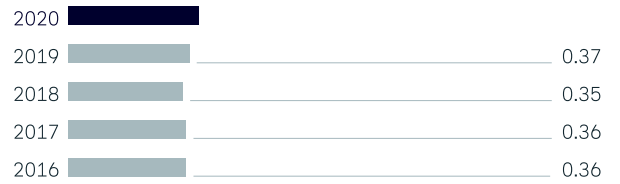
8.9



CO emissions

in grams/freight tonne kilometers (g/tkm)

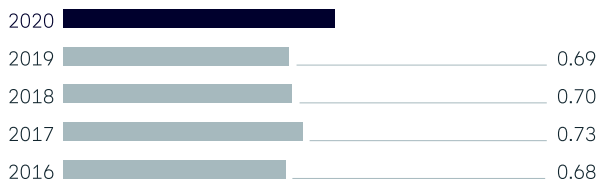
0.40



UHC emissions

in grams/100 Passenger kilometers (g/100 pkm)

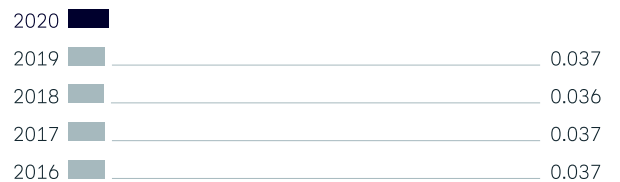
0.83



UHC emissions

in grams/freight tonne kilometers (g/tkm)

0.041



CALCULATION METHOD OF ABSOLUTE AND SPECIFIC CONSUMPTIONS AND EMISSIONS

Kerosene absolute

The kerosene consumption is determined based on actual flight operations, i. e. taking into account the actual load factor and routing according to the gate-to-gate principle. This means that all flight phases are included – from taxiing on the ground to detours and holding patterns in the air.

Emissions absolute

The calculation of absolute emissions from flight operations is based on the actual transport service provided and thus on the actual load factor and the actual absolute consumption of kerosene in the reporting year. The transport performance is measured in tonne kilometers. For passengers and their baggage, the standard is set to an average of 100 kilograms whereas, for cargo, the actual weight is used.

CO₂ emissions do not require any special aircraft-specific measures as the fuel consumption is calculated at a fixed ratio to the amount of kerosene burned. One ton of kerosene used produces 3.15 tonnes of CO₂.

Specific consumption and emissions

The calculation of specific consumption and emissions puts the absolute values in relation to the transport performance. For example, the key figure liters per 100 passenger kilometers (l/100 pkm) is calculated on the basis of the actual kilometers flown and the actual amount of kerosene consumed. The distances used as a basis refer to the Great Circle Distance. For combined operations of freight and passenger transport on an aircraft, the allocation of fuel consumption to determine passenger- or freight-specific values is based on their share of the total payload. The DIN EN 16258 standard has provided guidelines for the standardized calculation of greenhouse gas emissions for transport processes since 2013. The Lufthansa Group adheres to this guideline with regard to the allocation of payloads. At the same time, the International Air Transport Association (IATA) has developed its own calculation proposal, which deals with the division of fuel consumption between cargo and passengers and allocates a higher proportion of fuel consumption to passengers due to the passenger-specific infrastructure. Although this method does not affect the overall efficiency of a flight, it does change the allocation between passenger and cargo. We would welcome a unified, internationally harmonized and accepted allocation method.

Verification Statement Scope 1–3

verification statement

MÜLLER-BBM
CERT GMBH

Müller-BBM Cert GmbH, accredited verification body DAkkS D-VS-18709-01-01, accredited and approved for the field of aviation activities, confirms that data in the Figure "direct and indirect CO₂ emissions of the Lufthansa Group 2020" on page 10 of the Factsheet Sustainability 2020, the

LUFTHANSA GROUP

Deutsche Lufthansa AG and affiliates*

under the verification standards

- *EU Emissions Trading Scheme (EU ETS) Directive and EU ETS related national implementation laws*
- *Airport Carbon Accreditation programme (ACA) of Airport Council International*

are verified with following uncertainties.

Scope 1	11.509.756 t CO _{2eq} (high assurance)
Scope 2 (market based)	135.183 t CO _{2eq} (limited assurance)
Scope 3	3.491.821 t CO _{2eq} (limited assurance)

Planegg, April 26th, 2021



Müller-BBM Cert GmbH

* Scope of application from organizations at CDP-report 2020:

Deutsche Lufthansa AG, Lufthansa Cargo AG, Lufthansa Technik AG, Lufthansa CityLine GmbH, Swiss International Air Lines AG, Edelweiss Air AG, Brussels Airlines SA/NV, Austrian Airlines AG, Air Dolomiti S.p.A. Linee Aeree Regionali Europee, Germanwings GmbH, Eurowings Aviation GmbH, Eurowings Europe GmbH, LSG Lufthansa Service Holding AG, Lufthansa AirPlus Servicekarten GmbH, Lufthansa Global Business Services GmbH, Lufthansa Seeheim GmbH, Miles & More GmbH, Lufthansa Process Management GmbH, Lufthansa Systems GmbH & Co.KG, Lufthansa Industry Solutions GmbH & Co.KG, Lufthansa Aviation Training GmbH, LZ-Catering GmbH, Lufthansa Global Tele Sales GmbH, EFM-Gesellschaft für Enteisung und Flugzeugschleppen am Flughafen München GmbH.

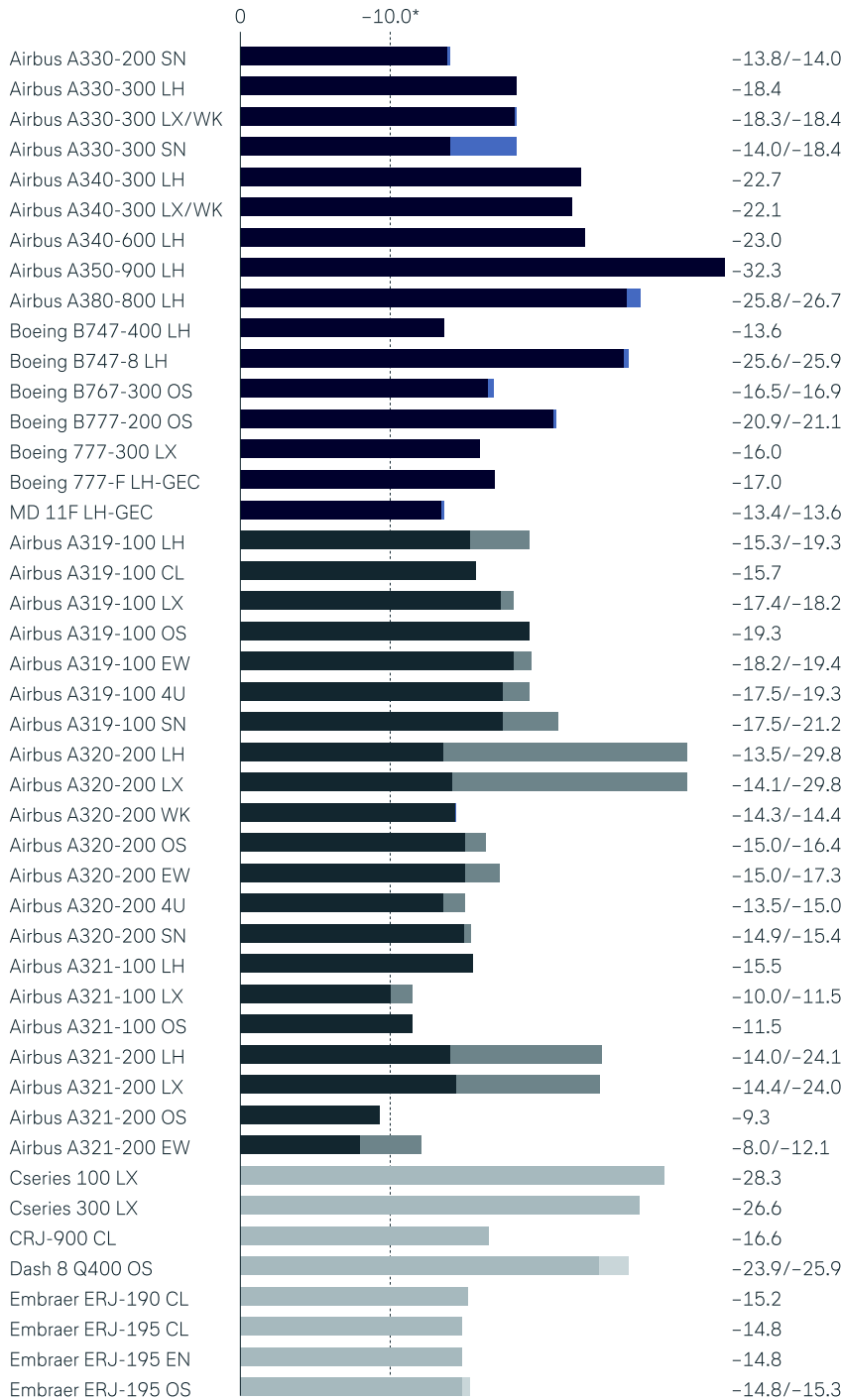
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MBBM
MÜLLER-BBM GRUPPE

MOST STRINGENT NOISE STANDARDS FOR THE LUFTHANSA GROUP'S FLEET

MARGIN BELOW THE NOISE LIMIT OF ICAO CHAPTER 3 AND CHAPTER 4

Reporting date 24 October 2020, in EPNdB



The Lufthansa Group determines the effect of modernization concerning noise abatement of the operative fleet by means of the performance indicator “number of aircraft that meet or exceed the so-called ‘minus-10dB criterium’ set by the ICAO Chapter 4 standard”. This standard defines noise limits and stipulates that all aircraft newly licensed from 2006 to the end of 2017 must cumulatively fulfill the Chapter 3 noise limits by a margin of 10 decibels or more. This “minus-10EPNdB criterium” (Effective Perceived Noise dB) is signified by the vertical broken line in the overview to the left. In 2020, 99.5 percent of the aircraft – thus virtually the entire operational Group fleet – met this criterium.

The limits depend on the aircraft’s maximum takeoff weight and number of engines. The bar chart indicates the sum of the differences between the measured value and the threshold value at the three measuring points by type of aircraft (cumulative margin). Where necessary, the values are based on the reduced maximum takeoff weight prevailing in flight operations. The individual noise certificate data of all Group aircraft is included in the evaluation methodology. Different versions of an aircraft and its engines by year of construction are thus better taken into account. Accordingly, the value ranges from the lowest to the highest cumulated margin are indicated for many fleets. The analysis also takes into account any modifications to aircraft or engines that have been made in the meantime, thereby leading to modified noise data and cumulative margins in certain cases. Furthermore, additions and withdrawals in individual fleets lead to changes in the value ranges reported.

The data to calculate the indicator is gathered on the qualifying date “end of summer flight schedule”. All aircraft in the possession of the individual flight-operating companies at the qualifying date are taken into account for the calculation of the performance indicator.

Grouping of aircraft types according to MTOW (maximum takeoff weight):

- under 50t
- 50 to 150t
- more than 150t

This division generally corresponds to a grouping of regional, continental, and intercontinental aircraft.

* ICAO Chapter 4 limit, which has been effective for a new aircraft since 2006: -10 EPNdB when compared to chapter 3.

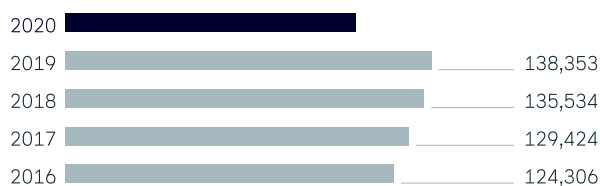
LH = Lufthansa, Lufthansa Cargo 4U = Germanwings LX= SWISS
 SN = Brussels Airlines EN = Air Dolomiti OS = Austrian Airlines
 CL = Lufthansa Cityline EW = Eurowings WK = Edelweiss Air

Personnel Data

EMPLOYEES IN TOTAL³

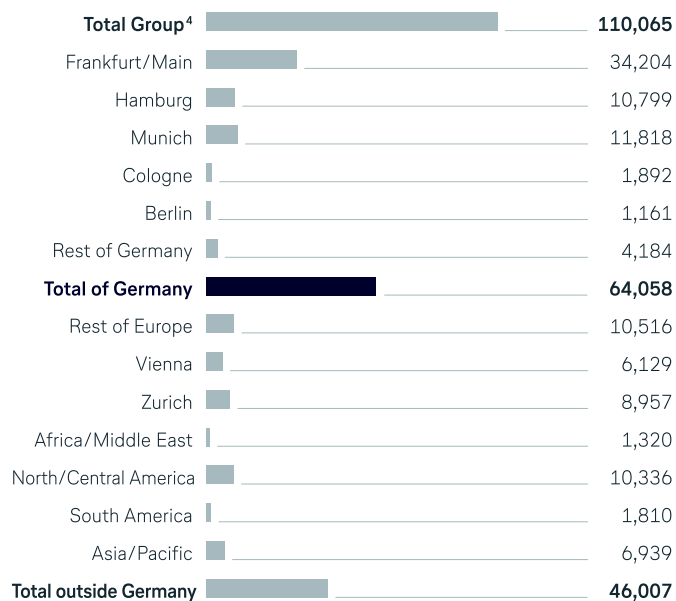
Lufthansa Group, employees
as of December 31, respectively

110,065



JOBS THROUGHOUT THE WORLD³

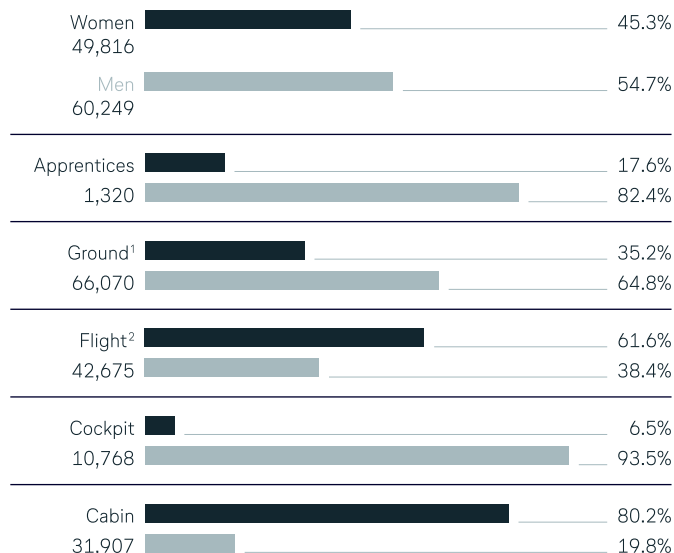
Lufthansa Group, employees as of December 31, 2020



NUMBER OF EMPLOYEES BY PROFESSIONAL GROUP AND GENDER³

Lufthansa Group, employees as of December 31, 2020

■ Women ■ Men



DISTRIBUTION OF EMPLOYEES^{3,4}

Lufthansa Group, employees as of December 31, respectively

	2020	2019	Change
Group employees	110,065	138,353	-20.4%
thereof Network Airlines	57,363	60,913	-5.8%
thereof Eurowings	3,088	3,432	-10.0%
thereof Logistics	4,373	4,539	-3.7%
thereof MRO	22,745	23,855	-4.7%
thereof Catering	13,227	35,636	-62.9%
thereof Additional Business and Group Functions ⁴	9,269	9,978	-7.1%

¹ Excluding Apprentices. ² Comprises cockpit and cabin. ³ Scope: Group consolidation.

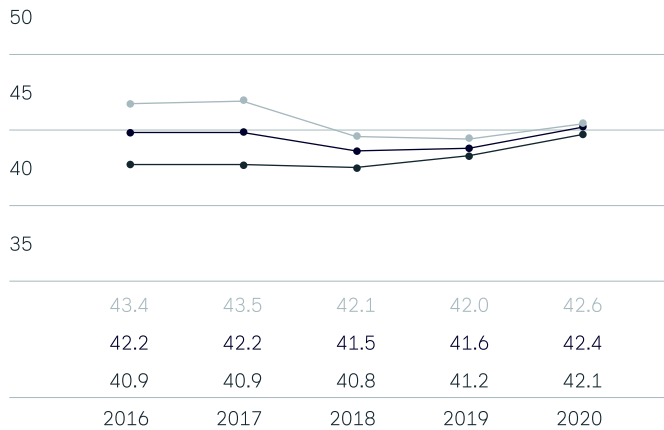
⁴ Figures for the previous year adapted to 2020 reporting structure.

Personnel Data

AVERAGE EMPLOYEE AGE¹

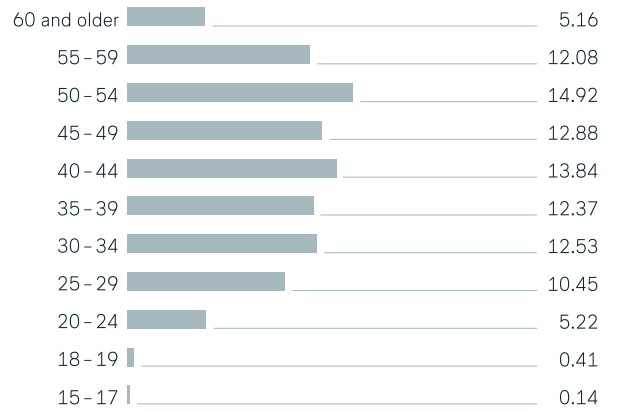
Lufthansa Group, in years as of December 31, respectively

■ Men ■ Total ■ Women



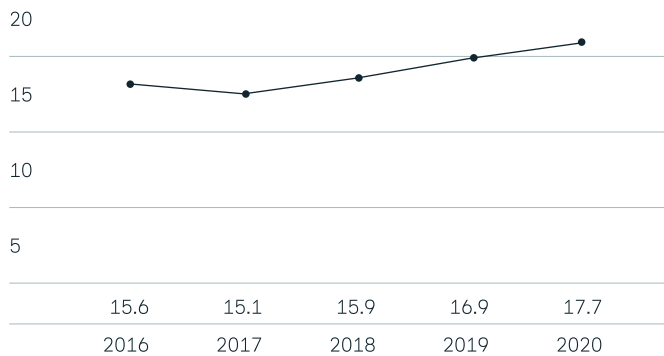
AGE STRUCTURE¹

Lufthansa Group, in percent as of December 31, 2020



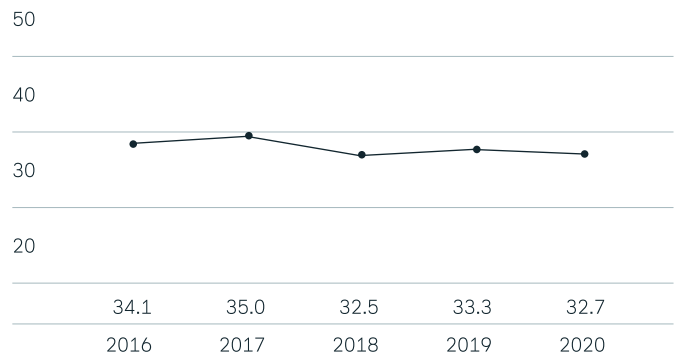
SHARE OF WOMEN IN MANAGEMENT POSITIONS (WORLDWIDE)²

Lufthansa Group, in percent as of December 31, respectively



SHARE OF WOMEN WITH STAFF RESPONSIBILITY (WORLDWIDE)²

Lufthansa Group, in percent as of December 31, respectively



¹ Scope: Group consolidation, excluding LSG Sky Chefs Spain, S.A.; LSG Sky Chefs Supply Chain Solutions, Inc.; Constance Food Group, Inc.; Sky Chefs, Inc.; Western Aire Chef, Inc.; SCIS Air Security Corporation. ² Scope: Group consolidation.

Personnel Data

EMPLOYEES ON PARENTAL LEAVE (GERMANY)¹

Lufthansa Group, employees as of December 31, 2020

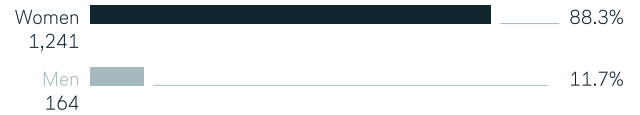
■ Women ■ Men



EMPLOYEES ON PARENTAL LEAVE (OUTSIDE GERMANY)²

Lufthansa Group, employees as of December 31, 2020

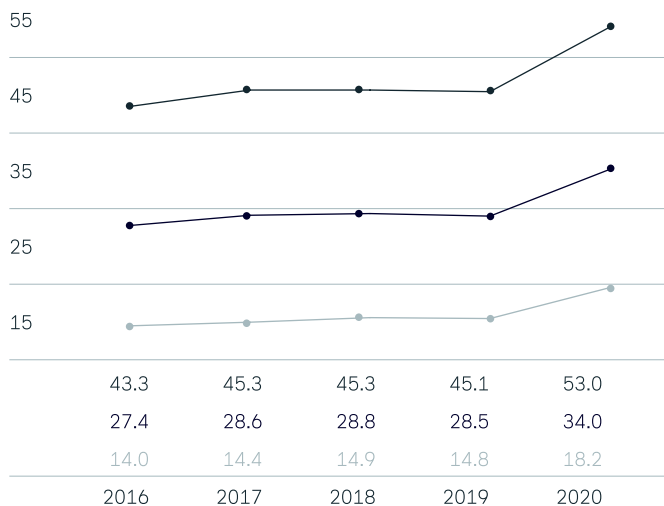
■ Women ■ Men



PART-TIME EMPLOYMENT^{1,2}

Lufthansa Group, in percent as of December 31, respectively

■ Women ■ Total ■ Men



SHARE OF EMPLOYEES IN GERMANY COVERED BY COLLECTIVE BARGAINING AGREEMENTS³

Lufthansa Group, employees as of December 31, 2020

Total ■ 83.0%

¹ Scope: Group consolidation. ² Scope: Group consolidation, excluding LSG Sky Chefs Spain, S.A.; LSG Sky Chefs Supply Chain Solutions, Inc.; Constance Food Group, Inc.; Sky Chefs, Inc.; Western Aire Chef, Inc.; SCIS Air Security Corporation. ³ Part-time with partial retirement (including block model). ⁴ The remainder are mostly executives and management in senior positions.

More Highlights in 2020

For more detailed information, [see Annual Report 2020 as of Page 86.](#)

RATINGS



- Evaluated by **CDP**: Climate-scoring overall result “B”, with the transparent and comprehensive disclosure of Scope 1, 2 and 3 received an “A” rating for each area
- Included in the **MSCI Global Sustainability Index** with “BBB”
- Registered in **Sustainalytics 23.6 Medium Risk**
- “Prime” status in the **ISS ESG Corporate Rating** with “C+”
- **VigeoEiris** above industry average with 43 Of 100 points
- “Silver status” by **EcoVadis**

ENVIRONMENTAL ISSUES



- **CO₂ reduction targets:**
 - Halving the carbon footprint of Lufthansa Group by 2030 compared to 2019 and carbon neutrality by 2050
 - 100% carbon neutrality on the ground in Germany, Austria and Switzerland by 2030

- A **cargo flight** taking off on 29 November 2020 was the first in the history of commercial aviation to have its fossil fuel completely offset through the use of SAF.
- Continuous investment in more modern and especially fuel-efficient aircraft and engine technologies: **18 new aircraft** received (including A350, Boeing 777F, A320neo, A321neo that produce up to **25% fewer emissions** than comparable aircraft types)
- Continuation of cooperations for the research and use of **alternative fuels** (SAF): **Heide Refinery**, PtL Competence Center Lausitz
- **Additional collaborations:** ETH Zurich, Climeworks and Synhelion and participation in the HySupply initiative of BDI and acatech
- **34** (PY 21) fuel-saving **projects pursued**, resulting in an **avoidance of 52.6 thousand tonnes of CO₂ emissions** (PY 24.5 thousand tonnes) and savings of 16.7 thousand tonnes (PY 9.7 thousand tonnes) of kerosene

- **100% offsetting** of CO₂ emissions from **business-related air travel of Lufthansa Group employees** worldwide
- Extended compensation offers for travelers on the **”Compensaid”** platform developed by the Lufthansa Innovation Hub implemented – a voluntary CO₂ compensation either for the replacement of fossil fuel with Sustainable Aviation Fuel or in favor of selected climate protection projects
- A total of **105 thousand tonnes of CO₂** (PY 181 thousand tonnes) were **offset by** Lufthansa Group and its customers
- **99.5%** (PY 99.6%) of the group’s operating fleet **meets or exceeds** the 10-decibel criterion of the ICAO Chapter 4 **noise standards**
- Continuation of the **Smart Plastic Reduction project**, which encompasses an annual volume of approximately **370 million individual items** (consumption in base year 2019). For example, over 50% of plastic items on an intercontinental flight are set to be replaced by more sustainable alternatives by the end of 2021

CUSTOMERS



- The **departure punctuality** of the Lufthansa Group passenger airlines rose from **76% to 88.6%** (annual average)
- A **Net Promoter Score of 62** for the network airlines confirms a high level of customer satisfaction
- A variety of **health protection measures** were established as a result of the coronavirus pandemic:
 - Implementation of the voluntary EASA charter on safe flying under pandemic conditions
 - Flexible and free rebooking options worldwide for all flights
 - Additional fare options with “Bring me home NOW” as well as the Travel Care and Travel Care Plus insurance packages
 - 4 stars awarded by Skytrax in the COVID 19 Airline Safety Rating

EMPLOYEES



- **Engagement Index** improved from **2.2 to 2.0** compared to the previous year despite pandemic
- **Health index** at **2.2**, exceeding the previous year's value of 2.3
- **Transparent information and communication** also ensured during short-time working through webcasts, podcasts and extensive use of Yammer thanks to the **#StrongerTogether** initiative
- **380 cabin employees** passed the "**Service Management Professional**" qualification program of the **German Chamber of Industry and Commerce** in 2020, which was continued despite the crisis
- **Talent** developed despite pandemic through deployment to crisis-relevant projects
- Extended home office possibilities

SOCIAL RESPONSIBILITY



- At the beginning of the pandemic, Lufthansa Group **waived the purchase of over 900,000 masks** to assist health authorities. The company also released employees with a medical background at short notice to **work in medical facilities** on a voluntary basis
- Establishment of a **coronavirus prevention and emergency aid fund**
- Responsibility for **39 aid projects** with a project volume of EUR 2.5 million – with 81% of the donations going to **support education**
- **40,000 disadvantaged people** worldwide received support

Glossary

Carbon dioxide (CO₂)

Gas resulting in nature from the burning or decomposition of organic substances (e.g. plant material). The greenhouse gas CO₂ remains in the atmosphere for about 100 years. Scientists attribute the increase in atmospheric CO₂ over the last 100 years to the burning of fossil fuels (e.g. coal, oil, natural gas) by humans. Per tonne of fuel, 3.15 tonnes of CO₂ result from the combustion process. Currently, 2.8 percent of the CO₂ emissions due to human activities are caused by global air traffic. (Source: International Energy Agency (IEA) 2018, 2016 values)

Carbon monoxide (CO)

Chemical compound consisting of one carbon and one oxygen atom, formed in the incomplete combustion process of substances containing carbon. For aircraft engines, the level of CO emissions depends greatly on the thrust level: The emissions per kilogram of fuel burned are higher at idle settings, while taxiing, and on approach than during the climbing and cruising phases.

Chapter 4 and Chapter 14 aircraft

The ICAO distinguishes between different noise standards, which are defined in related chapters of Annex 16 to the Convention on International Civil Aviation. The Environmental Committee (CAEP) of the ICAO agreed on the Chapter 4 noise standard in September 2001, according to which all aircraft newly certified since 2006 must remain cumulatively below the Chapter 3 noise levels by 10 decibels or more. In 2014, the ICAO agreed on the new Chapter 14 noise standard, which requires that aircraft must cumulatively remain 17 decibels below the Chapter 3 noise levels. This standard is initially applied to new aircraft with a maximum takeoff weight of more than 55 tonnes that are certified after December 31, 2017. For aircraft below this weight the new certification values are applied from December 31, 2020.

Decibel (dB)

Measuring unit for the intensity and pressure of sound. The difference in intensity between the softest sound the human ear can perceive and the pain threshold is 1:10 trillion. To depict this enormous range objectively, acoustics uses the logarithmic decibel scale. On this scale, the value "0" is assigned to the perception threshold (for a sound of 1,000 Hz) and the pain threshold at the value "130". An increase of 10 dB corresponds to a tenfold increase in sound intensity. For the perceived volume, a difference of 10 dB corresponds to half or double the volume. However, the human ear is not equally sensitive across the entire range of frequencies. Low and high sounds are not perceived as being equally loud even at the same intensity. For measurements, this difference is equalized and noted accordingly. The best known such notation is the A value, marked by the index dB(A). To measure aircraft noise, the EPNdB (Effective Perceived Noise Decibel) unit is used internationally.

Freight tonne kilometers (FTKO/FTKT)

Airlines distinguish between freight performance offered (FTKO, freight tonne kilometers offered) and its sold freight performance (FTKT, freight tonne kilometers transported). See also "Tonne kilometers".

Fuel Dump

Dumping of fuel in flight due to emergency situations to reduce a long-haul aircraft's weight to the maximum allowed landing weight before unscheduled landings (e.g. in the event of technical problems or serious passenger illness). Special air space is assigned to the aircraft, if possible above uninhabited or thinly populated areas. Fuel is usually dumped at altitudes of four to eight kilometers. A minimum altitude of 1,800 meters and a minimum speed of 500 km/h are required. The aircraft may not fly a fully closed circle. The dumped kerosene is released from outlet valves and forms a fine mist behind the aircraft. So far, no contamination has been detected in plant or soil samples after fuel dumps.

Great-circle distance

The shortest distance between two points on the Earth's surface, measured in kilometers (great circle kilometers) or nautical miles. The center of a great circle is the center of the Earth.

Nitrogen oxides (NO_x)

Chemical compounds consisting of one nitrogen and several oxygen atoms. NO_x is defined as the sum of NO and NO₂ compounds. Natural sources include lightning and microbes in the soil. Nitrogen oxides are also generated in combustion processes under high pressures and temperatures. However, future combustion chambers of an advanced design could help reduce NO_x emissions by 85 percent. Air traffic contributes two to three percent of man-made NO_x emissions. Climate models show that nitrogen oxides have increased the concentration of ozone at cruising altitudes by a few percentage points.

Passenger kilometer (PKO/PKT)

Measure for transport performance in passenger carriage (number of passengers multiplied by distance flown). A distinction is made between available transport performance (PKO, passenger kilometers offered, or, synonymously, SKO, seat kilometers offered) and actual transport performance (PKT, passenger kilometers transported).

Seat kilometer (SKO)

Measure of the transport capacity available (SKO, seat kilometers offered).

Tonne kilometer (TKT/TKO)

Measure of transport performance (payload multiplied by distance). A distinction is made between available transport performance (TKO, tonne kilometers offered) and the actual transport performance (TKT, tonne kilometers transported). In calculating payloads, passengers are taken into account by means of a statistical average weight.

Unburned hydrocarbons (UHC)

Organic mixture of carbon and hydrogen that results from the incomplete combustion of fuels containing hydrocarbons or from the evaporation of fuel.

Editorial information

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Note

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You will find further information on sustainability within the Lufthansa Group at:

➤ lufthansagroup.com/en/responsibility

View the Annual Report 2020 including the non-financial declaration at:

➤ lufthansagroup.com/investor-relations

Combined non-financial declaration

Lufthansa Group wants to live up to its role as a leading airline group, also in terms of sustainability. | Corporate responsibility is an integral part of the corporate culture. | The combined non-financial declaration focuses on the aspects of environmental concerns, customer concerns, employee concerns, anti-corruption and bribery, human rights, social concerns, responsible production and sustainability in the supply chain as an interdisciplinary topic. | Declaration is based on the GRI Standards 2016.

About this combined non-financial declaration

In accordance with CSR Directive Implementation Act (CSR-Richtlinie-Umsetzungsgesetz – CSR-RUG) which came into force on 19 April 2017, Deutsche Lufthansa AG is again publishing a combined non-financial declaration for the financial year 2020 in accordance with Sections 315b and 315c German Commercial Code (HGB) in conjunction with Sections 289b to 289e HGB. Deutsche Lufthansa AG publishes a non-financial declaration at Company level and a non-financial Group declaration together as a combined non-financial declaration. It combines aspects and reporting on the following key issues: environmental concerns, customer concerns, employee concerns, anti-corruption and bribery, human rights, social concerns, responsible production and sustainability in the supply chain as an interdisciplinary topic. In addition, measures and initiatives taken by the Lufthansa Group that demonstrate the Company's wide-ranging commitment to corporate responsibility are described in the combined management report. References to these passages are made in this declaration. In its Group risk management system, the Lufthansa Group also takes into consideration impacts on non-financial factors and circumstances.

➤ **Opportunities and risk report, p. 71ff.**

The non-financial declaration is based on GRI Standard 2016.

➤ **T050 GRI Content Index, p. 115.**

The Lufthansa Group plans to publish further information in 2021 in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) initiated by the Financial Stability Board.

Taking into account the measures and concepts described and using the net method, there are currently no indications of risks that would have a severe negative impact on these material aspects and that are highly likely to occur. Unless otherwise stated, the disclosures made here relate to the group of consolidated companies referred to in the consolidated financial statements. Unless stated otherwise, the disclosures reflect the perspective of both the Group and Deutsche Lufthansa AG. This combined non-financial declaration was subject to a voluntary limited assurance engagement in accordance with ISAE 3000 (revised). ➤ **Independent Auditor's Limited Assurance Report regarding the Non-Financial Statement.**

References to disclosures outside the combined management report are additional information and do not form part of the combined non-financial declaration.

Disclosures on the business model

The Lufthansa Group is a global aviation group with a total of 532 subsidiaries and equity investments. The business model of the Lufthansa Group is described in detail in the combined management report. ➤ **Principles of the Group, p. 15ff.**



Sustainability is firmly established within the Company

Responsible conduct in compliance with legislation is a key element of the Lufthansa Group’s corporate culture and is firmly embedded in the Group strategy. Since 2002, the Company has applied the principles of the UN Global Compact for sustainable and responsible corporate governance. In addition, it supports the Sustainable Development Goals (SDGs) of the Agenda 2030, as adopted by the UN member states in 2015. In order to contribute towards achieving the SDGs, the Company is concentrating on the seven SDGs where it can reduce its negative impact and increase its positive effect due to its business model:

	SDG 4: Quality education
	SDG 5: Gender equality
	SDG 8: Decent work and economic growth
	SDG 9: Industry, innovation and infrastructure
	SDG 12: Responsible consumption and production
	SDG 13: Climate action
	SDG 17: Partnerships for the goals

An overview of the goals and comments on Lufthansa Group activities to support them can be found in [T051, Sustainable Development Goals, p. 116f.](#)

The Code of Conduct, which has been binding for all bodies, managers and employees of the Lufthansa Group since 2017, was supplemented by a Supplier Code of Conduct in 2019. In this Supplier Code of Conduct, the Lufthansa Group lays out its position that it also expects business partners and suppliers to adhere to the principles as a fundamental aspect of the business relationship. The standards at its core are not only the basis for responsible conduct and fair competition, but also seek to identify legal and reputational risks at an early stage and avoid them. The Lufthansa Group has published the Code of Conduct on its website.

Value-based management is also an integral element of sustainable corporate governance for the Lufthansa Group. The concept and the associated performance indicators are described in detail in the chapter [Financial strategy and value-based management, p. 21ff.](#) Variable management remuneration is also linked to non-financial factors such as specific CO₂ emissions. [Remuneration report.](#)

The Lufthansa Group’s sustainability management is rated above-average

On 8 December 2020, as in the previous year, the Lufthansa Group’s commitment to climate protection, focusing on CO₂ management, was awarded a B within the Climate-Scoring of the non-profit rating organisation CDP (Carbon Disclosure Project). This rating remains better than the industry average. The comprehensive and transparent CO₂ description, divided into Scope 1, 2 and 3, received an A score for each section. The full report is available from CDP and on the Lufthansa Group website. Since 2015, the Group has been part of the MSCI Global Sustainability Index prepared by MSCI, a US index provider. It tracks companies that are particularly committed to sustainability. As in the previous year, the Lufthansa Group received a rating of BBB from MSCI. In the Sustainalytics rating, the Lufthansa Group improved from 29.0 to 23.6 points in the reporting year. Due to its CO₂ relevance Lufthansa Group remains in the “medium risk” group, where it is also far above average in the “Airlines” subcategory in second place out of 71. Sustainalytics rates the management of the Lufthansa Group as strong in terms of the main ESG aspects. The rating agency Vigeo Eiris (Moody’s) also has a positive view of the Group’s environmental management. The Group is slightly above the industry average in the Vigeo Eiris rating with 43 out of 100 points. ISS ESG rates the Lufthansa Group C+ and also puts it well above the average for the industry.

C25 SUSTAINABILITY RATINGS

as of 31 Dec 2020

	BBB		B
	C+		43 Score on 100
			23.6 Medium Risk

The highest monitoring body in the area of sustainable management is the Supervisory Board. In the reporting year, the Group Executive Committee (GEC), chaired by the Chairman of the Executive Board and CEO, determined the focus and further development of sustainability-related activities within the Lufthansa Group.

C26 ASPECTS, ISSUES AND PERFORMANCE INDICATORS

Aspects	Environmental concerns	Customer concerns	Employee concerns
Issues Performance indicators	Climate protection CO ₂ emissions	Operational stability Departure punctuality	Attractiveness as an employer Engagement Index
	Active noise abatement Percentage of aircraft that meet the 10dB criterion of ICAO Chapter 4	Product and services Net Promoter Score	Transformation capacity
	Waste avoidance		Health and safety at work Health Index
Aspects	Fighting corruption and bribery	Respect for human rights	Social concerns ¹⁾
Issues	Integral part of the Lufthansa Group Compliance Management System	Important part of the corporate culture – embedded in the Code of Conduct	Corporate citizenship help alliance gGmbH
Interdisciplinary topics ²⁾	<ul style="list-style-type: none"> • Responsible production and sustainability in the supply chain • Containment of coronavirus pandemic 		

¹⁾ Immaterial as defined in Section 289c Paragraph 3 German Commercial Code (HGB), voluntary presentation at specific request of addressees.

²⁾ Interdisciplinary topics represented qualitatively in the non-financial declaration.

The GEC is a senior management level entity and consists of the Executive Board of Deutsche Lufthansa AG, the CEOs of the segment parent companies, the senior executives of the Network Airlines and the heads of the Group's Strategy, Controlling and Communications departments. Individual managers are responsible for implementing concrete activities and projects. On 1 January 2020, the Executive Board was expanded to include the function Customer, IT & Corporate Responsibility. This established responsibility for the Company's environmental, climate and social impact directly at the Executive Board level.

Materiality analysis forms basis for determining material aspects

Continuous dialogue with stakeholders delivers an important contribution to refining the sustainability strategy of the Lufthansa Group. The results of a wide-ranging stakeholder survey conducted in October 2018 were reviewed by the management in November 2018 in accordance with Section 289c (3) HGB. These results, together with a verification of materialities that was performed in 2020, again formed the basis for selecting the aspects and concerns to be covered in this combined non-financial declaration. According to the analysis, environmental concerns, customer concerns and employee concerns remain particularly important for the business of the Lufthansa Group. Furthermore, the materiality analysis shows that the fight against corruption and bribery, respect for human rights and responsible production including sustainable supply chains are of great relevance to the Lufthansa Group.

One new material topic concerns the steps taken to contain the coronavirus pandemic.

Company is making its contribution towards containing the coronavirus pandemic

The Lufthansa Group and in particular its logistics subsidiary Lufthansa Cargo often have a particularly important role to play in responding to crises and natural disasters, because it is only by air that aid workers and equipment can be transported over great distances. Airfreight is also vital for day-to-day supplies and helps to strengthen global trade. For these reasons, the airlines in the Lufthansa Group took an early decision to maintain relevant flight connections for the transport of passengers and freight even at the height of the crisis and despite wide-ranging travel restrictions. This made it possible to repatriate stranded passengers and deliver urgently needed goods. Lufthansa Cargo started working with Lufthansa German Airlines and Austrian Airlines in April to increase global airfreight capacities, which had quickly become scarce, partly by using passenger aircraft that had been modified at short notice for this purpose and were dubbed "freighters". By mid-year they had enabled the transport of billions of protective masks and other equipment urgently needed to fight the pandemic. At the same time, Lufthansa Cargo started preparing early for transporting vaccines, postponing the retirement of several MD-11F freights planned for late 2020 in order to secure sufficient cargo capacities.

Environmental concerns



Concepts

Climate protection and active noise abatement are cornerstones of the environmental strategy; waste prevention is another key area of action

The material environmental impacts of flight operations are primarily climate effects due to the CO₂ emissions produced by burning kerosene and the noise caused by aircraft taking off and landing. In addition, waste is produced during every flight which must be reduced or recycled wherever possible.

For many years, the Lufthansa Group has taken steps to minimise the environmental impact of its business operations. This is consistent with customer demands and its own economic interests, since resource consumption and emission-related fees all represent costs for the Company.

To this end, the Lufthansa Group follows a strategic environmental programme that is applied in all areas of the Group. Its main fields of action are the reduction of emissions, active noise abatement, energy and resource management, investment in research and the successive establishment of environmental management systems.

Environmental protection activities coordinated and managed in-house

The Executive Board function Customer, IT & Corporate Responsibility was responsible for defining, agreeing and adopting the overarching environmental management targets and activities in 2020. In addition, all larger subsidiaries have their own environmental departments, an environmental officer or a coordinator. The environmental officers and coordinators generally meet once a year for the Group Environmental Forum. It was in this year that networking in the context of the Group Environmental Forum was replaced by bilateral exchanges. This exchange offers the environmental experts in the Lufthansa Group an opportunity to identify potential synergies and to discuss and evaluate new ideas, activities and projects concerned with environmental protection.

New and planned legislation and its effects on the Lufthansa Group are also actively addressed. The Lufthansa Group plays an active role in the corresponding boards and forums, along with other companies and associations such as IATA, A4E, BDL and econsense. ➔ **Opportunities and risks from the regulatory environment, p. 77f.**

The Lufthansa Group has been operating a central environmental database for several years. One of its functions is to collect and process information and data that is relevant to the environment – such as on CO₂ emissions – so this information can be employed in business decisions. This was significantly expanded in the reporting year, particularly to more systematically record the energy consumption from ground activities and the resulting carbon emissions of all relevant business units and sites, and to simplify the verification processes. In addition, a process was established in the reporting year that enables the Group's kerosene consumption to be sent directly to the Lufthansa Group's central data warehouse for further analysis.

Lufthansa Group airlines have certified environmental management system

The environmental management system of Lufthansa German Airlines in Munich has been EMAS validated and ISO 14001 certified since 2018. Environmental aspects of the Lufthansa Group's flight operations are coordinated across all its sites. Preparations for EMAS validation started at the Lufthansa German Airline base in Frankfurt in 2020, but were deferred as a result of the coronavirus pandemic. Lufthansa CityLine was the first airline in the world with an independently certified environmental management system. Since then, the Munich-based airline regularly receives certification based on the demanding EMAS EU environmental standards. Air Dolomiti successfully passed the audit for ISO 14001 certification in 2020 and is currently preparing for the EMAS validation in 2021.

Lufthansa Cargo has been certified according to the environmental management standard ISO 14001 at its location in Frankfurt since 2008 and worldwide since the end of 2015. The subsidiaries Jettainer and time:matters have also been included in the environmental management system since 2014 and 2017 respectively. The environmental management system supports the implementation of Lufthansa Cargo's environmental strategy. Continual improvements are achieved by means of ambitious environmental targets, above all in particularly energy and resource-intensive areas such as flight operations, freight handling and facility management.

Lufthansa Technik coordinates its sustainability activities in a unified environmental management system

The Lufthansa Technik group has managed its sustainability activities within a uniform environmental management system since 1996. The environmental management system is certified under ISO 14001 and provides a stable organisational basis for implementing the regularly updated environmental strategy, ensuring compliance with relevant legislation and actively managing opportunities and risks.

In order to ensure that progress is continuous, the system is accompanied by binding environmental targets, a regular review by the Executive Board and a firm implementation in a process-based, integrated management system. The ISO 14001 certification has been continually expanded to all new locations since 2012. Certification was completed in the reporting year for the engine overhaul plant in Wrocław, Poland.

The Lufthansa Technik group supports the sustainability performance of its customers by means of innovative service and product developments, also to reduce kerosene consumption in flight operations and so cut costs and CO₂ emissions. Examples include the development of its proprietary cleaning process Cyclean and the application of coatings known as sharkskin to make aircraft more aerodynamic. ➔ **Climate protection/Technological progress, p. 91f.**

The operation of efficient production systems and networks is another material area of the Lufthansa Technik group's environmental strategy. With the help of ambitious environmental targets adopted by the Executive Board in late 2018, the aim is to optimise the Lufthansa Technik group's sites continuously until 2025.

- Reduction of CO₂ footprint in global production network by an additional 25%
- Increase proportion of renewable energy to 50%
- Improve recycling ratio to 75% by making more efficient use of resources

Another of the Lufthansa Technik group's aims is to reduce the use of substances that are particularly harmful to human health and the environment by 25%. A new maintenance process for fire extinguishers (EFFECT – Extremely Fast Fire Extinguisher Check and Test) was introduced in 2020, for example. This significantly reduces environmental risks and processing time, because there is no longer any need to remove, store and process the halon used to suppress the fire, which damages the ozone layer.

Performance against sustainability targets is reported annually to the Management Board of Lufthansa Technik.

CLIMATE PROTECTION

Targets

Lufthansa Group supports climate protection goals of the aviation sector and reinforces its own targets

According to the International Energy Agency (IEA), CO₂ emissions from air traffic currently account for around 2.8% of global carbon emissions from burning fossil fuels.

The aviation sector started making voluntary commitments to reduce emissions as early as 2009, via its trade associations IATA and the Air Transport Action Group (ATAG). The Lufthansa Group was closely involved in setting the target of continuous efficiency improvements of 1.5% until 2020, carbon-neutral growth from 2020 and a reduction of 50% in net emissions compared with 2005 by 2050.

IATA is currently reviewing its targets for the global aviation industry. Above and beyond the currently agreed targets, it aspires to make global air traffic carbon neutral by the year 2060. The existing climate goals mentioned above will also remain in place.

Via the European airline association (A4E), the Lufthansa Group is also involved in the Destination 2050 study – an initiative by five European air transport associations (A4E, ACI EUROPE, ASD, CANSO and ERA) which began in summer 2019. The study investigates the potential for reducing emissions in the action areas of technology, operations and infrastructure, sustainable aviation fuel (SAF) and market-based mechanisms, to determine how they can contribute to achieving the emissions targets for European air transport. The focus is on significant reductions by 2030 and achieving carbon neutrality by 2050. The aim is to never exceed the level of emissions recorded in 2019. The study is to be published in 2021.

Policymakers and industry are also working towards the long-term goal of making flights from and to Europe carbon neutral by the middle of the century as part of the EU pact. Significant reductions should already be achieved by 2030.

As befits its pioneering role, the Lufthansa Group has also defined its own carbon reduction targets, which in some cases are more demanding. This means the Lufthansa Group's carbon footprint should be reduced by half by 2030 compared with 2019, with carbon neutrality the objective for 2050.

Measures

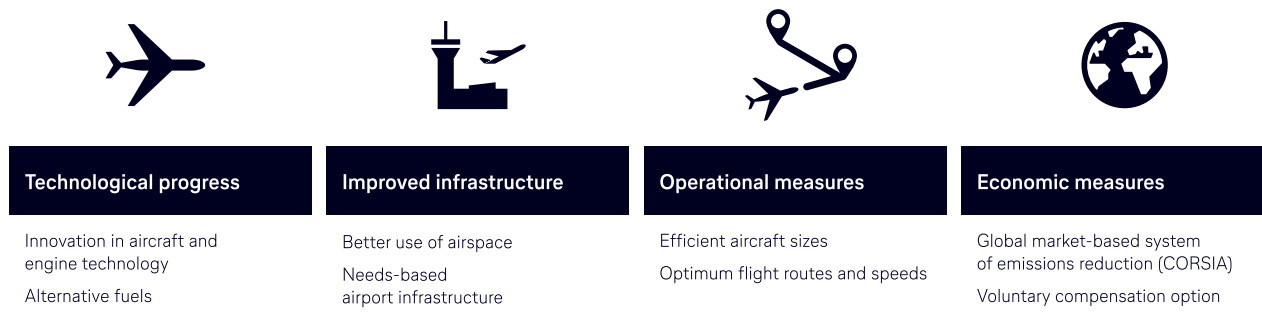
Achieving these goals requires focused political and financial mechanisms. In this context, the Lufthansa Group has for many years supported research to contribute to a better understanding of climate effects.

Four-pillar strategy defines climate protection measures

The targets mentioned above can only be met through cooperation and by combining various activities of different players, such as manufacturers, airports, air traffic control authorities, airlines and policymakers. As early as 2007, IATA divided its emission-reduction activities into four action areas in its four-pillar climate protection strategy for the airline industry. This strategy and these action areas also form the basis for the Lufthansa Group's activities to improve fuel efficiency and reduce CO₂ emissions.



C27 THE FOUR PILLARS FOR CLIMATE PROTECTION



1. TECHNOLOGICAL PROGRESS

Fleet renewal is currently the key driver for reducing CO₂

The most important driver for reducing CO₂ emissions from flight operations is investing continuously in modern, particularly fuel-efficient aircraft and engine technologies.

Alongside 4 used aircraft, 18 new aircraft went into service with the Lufthansa Group airlines in 2020, including more Airbus A320neos, A321neos, A350s and Boeing 777Fs, which are powered by modern engines. The A350-900 aircraft is one of the latest and most environmentally friendly long-haul aircraft in the world and is much quieter than comparable aircraft types. A total of 28 older aircraft were removed from the Group fleet in exchange.

Measures to technically modify the existing fleet are also constantly examined and implemented where appropriate. In February 2020, Lufthansa Technik completed the trial, which began in late 2019, of a new surface coating developed jointly with BASF Coatings GmbH. This functional foil is known as sharkskin due its microscopic ribbing, and it reduces air resistance. For a Boeing 747, it enables fuel savings of more than 400 tonnes, which represents a reduction of almost 1,300 tonnes of CO₂ emissions per aircraft per year. The plan to apply it to the entire fleet of Boeing 747-400s at Lufthansa German Airlines has been postponed due to the pandemic. The intention is to also have the foil authorised for other aircraft types and to market it more widely.

Aircraft with alternative means of propulsion not based on fossil fuels are currently still in development. Airbus estimates that aircraft using hydrogen-based propulsion technology could be authorised for commercial use on flights of less than 2,000 km from 2035.

Lufthansa Group uses partnerships to drive research projects on sustainable aviation fuel

In the past decade, the Lufthansa Group has been closely involved with the research, testing and use of sustainable aviation fuel (SAF), i.e. synthetic kerosene made using renewable energy sources. In 2011 the Lufthansa Group carried out pioneering work with the world's first long-term trial of bio-kerosene in regular flight operations. Later, the company performed fundamental research into how alternative and conventional kerosene mix and made selective use of novel synthesis methods.

Since then, the Lufthansa Group has worked in partnerships to drive key technologies for producing sustainable aircraft fuels. The focus is on synthetic kerosene based on waste materials, ligneous biomass and renewable electrical energy (power-to-liquid – PtL). In 2019, for instance, the Lufthansa Group signed a letter of intent with Raffinerie Heide on future supplies of PtL fuel to Hamburg Airport. Among other things, the Lufthansa Group also supports the Lausitz power-to-X centre of excellence. Another partnership was begun in the reporting year with ETH Zurich and its two spin-offs Synhelion and Climeworks. The experts at ETH Zurich have developed innovative methods for removing CO₂ from the atmosphere and, together with water and with the help of concentrated sunlight, convert it into a synthesis gas that can be used to generate fuel.

In addition, the Lufthansa Group is still involved with the cross-sector Powerfuel initiative coordinated by the German Energy Agency (dena). It aims to build an international alliance to develop the future strategic importance of synthetic renewable fuels, to jointly advance a global market for these fuels and to accelerate their market development.

“Green hydrogen” is vitally important for synthetic fuels. This is why the Lufthansa Group is taking part in the HySupply initiative launched by the Federation of German Industries and acatech. The aim is to develop a supply chain for green hydrogen from Australia.

The World Economic Forum also supports the market launch of SAF. The Lufthansa Group is a member of the working group Clean Skies for Tomorrow.

The importance of SAF for reducing emissions from air traffic has been recognised at the European level. As part of its Green Deal, the EU is currently preparing special legislation (RefuelEU Aviation) dealing exclusively with sustainable aircraft fuels, which is intended to bring them to market by means of a progressively rising blending ratio. The Lufthansa Group is closely involved in the consultations for these legislative processes.

Work is taking place in Germany on a PTL roadmap for the aviation sector to be published in 2021. This joint strategy involves the federal and regional governments, the aviation and fuel industries and equipment manufacturers, and it is coordinated by the Federal Association of the German Aviation Industry and the Federal Transport Ministry. The Lufthansa Group has made an active contribution to the project in order to help shape demonstration projects, production at scale and market launch of PTL fuels.

Lufthansa Group actively involves customers in the transformation

By involving its customers as well, the Lufthansa Group wants to accelerate the transformation of the industry. The offset platform Compensaid, which the Lufthansa Innovation Hub launched in 2019, was refined and integrated into the flight booking process for all Lufthansa Group airlines in 2020. It can be used by travellers to substitute SAF for the fossil fuel required for their flight.

This principle was transferred to cargo flights for the first time in November 2020. Lufthansa Cargo and DB Schenker completed a cargo flight that was 100% carbon neutral. This entailed feeding the volume of SAF that corresponds to the fuel requirement for this flight into the fuel supply system at Frankfurt Airport and notionally allocating it all to this flight. At the same time, the emissions caused by the SAF itself (e.g. production, logistics) were also offset.

2. IMPROVED INFRASTRUCTURE

Single European airspace should reduce emissions

The fundamental modernisation and harmonisation of technologies, processes and standards in the European airspace are necessary to realise the significant potential of airspace infrastructure for greater efficiency. In autumn 2020, the European Commission started SES2+ (Single European Sky 2+) consultations, with the aim of incorporating findings that had been previously identified by various committees. In line with the European Commission’s current Green Deal, the aim is to reduce fuel consumption and thereby sustainably lower CO₂ emissions, and to achieve significant improvements in aviation punctuality and reliability for passengers. The Lufthansa Group was actively involved in drafting a declaration by the airline industry through the Airlines for Europe (A4E) association and Lufthansa representatives, and the Group has for years expressly supported the efforts of the EU to create a reliable and efficient EU airspace.

Parts of these new measures are based on the results of the European SESAR (Single European Sky ATM Research) programme. This is a key milestone in the harmonisation and modernisation of European aviation infrastructure. The goal of this programme is to develop, test and implement Europe-wide new technologies, procedures and standards that contribute to harmonizing and optimizing European air traffic management. The Lufthansa Group has supported SESAR for many years with the clear expectation that measurable operational improvements in air traffic management are implemented. The implementation of these technologies in daily operations is jointly coordinated by the members of the industry consortia SESAR Deployment Manager (SDM). The Lufthansa Group is a member of these consortia and provides local experts. Across Europe, the SDM currently coordinates 343 projects. The various airlines in the Lufthansa Group and Lufthansa Systems are also actively involved as IT providers for SESAR research and demonstration projects.

Intermodal transport to be expanded

Almost the only purpose of very short flights is to bring passengers to and from longer flights from the Lufthansa Group’s hubs in Frankfurt, Munich, Zurich, Vienna and Brussels. Since the 1980s, the Lufthansa Group has been developing ways of combining the various means of transport (air, rail and road) intelligently, a concept known as intermodality, to reduce the environmental impact of return trips to the hub.

To encourage intermodal transport, a partnership was established with rail operator Deutsche Bahn in 2001 and has since been intensified, with significant progress made in the reporting year. Joint capacity on existing routes was expanded, and three additional destinations were added: Leipzig, Hanover and Basel. Lufthansa German Airlines can



now enable its customers in 17 cities to complete the journey to and from their flight on a climate friendly ICE train, with over 120 connections a day. Other opportunities for cooperation are currently being developed with Deutsche Bahn. As there is no long-distance rail connection at Munich Airport, the Lufthansa Group is investigating the use of comfortable buses on selected routes. Two more destinations, Lugano and Geneva, were introduced at the Zurich hub in 2020 in cooperation with the Swiss rail operator SBB. In Vienna, a connection to Graz was added to the joint programme with Austrian Railways, and the existing connection to Salzburg was expanded significantly.

3. OPERATIONAL MEASURES

The Lufthansa Group's operational measures for climate protection comprise the use of efficiently sized aircraft and the optimisation of load factors, as well as reviewing and introducing new flight procedures, determining optimal routes and speeds and monitoring the many activities to save fuel.

More efficient concepts for take-off and landing are being implemented and the digitalisation of approach technologies advance

In 2020, the coronavirus pandemic enabled joint initiatives with German air traffic control (DFS) to reduce emissions. Periods of low traffic were used to test alternative flight procedures (vertical flight profile) and flight routes (horizontal flight management) and identify their potential savings. The intention is to continue using these procedures when traffic picks up again.

In April and May 2020, DFS and the Lufthansa Group developed and implemented a concept for more efficient flight profiles on the approach to the Frankfurt and Munich airports. The Efficient Flight Profile concept (EFP) supports a continuous descent, which enables lower fuel consumption and carbon emissions when landing compared with standard approaches. At the same time, these approach profiles reduce noise levels in the vicinity of the airport. This concept is the partners' response to the drastic decline in air traffic caused by the coronavirus pandemic. With it, they are taking advantage of the opportunity to optimise flight operations, particularly at Germany's busiest airports in Frankfurt and Munich.

The EFP concept makes it possible to already plan optimised flight paths to these airports from distances of more than 200 miles. It means that aircraft are cleared for a direct flight from the upper airspace to their destination with up to half an hour earlier. This is only possible through close cooperation between the air traffic control authorities involved.

Analysis has shown that the Lufthansa Group alone has reduced its CO₂ emissions by up to 2,000 tonnes per month since the EFP concept was introduced.

DFS introduced another shorter take-off path to the west from Dusseldorf Airport on 13 August 2020. The experts at the Lufthansa Group were chiefly responsible for developing this; they wanted not only to support the DFS with implementation of the EU requirement for greater use of area navigation procedures, but also to use the new route to reduce kerosene consumption and the related emissions. Planning took place in close coordination with the Noise Abatement Commission and representatives of people living in the local communities. The new procedure reduces the flight path by around 2.7 km, which means fuel consumption goes down by around 40 tonnes and CO₂ emissions by 130 tonnes per year.

These new departure routes will be introduced as part of the European SESAR implementation project RNP Based Departure Operations. Modern satellite navigation technology is also used, which enables the ideal line to be followed with even greater precision and makes the definition of flight paths more flexible.

The effects of the new departure routes on flight noise were analysed as part of the Lufthansa Group research project EffFlug, aimed at generating efficiency gains in flight operations. A new method was developed in this context for counterbalancing and improving the effects of noise on the communities concerned. ➔ **Active noise abatement, p. 95f.**

The Lufthansa Group completed the project Augmented Approaches to Land 2 in 2020, which tested the new approach technology known as Ground-Based Augmentation System (GBAS) in Frankfurt and Bremen for approaches in low visibility. The system is a prime example of how approach technology is being digitalised. Among other things, it enables more flexible approaches to reduce fuel consumption and aircraft noise. GBAS allows for smaller gaps between successive aircraft as they make the final approach to the airport in poor visibility. One day, the system could replace the established instrument landing system (ILS) that is standard today.

Numerous projects to save fuel significantly reduce carbon emissions

In financial year 2020, 34 fuel-saving projects were under way across the Group. These projects comprise activities relating to performance and procedures, weight reduction, flight route optimisation and technical developments. In addition to the reductions achieved in recent years, they made it possible to permanently avoid another 52.6 thousand tonnes of CO₂ emissions in the reporting year. The quantity of kerosene saved amounted to around 16.7 thousand tonnes – this is equivalent to approximately 196 return flights between Munich and New York with an Airbus A350-900 aircraft.



4. ECONOMIC INSTRUMENTS

Economic measures to protect the environment are vitally important as long as sustainable aircraft fuel is not available in sufficient quantities.

Mandatory offsets of CO₂ emissions

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which was concluded with the International Civil Aviation Organization (ICAO) in October 2016, seeks to offset growth-related CO₂ emissions in international air traffic using climate protection projects from 2021 onwards. In June 2020, the ICAO adopted a resolution confirming that carbon emissions in 2019 are the sole benchmark for determining relevant industry growth in the course of the CORSIA pilot phase. On the basis of this regulatory change, the Lufthansa Group assumes that it will not have to make any carbon offsets under CORSIA for the year 2021. Whether and how many CORSIA offsets will be required in future depends primarily on how fast air traffic recovers between the states participating in the CORSIA pilot phase.

The EU Emissions Trading Scheme (EU ETS) for air traffic has managed and limited CO₂ emissions by way of certificate trading since 2012. All flights carried out by the Lufthansa Group within the European Economic Area (EEA) are subject to this system. Combining the EU ETS with the emissions trading scheme for Switzerland (CH ETS) means that as of January 2020 emissions certificates also have to be provided for flights between Switzerland and the EEA and for flights within Switzerland. The companies in the Lufthansa Group emitted some 3.2 million tonnes of CO₂ under EU ETS and CH ETS in the reporting year. For 2020, the companies in the Lufthansa Group were allocated around 4.1 million emissions certificates by national authorities. For further information on the provisions recognised in connection with the obligation to submit CO₂ emissions certificates to the competent authorities, we refer to [Notes to the consolidated financial statements, Note 36, p. 188ff.](#)

The European Emissions Trading Scheme is currently being revised, and the Lufthansa Group is also involved in this process. The project aims to harmonise CORSIA and EU ETS in order to avoid double regulation. However, it is crucial that the revision puts an end to the unfair competition caused by regionally limited emissions trading at the expense of European airlines. This results from the unequal treatment of feeder flights for long-haul traffic. Airlines with a hub in the EEA have to take part in the EU ETS, whereas airlines with a hub outside the EEA are exempt. The latter have almost unrestricted market access, however.

Voluntary carbon offsets with myclimate and Compensaid

In addition to the mandatory economic instruments, there are also ways of offsetting carbon emissions voluntarily. The Lufthansa Group has partnered with the well-known carbon offset provider myclimate and with Climate Austria for Austria for more than ten years. With the “Corporate Value Fares” programme offered to corporate customers by the Network Airlines in the Lufthansa Group, the emissions of flights within Europe are automatically offset via myclimate. The Lufthansa Group itself has been offsetting the carbon emissions of all employees’ business flights around the world since 2019. Private customers and employees of the Lufthansa Group also have the option of offsetting their emissions via the Compensaid platform, which enables the purchase of low-carbon sustainable fuels (SAF) and project-based offsets. The Lufthansa Group only uses certificates for its carbon offsets that meet the highest quality standards (CDM Gold Standard and Plan Vivo). Austrian Airlines and its partner Climate Austria also use some of the funds for national offset projects that have been certified by the Austrian Environment Ministry.

Lufthansa Group aircraft collect data for climate research

In addition to the activities in the four-pillar strategy, the Lufthansa Group has been involved in various research projects examining the atmosphere and the climate since 1994. In cooperation with its research partners from the Karlsruhe Institute of Technology and Forschungszentrum Jülich, it has equipped selected passenger aircraft with measuring instruments that collect information about the condition of the atmosphere on regular scheduled flights. This data is used by some 300 organisations around the world. It helps scientists to acquire new knowledge about climate change and the composition of the atmosphere and to detect long-term changes. For example, the data from more than 15 years of continual measurements on board Lufthansa Group aircraft improved the researchers’ understanding of where and when cold and humid air masses occur in which contrails can form. In the first half of 2020, the research aircraft collected important data with which scientists are currently investigating the impact of the global lockdown on air quality and the climate.

The climate impact of aviation contrails was quantified by well-known research institutes for the first time in 2020. These findings will be used for further research into mitigation measures, and for informing the political debate. The Lufthansa Group will be actively involved in this as well.



Performance indicator

Absolute CO₂ emissions fall to 11.4 million tonnes due to the pandemic; specific CO₂ emissions per passenger-kilometre higher at 105.2 grammes

Absolute CO₂ emissions of Lufthansa Group aircraft in 2020 amounted to 11.4 million tonnes (previous year: 33.1 million tonnes). ↗ **T001 Key figures Lufthansa Group**. Due to the pandemic, carbon emissions per freight tonne-kilometre increased to 880 grammes (previous year: 870 grammes). Specific CO₂ emissions per passenger-kilometre were higher than the previous year at 105.2 grammes (previous year: 92.2 grammes). The main drivers of this development were the lower passenger load factor, which declined to 60.8% on average (previous year: 82.0%) relative to the Lufthansa Group's own fleet (without wet leases), and the many changes to the route network. Wide-ranging travel restrictions resulting from the pandemic caused short-haul flights to go up as a percentage of total capacity at the Group airlines. In relation to the route, short-haul flights emit more CO₂ than long-haul flights. ↗ **Financial strategy and value-based management, p. 21ff.**

ACTIVE NOISE ABATEMENT

Targets

Aircraft noise to be reduced at source

The Lufthansa Group has numerous ongoing activities and measures intended to achieve a noticeable reduction in aircraft noise. The primary goal is to sustainably reduce aircraft noise at its source and to develop optimised flight procedures together with system partners. This is based on involvement in research and development projects where ideas for new noise abatement measures are tested (measure 3).

Measures

Active noise abatement includes measures from five areas

Since 2001, the Lufthansa Group has played an active and continuous role in research projects and noise abatement activities organised by dialog forums. Active noise abatement measures at the Lufthansa Group cover the following five areas:

1. INVESTMENTS IN MODERN AND THUS QUIETER AIRCRAFT

The best method of reducing aircraft noise at the source is the modernisation of the fleet. The Lufthansa Group modernises its fleet continuously. Aircraft that went into service in 2020, including Airbus 350-900s, A320neos, A321neos and Boeing 777Fs, have modern engines and are much quieter than comparable aircraft types. ↗ **Fleet, p. 25f. and Climate protection/Technological progress/Fleet renewal, p. 91.**

2. NOISE-REDUCING TECHNOLOGIES FOR THE EXISTING FLEET

In addition to modernising the fleet, retrofitting existing aircraft also results in measurable noise reduction. At the beginning of 2014, Lufthansa German Airlines became the first airline worldwide to start operations with a new Airbus A320 equipped with noise-reducing vortex generators, thus setting an industry standard. Aircraft with vortex generators are up to four decibels quieter on their approach and so the Company pays lower noise charges in Frankfurt than for comparable aircraft without these components. In the meantime, all aircraft in the A320 family at Lufthansa German Airlines and SWISS have been fitted with vortex generators. At Austrian Airlines, only one of the five new aircraft added in 2018 still has to be upgraded. This is planned for 2021. Retrofitting the remaining Eurowings A320 aircraft with vortex generators is due to be completed in the second quarter of 2021. The modification will be carried out in the course of routine technical maintenance cycles.

C28 ACTIVE NOISE ABATEMENT



Investments in quieter aircraft

Introduction of the latest aircraft, such as the Airbus A320neo and A350-900
 Retirement of older models



Noise-reducing technologies for the existing fleet

Retrofitting of noise-reducing vortex generators to the existing fleet



Participation in noise research

Continuous collaboration and exchange with partners from research and industry
 Development and analysis of new noise-reduction measures



Development of optimised flight procedures and flight routes

Cooperation with system partners
 Development and testing of new methods
 Use of new navigation technology



Dialogue with residents near airports and other stakeholders

Continuous exchange with residents, as in the Airport and Regional Forum (FFR)
 Active participation to aircraft noise commissions

3. PARTICIPATION IN NOISE RESEARCH

For many years, the Lufthansa Group has been involved in noise research initiatives such as the one on increasing the efficiency of flight operations (EffFlug), which is funded by the German Federal Ministry for Economic Affairs. This involvement continues despite the crisis in the airline industry caused by the coronavirus pandemic. Working with experts from the German Aerospace Center (DLR), the Lufthansa Group continues to look for noise sources that can be eliminated. In the past, measuring flights were performed just for this purpose. Now noise is measured with the help of standard measurement data from the airports. Such a process was tested in 2019, in which noise measurements from airports were synchronised with the corresponding flight data from a Lufthansa approach and then analysed for anomalies by flight noise experts from the DLR.

Since 2019, the Low Noise Augmentation System (LNAS) developed by the DLR has been tested by the Lufthansa Group in a broad study. The LNAS uses aircraft data to determine recommendations for optimal configuration and speed. The aim is to examine whether approaches can be made more efficient and quieter while observing safety regulations. With the support of the Environment and Neighbourhood House (UNH) which is part of the Forum Airport and Region in Frankfurt (FFR), the Lufthansa Group has fitted 86 Airbus A320 aircraft with the system and gained numerous volunteer pilots for testing. Fewer LNAS flights took place than planned in 2020 due to the crisis, so the research period was extended to include 2021.

This intensive research and development work forms the basis of successful active noise abatement and makes a major contribution to optimising the existing fleet and flight operations.

4. DEVELOPMENT OF OPTIMISED FLIGHT PROCEDURES AND FLIGHT ROUTES IN COOPERATION WITH SYSTEM PARTNERS

Optimising the vertical flight profile (flight procedures) and horizontal flight management (flight routes) also contributes to reducing noise. The Lufthansa Group is active in many ways in this area, with Deutsche Flugsicherung (German air traffic control) as well as international partners. ➔ **Climate protection, p. 90ff.**

Another aim of the EffFlug research and development project was to develop a methodology for supporting German air traffic control with the development of new flight routes and analyses of flight noise. The new procedure was successfully applied for the first time to optimise the departure route from Dusseldorf. ➔ **Climate protection/Operational measures, p. 93.**

5. DIALOGUE WITH RESIDENTS NEAR AIRPORTS AND OTHER STAKEHOLDERS

In addition to technical and operating procedures, the Lufthansa Group also takes part in various discussion forums with people living near airports, including in Frankfurt and Vienna, such as the Noise Abatement Alliance in Frankfurt. Its members include the Hesse state government, Fraport AG, Deutsche Lufthansa AG representing the Lufthansa Group, the Airport and Region Forum, German air traffic control and the airline association BARIG. The focus of these activities is on optimising flight procedures.

The Lufthansa Group also works in some of the aircraft noise commissions (Fluglärmkommissionen) required in Germany by the Air Traffic Act (Luftverkehrsgesetz).

Performance indicator

99.5% of the operational Group fleet meet standard for aircraft noise

Improvements in noise abatement from modernising the operational Group fleet can be seen in the number of aircraft that meet or exceed the ten-decibel criterion set by the ICAO Chapter 4 standard. This standard defines noise limits and stipulates that all civil aircraft newly licensed after 2006 must cumulatively fulfil the older Chapter 3 noise limits by a margin of ten decibels or more. As of 24 October 2020 (end of the summer flight schedule), 99.5% of the aircraft – virtually the Group's entire operating fleet – fulfilled this criterion.

The necessary data is to be added to the Group's fleet database to ensure faster and more flexible analysis in future. The first preparatory steps were taken in 2020.

WASTE PREVENTION

Lufthansa Group supports environmental sustainability goals in product and service design

The Lufthansa Group has set targets for reducing waste, especially in terms of plastic. In 2019, the Network Airlines initiated the Smart Plastic Reduction project. This follows the waste hierarchy outlined in Directive 2008/98/EC: Reduce – Reuse – Recycle – Replace. Due to airline-specific conditions, the relevant and respective national regulations for handling international catering waste must still be adhered to.

In addition, the Network Airlines started a programme in 2019 to improve the sustainability of the products available in-flight and in the lounges. The measures are planned to be implemented by the end of 2021.



Targets

Lufthansa Group supports a variety of initiatives to comprehensively reduce waste

The Network Airlines aimed to achieve early conformity with the requirements of EU Directive 2019/904 regarding the future ban on single-use plastics. For 2020, the plan was to avoid or replace 144 million items (disposable plastic stirrers and disposable plastic cutlery) in the existing in-flight service programme. The coronavirus pandemic significantly altered the conditions for achieving this target, however. Restrictions were put in place on services on board, including not serving hot drinks and disposable plastic stirrers, in order to reduce contact with passengers. The drastic curtailment of the flight programme and the corresponding reduction in consumption anticipated for 2020, of 71% on average for long-haul routes and 67% for short-haul routes, meant that the range and stocks of these articles at the Network Airlines was extended accordingly. Since disposable plastic articles that are already in stock will be used and not thrown away, the shift to sustainable alternatives will be delayed by several months, depending on the item.

The Network Airlines are also pursuing the goal set out in the European strategy for plastics in the circular economy of exclusively using recyclable plastic packaging on in-flight products or completely avoiding packaging made of petroleum-based single-use plastics by 2030. This includes reducing annual consumption by a further 226 million plastic items compared with the base year 2019.

Measures

The Lufthansa Group pools measures to reduce plastic waste in Smart Plastic Reduction project

The measures in the Smart Plastic Reduction project cover an annual volume of around 370 million individual items (consumption in base year 2019). Various players along the value chain, such as manufacturers, catering partners, cabin crew and waste disposal companies, are involved to ensure the reduction is efficient. For example, over 50% of the plastic items used on long-haul flights in base year 2019 are intended to be reduced or replaced by more sustainable alternatives by the end of 2021.

1. REDUCE

By consistently reducing unsustainable packaging, the aim is to significantly reduce the amount of packaging required for the logistics of products used on board. However, country-specific hygiene rules have been changing constantly since the coronavirus pandemic started and have to be implemented at short notice, so some changes made in the reporting year have had to be revoked.

2. REUSE

Reusable products, particularly in mobile on-board equipment (e.g. reusable crockery/cutlery), are a firmly established element of product concepts. The potential for switching from single-use to reusable products is examined regularly when products are modified. The load is adjusted if necessary when considering available storage space on board, weight, service times during the flight and the number of items required. Examples include the use of reusable metal cutlery in Economy Class at Lufthansa German Airlines and SWISS on long-haul routes, the reusable coffee cups in Economy Class at Lufthansa German Airlines and the reusable bento boxes on SWISS flights. Changes being made to processes for reloading unused items (such as sugar sachets, unopened snacks and unused items in the amenity kits) in cooperation with the catering partners were suspended at the beginning of the coronavirus pandemic.

3. RECYCLE

Processes for increasing the use of recyclable products are being developed and implemented in collaboration with suppliers, caterers, cleaning and disposal services. Since the beginning of 2019, Austrian Airlines has been using recyclable plastic cups that are recycled in a patented process that turns them back into synthetic crude oil. Preparations, including official approval, are under way at Lufthansa German Airlines and SWISS to use only cups made of recycled PET (rPET) for cold beverages on board in 2021, which can be reused in a closed-loop system. The rPET cups are more stable, which makes it possible to reuse them several times during a flight, and thus reduce overall consumption. This will affect around 160 million cups per year (base year 2019).

The development of a recycling trolley intended to enable the separation of liquids on board and their disposal apart from other waste was temporarily suspended at the beginning of the coronavirus pandemic. The same applies to the review of different materials for drinks packaging to increase the amount of properly sorted recycling.

4. REPLACE

Plastic items that are essential to the Network Airlines' product and service concepts will be gradually replaced by ones made from renewable resources. Stirrers and single-use cutlery will in future be made of bamboo rather than plastic. Disposable plastic stirrers were replaced by bamboo alternatives at Austrian Airlines in 2019 and at SWISS in February 2020. Lufthansa German Airlines replaced the plastic packaging on blankets in Economy Class with a paper band in the first quarter of 2020. In some countries, such as Dubai, this is not currently possible due to coronavirus precautions.



Customer concerns



Concepts

High customer satisfaction is a key success factor for the Lufthansa Group

Flight safety and the health of passengers always has top priority. In order to meet this elementary requirement, all airlines in the Lufthansa Group have a comprehensive safety management system (SMS). Every two years, independent experts audit the safety standards applied Group-wide in an IATA Operational Safety Audit (IOSA).

A clear focus on customers, operating stability, innovative products and services and a focus on quality are essential for a service provider like the Lufthansa Group. These topics remain a priority even when dealing with the coronavirus pandemic, because long-term, sustainable customer relations require straightforward, flexible and individual travel experiences. In the reporting year, this included measures to boost public trust in the safety of air travel with Lufthansa Group airlines during the coronavirus pandemic. Another focus was the processing of requests for refunds, which increased significantly due to the many changes to flight timetables and cancellations.

Investments in a modern Group fleet, greater comfort on board, numerous innovative products – including in terms of sustainability – and digital services ensure that flying becomes more and more attractive for the customers of the Lufthansa Group, as well as more flexible and reliable during the crisis. Regular surveys of passengers help to find out as much as possible about their needs and to include them in the development of innovative new products.

Allocating the Lufthansa Group airlines to the Network Airlines and Eurowings segments also represents a customer-centric, differentiated and transparent product and service strategy.

Numerous awards confirm the Lufthansa Group's innovation and quality strategy

The Lufthansa Group airlines have received a number of awards in recent years. In the reporting year, many award ceremonies took place online due to the coronavirus pandemic. Presentation of the ATW Airline Industry Achievement Awards, the Travel Plus Awards and the Skytrax World Airline Awards was postponed to the following year. World Airline Awards were postponed to next year. Instead, Skytrax published its "COVID-19 Airline Safety Rating" in the reporting year, whereby Lufthansa German Airlines was one of the first airlines in the world to receive a 4-star rating.

Lufthansa German Airlines again received several recognitions at the Onboard Hospitality Awards in 2020. One was for the sustainability of its amenity kit. Lufthansa German Airlines was voted Europe's Leading Airline 2020 at the World Travel Awards and SWISS took first place in the category Europe's Leading Airline – First Class 2020. SWISS was also voted Best Airline for Business Travellers in Europe by the magazine Business Traveller. Lufthansa German Airlines won the German Innovation Prize in the category Future Digital Inflight Experience. The new in-flight experience platform was applauded for creating seamless, consistent and contextualised touchpoints along the entire travel chain.

The Lufthansa Innovation Hub won the Best Digital Lab Award for the third time in 2020. This was largely due to its development of Compensaid, a digital platform that enables passengers to offset the unavoidable carbon emissions caused by their flight or to replace fossil fuels with sustainable alternatives. Integrating Compensaid into the Miles & More app also enabled Miles & More customers to offset their carbon footprint directly with miles or a combination of miles and cash. This new function is called "mindfulflyer" and was developed jointly by Miles & More and the Lufthansa Innovation Hub.

Eurowings Digital won the Best Digital Lab Award 2020 from the business magazine Capital. The accolade particularly reflects the development of smart services with which the digital subsidiary of Eurowings accompanies its passengers throughout their journey. HORIZONT Brand Ticker also confirmed that Eurowings had increased its customer loyalty.

OPERATIONAL STABILITY

Passengers of Lufthansa Group airlines were affected by changes to flight schedules, delays and cancellations in the reporting year, particularly due to the coronavirus pandemic. Reasons included global travel restrictions, the regulations of local authorities and changes to operating processes to enable hygiene and social distancing.

However, the significant fall in global air traffic and the lower load factor per flight meant that the departure punctuality of the Lufthansa Group airlines was significantly higher than in the previous year.

Targets

Operational stability is a prerequisite for high customer satisfaction. The top priority for all Lufthansa Group airlines is safe, punctual and reliable flight operations. Since this cannot be guaranteed by the airlines in the Lufthansa Group alone, work on solutions for further improvements in operational stability is always carried out with system partners.

Measures

Numerous measures to enable operational stability

At the start of the pandemic, the Lufthansa Group activated its Group Crisis Committee under the leadership of the Group Emergency Director. The Crisis Committee was responsible for shutting down virtually all flight operations in the Group during the first few weeks of the crisis, to as much as 3% of the previous year's capacity in April 2020. The action taken by the Crisis Committee was based on the Lufthansa Group's existing pandemic plan. The operational Crisis Committee was supplemented by regular exchanges with the GEC and with the German authorities at regional and federal level to make the entire decision-making process transparent.

In addition, a Group-wide programme to coordinate the ramp-up of flight operations was established with ReStart. ReStart is organised as an interdisciplinary task force. In addition to the central unit, there are local teams at the individual airlines in the Lufthansa Group. ReStart was transitioned to the ReNew programme when the winter flight schedule began at the end of October 2020, in order to create the preconditions for the medium and long-term adjustment of flight operations to the "new normal".

At the monthly meetings of the Operations Boards, the Chief Operating Officers of all Lufthansa Group airlines provide the Executive Board of the Lufthansa Group with regular information. They also discuss results and decide on the action to be taken with the heads of flight operations, ground handling and technical fleet management. An interdisciplinary performance dialogue is also in place for all Lufthansa Group airlines' operations in order to establish and improve standardised processes and decisions.

The Lufthansa Group sees the testing of passengers before departure as an important element for enabling safe travel during the coronavirus pandemic. The Group initiated the internal Testing task force for this reason. On the basis of local, national and international regulations and in close coordination with the Lufthansa Group's own medical service, this task force draws up standards and processes to enable the testing of passengers before departure. The aim is to avoid infections and stabilise flight-related processes.

Wide-ranging initiatives launched with system partners

Together with system partners such as airport operators and Deutsche Flugsicherung (German air traffic control), the Lufthansa Group airlines are working hard on solutions to ensure that the requirements of security checks, social distancing, cost-efficient infrastructure and other processes due to the coronavirus pandemic are met. A range of measures have been taken to ensure reliable and high-quality air transport in Germany despite the coronavirus pandemic. Measures are being initiated with Deutsche Flugsicherung (German air traffic control) in order to, for example, improve punctuality by choosing shorter routes when traffic is low.

Performance indicator

Departure punctuality significantly improved for the Lufthansa Group airlines

The main performance indicator for judging operational stability is the airlines' departure punctuality. All flights taxiing to the runway no later than 15 minutes after the planned departure time are defined as punctual as a common international rule. This performance indicator is monitored continuously by management. In addition to daily reports from the hub control centres, operational performance is also discussed in the monthly Executive Board meetings. The punctuality of the Lufthansa Group airlines improved due to the reduction in the number of flights and the resulting decongestion of the air traffic control system. On average over the year, the departure punctuality of the passenger airlines in the Lufthansa Group rose to 88.6%, which was 12.6 percentage points higher than the previous year. The target for punctuality of 85% was therefore achieved.

PRODUCT AND SERVICES

Strict focus on the customer is vital for a service company like the Lufthansa Group. For this reason, all the products and services along the travel chain are continuously reviewed – even during the coronavirus pandemic – and new, innovative and sustainable in-flight and ground products and services are developed that put the customer at their core. Digitalisation and sustainability aspects play an increasingly important role in better meeting differentiated customer needs. The travel experience for the customer should become even more convenient, especially through greater personalisation of the products and services along the entire travel chain. This includes, in particular, the flexibility to rebook flights and rules on goodwill gestures introduced as a result of the coronavirus pandemic.



Bundled responsibility for customer concerns ensures fast and effective implementation

Responsibility for products and services is bundled centrally for all the Network Airlines in the Lufthansa Group. Since 1 January 2020, it has been assigned to the Executive Board member for Customer, IT & Corporate Responsibility, who also liaises with the customer loyalty programme Miles & More and the Lufthansa Innovation Hub.

The Customer Commercial Board is the central point for customer relations. Comprised of representatives from Customer, IT & Corporate Responsibility and Commercial Passenger Airlines, it enables regular discussions and decision-making on customer-related issues.

Responsibility for the in-flight and ground products at Eurowings lies with the Customer Experience & Product department, which reports to the Commercial Director.

Targets

Raising customer satisfaction is an integral part of Group strategy

Customer needs play a vital role for ensuring the long-term success of the Lufthansa Group. The objective of the New Premium vision statement is to recognise individual customer needs along the entire travel chain and to fulfil them as well as possible.

Measures

Customers are involved at an early stage of product and service development

The Lufthansa Group identifies the needs of its customers by means of surveys, which form the basis for strategic decisions. Customers are involved at the early conceptual phase of product and service design and development, as with the development of new seating concepts or meals, for instance. The Lufthansa Group's online customer panel makes it possible to receive feedback on specific questions very quickly and to gain a better understanding of customer expectations and requirements. The airlines in the Lufthansa Group put the New Premium strategy into practice by means of such active involvement in product and service improvements.

Through continuous surveys on customer satisfaction, the airlines in the Lufthansa Group also evaluate the acceptance of product enhancements and of new products and services.

Numerous hygiene measures implemented as a result of the coronavirus pandemic

Aviation is one of the sectors worst affected by the coronavirus pandemic. This makes it all the more important to reinforce trust in flying as a safe means of travel. This is why

the Lufthansa Group signed the charter of the European Union Aviation Safety Agency (EASA) on safe flying in a pandemic. Its voluntary implementation of this standard represents a commitment to the strictest measures against infection in global aviation. Key standards were developed with the support of the Lufthansa Group. These include the obligatory wearing of face masks, which was initiated early on; the filtering of cabin air and increased ventilation of aircraft, including on the ground; proper cabin cleaning; staff protection; working towards digital track-and-trace procedures; and physical distancing, both on the ground and during boarding/disembarking.

Specific measures were taken along the travel chain in cooperation with airports. One example is the reliable rapid testing of passengers and local residents offered at Frankfurt Airport with the support of the biotech company Centogene starting in June 2020. Austrian Airlines started initial trials for rapid antigen testing in close cooperation with Vienna Airport in October 2020. In cooperation with Hamburg Airport, these trials were extended the following month to flights from Vienna to Hamburg.

Eurowings was the first German airline to enable passengers to book a vacant middle seat next to their own from mid 2020 onwards.

New products and services continuously improve the travel experience

The Lufthansa Group invests continuously in new aircraft, products and services to keep improving the travel experience for its customers. This will continue in the years ahead. For instance, by 2023 Lufthansa German Airlines plans to introduce a completely new Business Class featuring optimal sleeping comfort and more private space, along with more individual seating options.

Staff at all levels are being made aware of the importance of customer satisfaction

Development and training courses for customer-facing employees on increasing customer satisfaction are continuously updated and expanded. Voluntary participation in digital events was made available as part of the private Stronger Together initiative and via LinkedIn, so that employees on short-time work could also benefit from these voluntary training sessions. The focus in the reporting year, as in the previous year, was on the film "Future Travel Movie" which introduces employees to the future of flying from the point of view of the customer. The "Management in Practice" programme that encourages managers to work for one day in operational, customer-facing areas of the Lufthansa Group once a year was also continued despite the coronavirus pandemic.



Digitalisation and innovation support the development of new products and services

The digitalisation and innovation initiatives already under way were pursued further by the Lufthansa Group in the reporting year in order to develop new products and services. At the Lufthansa Innovation Hub, the Company drives the systematic use of the innovative online business model for the airlines in the Lufthansa Group and develops digital solutions along the travel chain for passengers and tour operators. The aim is to provide customers with intuitive services right where the customers want them: from check-in and digital luggage receipts to dynamic and situation-based information and service offers and biometric services.

In the reporting year, the Star Alliance completed its development of a cross-system biometric identity and identification platform known as Star Alliance Biometrics. Customers in the Miles & More frequent flyer programme thus enjoy contact-free access to the security checks and boarding gates. Lufthansa German Airlines and SWISS have used the platform for selected flights since November 2020 and were the first airlines to do so.

The partnership between Lufthansa German Airlines, SWISS and Google initiated in 2019 was extended to Austrian Airlines in the reporting year. This enables customers flying within the Schengen area to check in conveniently via the Google assistant. If a flight is cancelled, customers can now make another booking in just a few steps using a chatbot. This was made possible by adapting an existing text-based digital dialogue system on Facebook (chatbot) to the demands of the coronavirus pandemic.

The installation of broadband internet access in the Lufthansa Group fleet continued in the reporting year until spring 2020. Two Airbus A320s at SWISS were equipped with broadband internet access on a trial basis. All the projects to continue aircraft fitting were then suspended because of the coronavirus pandemic. A total of 241 short and medium-haul aircraft are now equipped with broadband internet access.

During the coronavirus pandemic, Eurowings Digital created a website for seasonal farm workers within two weeks; this enabled farmers to reserve the specific number of seats they required. The Eurowings flight guide was also implemented. It provides a clear and up-to-date overview of the coronavirus precautions in force at Eurowings destinations and the relevant conditions for entering the country.

Other customer-focused solutions at Eurowings include the innovative search function that suggests alternative departure/arrival airports based on search patterns and flight prices, as well as the option of making a carbon offset online in the course of the booking process. Tickets could also be rebooked or cancelled online free of charge in the reporting year.

Airlines in the Lufthansa Group make flexible travel planning even easier for customers during the coronavirus pandemic

Against the background of the pandemic, the passenger airlines in the Lufthansa Group have made fundamental changes to their fare structure that apply until the end of May 2021. All tickets with Lufthansa German Airlines, SWISS, Austrian Airlines and Brussels Airlines can be rebooked as often as needed without charge. This applies worldwide for new bookings on short, medium and long-haul routes. With the “No worries package” and the “Bring me home NOW” fare, the Network Airlines have also responded to their customers’ wishes during the coronavirus pandemic.

Lufthansa German Airlines, SWISS and Austrian Airlines have also been offering additional insurance policies since November 2020. The “Travel Care” insurance package includes compensation for the passenger if they are obliged to go into quarantine at their destination, as well as optional coverage if they have to cancel their journey before they set off or while travelling. “Travel Care Plus” also covers medical costs, including emergency repatriation if the passenger contracts the coronavirus. As part of an autumn campaign for international flights, Eurowings offered free “coronavirus insurance” that covered travel cancellation insurance, travel health insurance and travel interruption insurance. Customers can still book the insurance package for a fee now that the autumn campaign has ended.

The Lufthansa Group airlines were therefore among the first to offer their customers additional insurance coverage for their journey during the coronavirus pandemic.

Adapting to the dynamic increase in refund requests

The travel restrictions imposed in early March 2020 meant that at times almost the entire flight programme was cancelled. This caused requests for refunds to increase exponentially. Furthermore, the increased complexity led to an increase in time needed to process each ticket from an average of 3 to 4 minutes to 10 to 15 minutes. As a result, the capacities available for processing refund requests were significantly overwhelmed. As a result, the Group expanded its infrastructure and took measures to accelerate the processing. These included seconding numerous employees from other areas to provide support. The Lufthansa Group refunded around EUR 3.9 billion to customers in 2020, thus fulfilling all claims made in 2020. Constantly changing travel restrictions and warnings kept forcing the Lufthansa Group airlines to change their flight schedule, however, which unavoidably caused flights to be cancelled, which in turn resulted in new obligations to refund fares.



Increasing demand for sustainable products and services

The Lufthansa Group is responding in various ways to customers' wishes for sustainability aspects to play a greater role in products and services.

The main focus is for the Network Airlines to reduce single-use plastic and plastic packaging on board. ➤ **Waste prevention/ Measures**, p. 97.

All print media was cancelled at Lufthansa German Airlines, SWISS and Austrian Airlines in the reporting year to reduce the risk of infection. Digital editions of magazines are an environmentally friendly alternative. More than 1,000 titles in 57 languages from 36 countries are available.

Loading of trolleys for in-flight sales was optimised on the basis of customer demand, resulting in reduced weight. Therefore, around 300 tonnes of CO₂ were saved in the last five months of 2020, while maintaining the same range available to customers. This is equivalent to around 2,000 tonnes in normal years.

Data protection and data security play an increasingly important role

The secure handling of data in accordance with data protection legislation forms the basis for a trust-based relationship with customers and is an increasingly important success factor for the Lufthansa Group. The Lufthansa Group has a data protection management system that is capable of meeting the requirements of the European General Data Protection Regulation (GDPR) in the Group companies. The Group has established an organisational structure for data protection that is dedicated to ensuring compliance with the rights of data subjects and the duties of controllers. This entailed creating easily reachable points of contact, both internally and externally, and establishing processes to fulfil information requests by information seekers within the required period, for example. Current information about the processing of personal data is also provided on the Group companies' websites. The increasing digitalisation of business processes also makes it necessary to prevent cyber-risks, which is a priority for the Lufthansa Group. ➤ **Opportunities and risk report**, p. 71ff.

Performance indicator

Customer satisfaction improves year-on-year

The Network Airlines in the Lufthansa Group track customer satisfaction continually using Passenger Satisfaction Tracking (PST) and in-depth surveys to obtain as detailed information as possible about their passengers' travel experience, especially on expectations of steps that should be taken to deal with the coronavirus. Customer satisfaction data is tracked separately for different service aspects along the entire travel chain. Customer satisfaction figures are usually made available to the responsible department and management on a monthly basis and used to derive measures to improve customer satisfaction, among other things. To reflect dynamic changes in customer expectations since the start of the pandemic, customer feedback has been factored into service adjustments at a higher frequency than before.

The leading indicator of customer satisfaction at the Network Airlines is the Net Promoter Score (NPS), which is based on the monthly analysis of around 30,000 passengers, and around 10,000 since April 2020. The NPS is derived from the passengers' willingness to recommend. In 2020, the NPS for the Network Airlines was 62, or 5 percentage points higher than the target and the previous year's figure of 57. Established hygiene and social distancing rules, the resumption of services along the travel chain and exceptionally good punctuality had a positive impact on NPS and the overall satisfaction of travelling customers. However, the Network Airlines were not able to meet customer expectations in terms of the timely refund of advance payments and the availability of the service centre during the coronavirus pandemic.

Eurowings also records an NPS and reports it together with other customer satisfaction results to the management and the different departments every month. The NPS was 50 in 2020. This was higher than the target of 40 and the previous year's figure (previous year: 40). The increase is a result of the stable operating performance and services adjusted to the requirements of the pandemic. The survey was suspended between 20 March and 8 July 2020 due to the pandemic. The total number of participants decreased year-on-year by 75%.

The NPS is part of the remuneration for the Executive Board. ➤ **Remuneration report**.



Employee concerns



Concepts

Focus on attractiveness as an employer

The success of the Lufthansa Group depends largely on the competence, the enthusiasm, the commitment and the ideas of its employees. At a time when the flight programme is significantly reduced due to the coronavirus pandemic, it is particularly important to keep employee morale high, to have an underlying personnel strategy and to take steps to ensure the company remains an attractive employer. This applies particularly to employees on short-time work. As soon as operations resume at a higher level, their dedication will be vital for a successful economic recovery. The criteria for qualifying as an attractive employer have changed fundamentally in the current situation and are particularly relevant for existing staff.

Ability to transform requires continuous training of staff skill sets

The ongoing changes in market conditions and the restructuring through which the aviation sector is adapting to the altered market conditions make it necessary for employees to keep developing the knowledge and skills they acquired in their vocational training and professional careers. The Lufthansa Group offers administrative and operative employees extensive training opportunities, some of which are also available to employees on short-time work. Opportunities for staff to learn independently and fulfil their desire to develop themselves are particularly important when a career has been interrupted.

Employee health is a priority

As an operating company, the health of employees is particularly important for the commercial success of the Lufthansa Group. The Occupational Safety and Medical Services & Health Management departments, which report directly to the Executive Board member for Corporate Human Resources and Legal Affairs, are responsible in particular for the health of employees. This organisational structure enabled a very fast and highly effective response to the global spread of the coronavirus. The Lufthansa Group makes great efforts to protect its operating and administrative employees as well as possible from infection.

ATTRACTIVENESS AS AN EMPLOYER

Targets

Lufthansa Group attaches great importance to be seen as an attractive employer – even during significantly reduced business operations

Attractiveness as an employer is considered from both an internal and an external perspective. In view of the almost entirely recruitment freeze due to the difficult economic situation, the perception of existing employees is mainly relevant for the reporting year. It is precisely in the context of the coronavirus pandemic that the employees in the Lufthansa Group make a decisive contribution to customer satisfaction and thus to the success of the Company. Employees who are on short-time work must maintain their commitment to the Company. This is vital to ensure a rapid and high-quality resumption of business operations.

Measures

New measures are required to maintain employee satisfaction and employer attractiveness even when business operations are severely restricted. This applies particularly to employees on short-time work. At the same time, the needs of the workforce as a whole are very different, since the Group comprises more than 172 nationalities.

Information and transparency for the workforce

Since the partial shutdown of business operations, the Executive Board of the Lufthansa Group has continuously kept the entire workforce up to date on current developments by means of webcasts and podcasts. The Board members and managing directors of the individual subsidiaries have also held regular live online meetings with their workforces, with questions from employees encouraged. The latest developments were broadcast to the entire workforce in German and English via the very popular intranet and a news app that can also be used on private devices.

Managers were also asked to stay in permanent contact with their staff, regardless of whether they were working from home or on short-time work, in order to identify personal needs and concerns and respond to them. The managers were also able to download specific daily information on their mobile devices using a special app for managers.

Various groups were set up on Yammer, an enterprise social network platform with exclusive access for Lufthansa Group employees, in order to stay in touch when working from home or to share information about different topics in the context of short-time working. These include initiatives to coordinate the social engagement of employees on short-time work. Over 60,000 employees in the Lufthansa Group have access to the platform.

Salary cuts and redundancies should be arranged in a socially responsible way

Lufthansa Group employees on short-time hours receive top-up payments. This reduces the net loss of salary.

The reduction of 27,000 jobs that is currently planned is intended to be as socially responsible as possible. Intensive discussions on these subjects are held with trade unions and works councils on an ongoing basis. Numerous crisis agreements were signed with various trade unions in 2020 to address the long-term effects of the pandemic on the Company's finances. ➔ **Employees, p. 28ff.**

Unrestricted freedom of association is firmly anchored within the Lufthansa Group

The Lufthansa Group has a long tradition of working with its collective bargaining partners in the works councils and trade unions, as well as in the Supervisory Board with its co-determination rules. This practice is aimed at acting collectively based on mutual interests. The joint search for solutions in the interest of the companies involved and their employees is based on an understanding of how valuable freedom of association is, forming part of the corporate culture as well as being enshrined in the German constitution.

For the Lufthansa Group, it goes without saying that no one suffers any positive or negative discrimination because they are a member of a trade union or not. Lufthansa enables all employees to join or form a trade union. Of approximately 58,000 Lufthansa Group employees in Germany (as of 31 December 2020, not including LSG Europe), some 83% benefit directly from collective bargaining arrangements. The remaining 17% are largely managers and non-tariff employees in senior positions. However, many of the rules for these non-payscale employees are also based on the collective bargaining agreements.

Working and employment conditions for employees and managers are flexible and are adapted continually

The Lufthansa Group has supported its employees to work flexibly for many years, both in terms of when and where they work. When personal interactions, including those at work, had to be reduced to a minimum as a result of the coronavirus outbreak, this was achieved very rapidly thanks to the existing framework for working from home and the widespread coverage of mobile computing devices.

Flexible working time models have been an important element for many years in responding also as good as possible to private needs of employees. Job adverts, also for management positions, offer the opportunity of part-time work and shared leadership. This means that someone has the opportunity to share a management position with another manager who also works part time. In addition, managers and non-payscale employees can take sabbaticals.

Talent retention – uniform performance and potential tracking

To ensure that all employees have the opportunity to shape their career within the Group in line with their individual talents and interests, there is a standard process for identifying top performance and high potential for most of the administrative staff. This was completed in 2020 for the assessment year 2019 in many companies, despite short-time working. A structured talent retention programme has been established to avoid losing this talent. These employees (known as Future Shapers) receive close support and are involved in various special projects even during the pandemic.

Even though the hiring freeze in the Group meant it was hardly possible to maintain staff development by means of job rotation, promotions, or specific support for female managers, talented employees were approached individually to work on projects related to the crisis and to develop their skills on the job. The programmes will be reactivated when general business operations resume.

Diversity and equal opportunities are key elements of the HR strategy

Systematic diversity makes an organisation more agile, more flexible and more creative, and it also emphasises the respect it shows for all employees.

Gender equality is promoted by a wide range of measures

The Lufthansa Group uses a broad portfolio of activities to make it easier for employees to combine work and family and to care for loved ones, as well as to increase the share of women in management roles. In Germany, this includes help in finding caregivers, a wide range of ad hoc and regular day-care places for children in various locations, and the use of parent-and-child offices if a need arises. There are also many opportunities to get advice on the subject of caring for loved ones, such as the nursing care consultations that take place regularly. The internal development and mentoring programme for female team leaders aiming for a senior management position was also continued.



Becoming more international

People from 172 nations work for the Group today. To become even more international, the Lufthansa Group is gradually taking a number of different measures. They include the introduction of a Group secondment policy for employees posted abroad. The Lufthansa Group also deliberately recruits local employees at its sites abroad. Secondments not only encourage know-how transfer between the regions, but also support employees' individual development and help to build cultural competence.

Support for LGBTI concerns

One of the Lufthansa Group's primary objectives is to promote a non-discriminatory working environment in which all employees can develop their talents, regardless of their sexual orientation and identity. To support this aim, the LGBTI employee network Diversify not only acts as a contact point and intermediary in the event of discrimination or conflict, it also campaigns actively for the interests of the community. In addition to celebrating Christopher Street Day, which was organised as a virtual event this year, it also provides internal and external online presentations on the subject of LGBTI issues and sexual orientation.

Inclusion of people with disabilities is part of social responsibility

For the Lufthansa Group, employment and inclusion of people with disabilities is not only a legal obligation, it also fulfils a social responsibility. This is why the Group is committed to treating people with disabilities fairly and considerately. Providing targeted support for their professional development is a matter of course for the management boards, Human Resources management and representatives of disabled employees, who meet regularly to discuss further steps to include people with disabilities. Other ways of supporting are equally driven forward, such as placing orders with workshops for disabled people, and the ongoing partnership with the National Paralympic Committee Germany.

Performance indicator

Engagement Index improves year-on-year despite pandemic

The Engagement Index also provides information about the Company's attractiveness as an employer. This has been tracked by the voluntary annual employee survey, "involve me!" since 2015, and enables a comparison with employers in many different sectors. It measures the extent to which employees identify with the Company, as well as their commitment and willingness to recommend the Company to others. The survey was carried out again in 2020, despite and also because of the coronavirus pandemic. With the

exception of the LSG group and Brussels Airlines, all major Group companies were included. Whereas a full employee survey was carried out the previous year, the scope of the survey was reduced in 2020. This alternation between comprehensive and shorter surveys corresponds to past practice.

The results are measured on a scale from 1 (best) to 5 (worst). In the reporting year, the value of the Engagement Index was 2.0. Although the economic conditions are currently extremely challenging and a large number of employees are on short-time work, the target for 2020 of 2.2 was significantly exceeded, thus confirming the previous year's value of 2.0. Drivers of the improvement were Commitment (2.0) and Dedication (1.9) this means both aspects improved year-on-year by a significant margin of 0.2.

The results of the employee survey are presented to the Supervisory Board and the Executive Board, where they are discussed in workshops. As a rule, these results affect the targets and the remuneration of the Executive Board.

➤ **Remuneration report.**

Employer ranking reflects Lufthansa Group companies' attractiveness

The ranking of German employers is done through a representative survey of more than 200 companies carried out by the renowned market research institute YouGov. Before the coronavirus outbreak, the Lufthansa Group aimed to be consistently among the five most popular employees in Germany. During the reporting year, Deutsche Lufthansa was in 6th place (previous year: 3rd place). In view of the significant economic challenges that the air transport industry is facing, the Lufthansa Group nevertheless believes that this is a good result.

TRANSFORMATION CAPABILITY

Targets

Continuous change requires the capacity for transformation from employees and the Company. This is particularly important given the enormous economic and structural challenges currently facing airlines worldwide. This in turn means that the employees must be given the corresponding competencies and must always be willing and able to transform themselves. Initiatives dedicated to achieving these aims are the responsibility of several departments pooled in the Cultural Transformation unit, which in 2020 reported directly to the Executive Board member for Customer, IT & Corporate Responsibility. Specific departments are responsible for cultural aspects of transformation, for instance, and for learning management for administrative employees.

Measures

Transformation support and training established as routine processes

Well educated and committed employees are indispensable for the sustainable business success of the Lufthansa Group. Because it is not possible to simply draw on knowledge acquired at one point in time to sustain an entire career, employees must expand their knowledge and abilities and keep them up to date at all times.

Employees are offered regular professional training courses, particularly in safety-related areas. At the same time, a separate department has been created to evaluate the impact of the current transformation on the future roles and competence profiles of employees in all professional groups in a structured process, and to accompany the change process.

In this context, a process was established that is intended to enable administrative staff in particular to analyse the future viability of their own competencies, and to compare them with the current and future requirements of their tasks. All the employees in the Lufthansa Group have access to over 15,000 innovative learning opportunities from LinkedIn Learning. The online learning programme can be used on a voluntary basis, also by employees on short-time work.

The Lufthansa Group CAMPUS offers targeted strategic activities for ongoing cultural and organisational development, with a special focus on the challenges posed by significantly reduced operations. Qualification courses for managers and top management support a modern corporate culture of collaboration and assist with organisational change. Established partnerships with leading international business schools will be reactivated as business picks up again.

Routine training courses are fundamental part of the job for pilots and flight attendants

Regular training is obligatory for pilots and members of the cabin crew in the Lufthansa Group. It is provided by Lufthansa Aviation Training. No start of training of new pilots is taking place at present.

Apprenticeship as Service Management Professional continues

The Service Management Professional apprenticeship for training Lufthansa cabin crew continued successfully in 2020, albeit in reduced form due to the coronavirus pandemic. It is recognised as an additional professional qualification by the Chamber of Industry and Commerce (IHK).

380 cabin crew members had qualified as a Flight Attendant with Service Management Profile as of year-end 2020. A further 500 graduates are expected in 2021.

Developing working environments

Mobility and flexibility are key building blocks for modern working environments. 45,000 administrative employees of the Lufthansa Group have access to cloud-based Office software. This is an important resource that enables them to work from home during the coronavirus pandemic, also on an ad hoc basis.

All Lufthansa Group employees are offered modern networking tools for communicating information and working together. They focus on efficient working methods across national borders and hierarchical levels, and empower individual end users.

Performance indicator

Detailed survey provides comprehensive information about capacity for transformation

Since 2019, the Lufthansa Group's general and digital transformation abilities can be determined by the comprehensive employee survey "involve me!", which is conducted every year. The necessary detailed survey is carried out every two years; the next time in 2021. The results allow management to identify specific fields of action and initiate specific measures as a prerequisite for the Lufthansa Group's capacity for transformation and prepare staff for relevant changes.

HEALTH AND SAFETY AT WORK

Occupational health and safety has been a core action area at the Lufthansa Group for several decades; it is managed jointly by the Occupational Safety and Medical Services & Health Management departments.

Targets

Employee health and preventing work accidents are a top priority

The core responsibility of Medical Services & Health Management is to maintain and improve the health and working capacity of the Lufthansa Group's employees and so to safeguard its business activities and reliable flight operations. Occupational health and safety also has the goal of preventing accidents at work and, if they nonetheless occur, of drawing the necessary conclusions from accidents to prevent them best possible from happening again.

Top priority is currently the prevention of coronavirus infections among staff

Even before the outbreak of the coronavirus pandemic in Europe, Medical Services in the Lufthansa Group had been monitoring infections in Asia and adapting the risk assessments for crews. Since then, the main aim has been to reduce the risk of exposure for employees to a minimum and to prevent staff from inadvertently infecting their colleagues.

Measures

Medical Services managed as holistic centres of excellence

The Medical Services at Lufthansa German Airlines, SWISS and Austrian Airlines are holistic centres of excellence. Even when airline operations have been scaled back, they offer the full range of services for aviation and occupational medicine, vaccinations and travel medicine, outpatient care, a comprehensive social and medical advisory service and other preventive and healthcare treatments. Along with occupational health and aviation medical qualifications, a lot of doctors also have specialist qualifications (for example infectiology, ENT, ophthalmology, cardiology, neurology, psychiatry) that are used in the context of the weekly case review conferences. Transnational meetings are also held by the heads of the medical centres at Lufthansa German Airlines, SWISS and Austrian Airlines.

The range of medical offers is supplemented by the optimisation of socio-medical counselling for occupational reintegration management processes. The Medical Services also work with employer and employee representatives to support the positive integration of employees with health-related restrictions.

Beyond individual treatments, the Medical Services provide advice to decision-makers, committees and employee representatives concerning all issues of occupational health and safety.

Psychological and psychosocial factors have an important influence on health, safety and productivity at work. For many years, the Lufthansa Group has therefore offered confidential individual advice to employees, teams and organisational units, referring individuals to other services or for other treatment as well as providing various psychosocial advisory services.

Preventive measures taken to enable occupational health and safety

The occupational safety function consistently implements preventive measures to avoid accidents, health risks and occupational illnesses. By means of risk assessments and regular safety inspections, the Group's occupational safety

experts review all professional activities in the Group companies in Germany. The underlying standards are binding for all Lufthansa Group locations worldwide.

A central steering body for all issues concerning health and safety in the Lufthansa Group is the Occupational Safety Committee, which monitors the implementation of all aspects of health and safety across the Group. The minimum standards it endorses, such as for the resumption of business operations after the coronavirus lockdown, are binding for the entire Lufthansa Group.

Specific guidelines make managers aware of their responsibility for occupational safety. Managers must deal with this directly when they are appointed to their position. This is checked in an automatic process.

The Group health and safety function also initiated a company-wide international survey to gradually improve the transparency of occupational health and safety in the entire Lufthansa Group. The survey was analysed and recommendations made for individual companies in the reporting year.

This will be fed back to the individual companies through their occupational safety coordinators.

Health management helps to deal with health challenges

The aim of the Lufthansa Group's health management is to bring about conditions conducive to health, to sustainably influence corporate culture and to support and encourage employees and managers to adopt healthy lifestyles.

Health officers in the individual Group companies identify needs specific to target groups and implement health promotion offers. Group-wide interventions and the strategic development of health management are headed by Lufthansa Group Health Management.

Numerous measures create the conditions for prevention of coronavirus infections

In connection with the outbreak of the coronavirus pandemic, the Medical Services, Group Security, Group Health & Safety and Human Resources Management worked with specific departments and managers to draw up preventive and hygiene strategies for various areas of the Group. These are continuously updated to reflect the latest risks and scientific evidence and are binding for all areas and all employees. They include specific protective measures for the different areas, which are followed and implemented by managers and staff. Among the preventive and hygiene strategies are a policy on the usage of rooms, detailed instructions for administration, flight operations, training and MRO, explanations of the different types of mask, special precautions to be taken on the ground and on board aircraft and the designation of



dedicated coronavirus protection officers. The rules and standards for the protection of employees against the coronavirus as set by the Federal Ministry of Labour and Social Affairs are taken into account.

One important element in these challenging times is the provision of the workforce and managers with up-to-date information and recommendations on how to stay safe. The main channel for this is the Lufthansa Group intranet, where information of various kinds is presented, and employees are updated on the latest findings and their relevance for Lufthansa in “Corona Talks” held every two weeks.

The responsible employees at Medical Services and Group Health & Safety are in regular contact with external agencies like the Robert Koch Institute and local authorities and public health offices to apprise themselves of the latest developments, government recommendations and scientific findings and factor these into the Company’s own strategy.

Crew members on specific routes have been tested regularly for the coronavirus since April 2020 to meet country-specific quarantine and immigration requirements. This made it possible to maintain flight operations and avert the need for airborne staff to go into quarantine for overnight stays in other countries.

Vaccination against influenza was offered to the entire workforce in Germany, Austria and Switzerland as part of the employer’s duty of care, which increased the level of individual and collective protection that is so important in

a pandemic. Around 10,000 people accepted the offer in Germany. This is more than double the figure in previous years. Extensive internal communication had a positive impact on this, as did the personal commitment of the Executive Board members who allowed themselves to be vaccinated as part of the media-friendly information campaign.

Performance indicator

Health Index is the key performance indicator for employee health and improved year-on-year

In the reporting year, the Health Index was again tracked through the “involve me!” employees survey. The figure of 2.2. was an improvement on the previous year’s 2.3. Despite the unusual situation confronting the Company, the subjective health of employees therefore improved. The results are measured on a scale from 1 (best) to 5 (worst). With the exception of the LSG group and Brussels Airlines, all major Group companies were included in the reporting year.

Only employees on active service, i.e. those working at least 20% of their regular hours and not completely furloughed, were asked about their health in an occupational context (26,090 responses). This ensures that the answers can be compared on a like-for-like basis.

The results of the survey are available to all business units and Group companies. They are also interpreted at this level, whereby Health Management employees are available to offer support and further advice as needed.

Fighting corruption and bribery

Concepts

Fighting corruption and bribery is an integral part of the Compliance Management System

The Lufthansa Group endeavours to manage the Company effectively, as required by the principles of good corporate governance. In particular, the employees’ integrity is a prerequisite for the Company’s sustainable success.

Its global operations mean that the Lufthansa Group is obliged to comply with national anti-corruption legislation around the world, in some cases with extraterritorially applicable anti-corruption laws. Infringements may not only result in criminal and civil penalties for the individuals and Lufthansa Group companies involved, but may also result in significant reputational damage. Fighting corruption and preventing bribery is therefore material to the Lufthansa Group’s business operations and an integral part of its value system, which is laid out in the Code of Conduct that can be viewed on the Lufthansa Group website.

The Lufthansa Group has a central compliance management system in order to protect its employees and companies against breaking the law and the consequences of breaking the law and to apply statutory regulations correctly. It follows the audit standard for compliance management systems (IDW PS 980) and is essentially based on the following pillars: compliance culture, compliance targets, identification of compliance risks, compliance programme, compliance organisation, compliance communication and compliance monitoring.

The Compliance Management System is continually developed and optimised, taking into consideration the specific risks relevant to the Lufthansa Group's business, and we are increasingly looking at application possibilities for system-based and digital support solutions. It is currently made up of the following elements: Competition, Capital Markets, Integrity (Anti-Corruption), External Workforce, and Embargo and Export Compliance.

The Group-wide implementation, development and communication of the Lufthansa Group Compliance Management System is the responsibility of the Corporate Compliance Office, which is part of the central Legal department. The head of the Legal department and Chief Compliance Officer reports directly to the Executive Board member for Corporate Human Resources and Legal Affairs and presents two Compliance Reports per year to the Executive Board and Supervisory Board's Audit Committee and one per year to the Supervisory Board. The Executive Board has created a structure of committees, consisting of a Group Compliance Committee, central compliance committees in the main subsidiaries and local compliance committees as needed to provide support with steering and implementing the central Compliance Management System across all companies. The Corporate Compliance Office is supported by a worldwide network of compliance managers at the Group companies. The Compliance Management System is monitored during audits that are regularly performed by the internal audit function to examine suitability and efficiency.

Targets

Compliance Management System aims to prevent unlawful conduct

The aim of the Compliance Management System is to ensure lawful conduct throughout the Group and so to avoid unlawful conduct that, in addition to reputational and financial risks, may also have personal consequences regarding criminal and labour law. ➔ Opportunities and risk report, p. 71ff.

Measures

Anti-corruption training raises awareness

All managers and employees from relevant areas or in relevant functions undergo mandatory IT-based anti-corruption training every two years to raise awareness of potential risks.

Ombudsman system enables suspected offences to be reported confidentially

The Lufthansa Group set up an ombudsman system in 2008 to enable information to be provided confidentially about suspected criminal offences, particularly potential breaches of anti-corruption legislation and regulations. An external, independent lawyer who is not an employee of the Lufthansa Group acts as the ombudsman. Whistle-blowers can provide information to the ombudsman by phone, in writing or in person. The ombudsman system will be supplemented by an electronic whistle-blower system in 2021.

Risk-based business partner due diligence aims to facilitate integrity of suppliers and service providers

Risk-based business partner due diligence is intended to ensure the integrity of suppliers and service providers. During this process, compliance screenings are conducted by the responsible employees in order to identify at an early stage any compliance risks that could arise from cooperation with external business partners. Depending on the result, various measures, including the avoidance or termination of a business relationship may be necessary for dealings with the business partner. The previous parameters for business partner due diligence were updated in 2020. Their implementation across the Group began in the reporting year. It should be completed in 2021.

All Group companies worldwide are assessed for corruption risks

All Group companies were assessed for corruption and anti-trust risks during a compliance risk assessment carried out in 2018. The measures derived from the results of the risk assessment to prevent the identified risks from occurring were collected centrally and implemented in the individual Group companies. Ongoing implementation was delayed by the coronavirus pandemic. This did not impair the functionality of the Compliance Management System.

Respect for human rights



Concepts

Respect for human rights is enshrined in the Code of Conduct

As a company that acts with integrity and responsibility, respect for human rights is self-evident for the Lufthansa Group. As a signatory of the UN Global Compact, the Lufthansa Group shows that it attaches great importance to conducting its business in line with internationally acknowledged principles and commitments and embedded respect for human rights as an integral element of its corporate culture. This is also reflected in working conditions, the freedom of association and assembly, rules to ensure gender equality and the inclusion of minorities as a matter of course.

The Code of Conduct stipulates that the Group should always act in compliance with human rights, the principles of the UN Global Compact and acknowledged international labour and social standards. The Code of Conduct is published on the Lufthansa Group website.

In its fundamental values and guidelines, the Lufthansa Group expresses its commitment to the principles of the following internationally recognised standards:

- United Nations' Universal Declaration of Human Rights
- Fundamental principles and core work standards of the International Labor Organization (ILO)
- Ten principles of the UN Global Compact
- UN's guiding principles regarding business and human rights
- Sustainable Development Goals (SDGs)
- National Action Plan for Business and Human Rights (NAP)
- OECD Guidelines for Multinational Enterprises
- IATA Resolution against Trafficking in Persons.

Targets

Human rights abuses are to be avoided

The overarching goal is to avoid human rights breaches in the Company and the supply chain by means of organisational and process-based measures. The Code of Conduct is binding for all bodies, managers and employees of the Lufthansa Group. With regard to protecting human rights, the Lufthansa Group is guided by the recommendations of the National

Action Plan for Business and Human Rights (NAP) adopted by the German federal government in late 2016. With regard to corporate respect for human rights, the Federal Government expects all enterprises to comply with human rights due diligence and to respect human rights along their supply and value chains. The NAP describes five core elements of due diligence in the field of human rights. These core elements comprise a policy statement, procedure for identifying actual or potential adverse impacts on human rights, measures and effectiveness audits, reporting and a grievance mechanism. All the measures listed below can be attributed to one of these core elements.

C29 CORE ELEMENTS OF HUMAN RIGHTS DUE DILIGENCE

- ① Human Rights Policy Statement
- ② Procedures for the identification of actual or potential adverse impact on human rights
- ③ Measures to ward off potentially adverse impacts and review the effectiveness of these measures
- ④ Reporting
- ⑤ Grievance mechanism

The Group's procurement policy and Supplier Code of Conduct state that the Lufthansa Group expects its suppliers to respect human rights. Supplier contracts should contain obligations and provisions for terminating the contract if they are breached.

Measures

Human rights working group acts as a point of contact and influencer

The human rights working group's regular meetings serve to communicate information and develop a uniform, Group-wide position and strategy. In the future, the development of a structured media monitoring process is planned. In addition, selected contacts advise, support and follow up on the topic at the core companies in the Lufthansa Group.

International reporting obligations are also dealt with by the working group. As in the previous year, the Lufthansa Group will publish a mandatory declaration for the financial year 2020 as required by the UK Modern Slavery Act 2015. Other reporting obligations, such as those under the Commonwealth Modern Slavery Act 2018 (Australia) are reviewed, and any relevant disclosures are made.

Management approach to human trafficking developed

As a signatory to the IATA Resolution against Trafficking in Persons, ensuring an environment that is free from modern slavery and human trafficking is a matter of course for the Lufthansa Group, however, the legal prosecution of human trafficking is the responsibility of governments and national law enforcement agencies. Nevertheless, the Lufthansa Group is aware of the importance of this topic and recognises that as an aviation company it can play a significant role in identifying potential criminal offences. It has therefore implemented a reporting process for flagging suspected cases of human trafficking.

In accordance with IATA recommendations, the Lufthansa Group has integrated the topic into regular pilot and flight attendant training. These employee groups are made particularly aware of potential signs of human rights violations. Ongoing regular training sessions have been suspended due to the coronavirus pandemic. Steering and developing the management approach is the responsibility of the Anti-Human Trafficking Task Force, in which all passenger airlines in the Lufthansa Group and the relevant Group Functions are represented.

Targeted group-specific awareness campaigns for managers and employees

Based on an analysis carried out by Verisk Maplecroft, an advisory company, an overview was drawn up of all Group companies operating in countries where the risk of human rights abuses is particularly high. This country overview is regularly updated. Managers and Human Resources departments at Group companies in these countries should be made aware of their duty of care to avoid human rights abuses. A specific annex has been successively added to the employment contracts with these managers.

In addition, awareness is heightened by means of focused intranet communications to all the employees in the Group. This includes a statement by the Executive Board member for Corporate Human Resources and Legal Affairs emphasising the responsibility of the Lufthansa Group as a global company to respect human rights. Further information on this topic is available to all employees.

Processes for reporting human rights violations have been implemented

The companies are obliged to identify human rights risks and the type and number of suspicious incidents. Individual complaints can be made also by third parties to the external ombudsman – confidentially if so desired.

Employees of the Lufthansa Group can also report to their manager, Human Resources management or the employee representative. A works agreement with regard to grievance procedures is already in place for all employees in Germany. It is already used for many different kinds of complaints and is also used for complaints regarding human rights violations.

“Zero tolerance” for cases of sexual harassment

Respect for one another is particularly important to the Lufthansa Group. This includes creating the conditions for a working environment for all employees that is free of discrimination, harassment and unequal treatment. The Lufthansa Group expects this principle to be reflected globally in the conduct of all employees towards one another. It is implemented by means of extensive communication and mandatory web-based training for managers on the General Act on Equal Treatment, which also addresses sexual harassment in the work environment. The diverse support programme for employees affected by sexual harassment was evaluated and continued accordingly, following the incorporation of user suggestions.

Support for employees during the pandemic

To overcome the coronavirus crisis, the Lufthansa Group relies to great extent on cooperation with employee representatives and on socially responsible measures.

The Lufthansa Support Group, a unit set up by the works councils in the Lufthansa Group, also helps employees from various Group companies to avert cases of financial and psychological distress.



Social concerns



Concepts

Lufthansa Group remains committed to social issues even in times of crisis

As an international aviation company, social responsibility is an important topic for the Lufthansa Group. This also applies in the particularly challenging circumstances caused by the global coronavirus pandemic. The focus of the activities is on social and humanitarian projects around the world, pooled and managed by the help alliance, the Lufthansa Group's aid organisation. The help alliance is a non-profit entity (gGmbH) held by the Lufthansa Group and based in Frankfurt am Main. Its importance is underlined by fact that the company now reports to the new Executive Board member for Customer, IT & Corporate Responsibility.

The coronavirus pandemic poses unprecedented challenges for people all over the world. In the reporting year, the effects of this global crisis also had a severe impact on the projects carried out by the aid organisations in the Lufthansa Group. Social restrictions and the lack of key fundraising channels meant that many projects could not be funded as planned. The help alliance responded quickly to global events; it initiated a coronavirus prevention and emergency aid fund as early as April 2020, together with other new fundraising and information campaigns such as "Cook to help" and "#helpalliance-LIVE". They aimed to inform people about the organisation's project work and to generate donations so that healthcare and food supplies could continue to be sent to the projects as needed and educational activities could be maintained as far as possible.

Targets

A contribution to sustainable social development

The aim of the Group's charitable activities and projects is to make a contribution to the sustainable development of society that reflects the importance and size of the Lufthansa Group and is transparent, credible and verifiable all at the same time.

Measures

help alliance focuses on social and humanitarian projects

The employees who work as volunteers all over the world are the heart of the help alliance. The help alliance combines proven projects initiated by employees with the power and network of the Lufthansa Group.

The focus on social and humanitarian projects makes it possible to deploy the available funding in an efficient and targeted way. In the reporting year, help alliance had to scale back its project work significantly due to the coronavirus crisis. Despite great financial and logistical restrictions, one focus was on continuing to help as many disadvantaged people as possible, since they are particularly hard hit by the pandemic.

In April 2020, the Lufthansa Group also launched an internal online community for its employees with the motto #StrongerTogether. Since then, most employees, even those working short-time, have been able to exchange virtual information with colleagues about volunteering for help alliance projects, educational offerings and other non-work-related topics, as well as to network for a good cause. #StrongerTogether has since become a central platform for the volunteering community within the Lufthansa Group and has made a vital contribution to developing local volunteering communities at Lufthansa Group sites. For the first time, employees also made use of virtual volunteering programmes such as English teaching or mentoring to advise and support young people, regardless of their location.

In 2020, help alliance was responsible for 39 aid projects with a total project volume of EUR 2.5m. 81% of the donations were used for educational projects. More than 40,000 disadvantaged people around the world received help through these projects.

In 2020, the Lufthansa Group covered all of the costs of administration, fundraising and communication. This ensures that 100% of all other donations are used to fund project work. This also applies to voluntary donations made via salary deduction by employees of the Lufthansa Group.

Extra help provided during the coronavirus pandemic

As a further contribution to overcoming the coronavirus crisis, the Lufthansa Group granted leave of absence quickly and without a lot of paperwork to employees with medical training, enabling them to work as volunteers in hospital facilities. Lufthansa Group employees provided valuable assistance to medical facilities in this way. In addition, companies in the Lufthansa Group donated products and food that was surplus to requirements due to the coronavirus pandemic to various social organisations.

Repatriation of stranded holidaymakers

Travel restrictions imposed around the world as a result of the coronavirus pandemic in mid-March 2020 caused an unprecedented wave of holidaymakers and travellers to return home. After a month or so, the repatriation programmes for various European countries and many tour operators had largely been completed. All the airlines in the Lufthansa Group supported the governments of their respective countries by providing repatriation flights. Some 90,000 holidaymakers and travellers were flown home after 13 March 2020 by airlines in the Lufthansa Group.

Responsible production and sustainability in the supply chain



Concepts

Responsible production and sustainability in the supply chain firmly established in the Company

In the opinion of the Lufthansa Group, responsible production is a prerequisite for offering sustainable products. This means that, in addition to economic aspects, impacts on environment and society are taken into consideration during production processes and business activities.

For example, an increasing number of Lufthansa Group companies and locations now have EMAS- or ISO-certified environmental management systems in place with the aim of continually reducing the impact on the environment from production and products. This includes the target of achieving carbon neutrality on the ground at locations in Germany, Switzerland and Austria by 2030 as well as, for instance, reducing disposable plastic items and expanding the range of sustainably produced food offered on board.

It is also a matter of course for Lufthansa Group companies that the working conditions for their employees at least meet the statutory requirements – in many cases these minimum requirements are actually exceeded by internal operating regulations. Lufthansa Technik, for example, has an integrated management manual that outlines the operating requirements for flight safety, quality, environmental protection and occupational safety in production.

Taking sustainability aspects in the supply chain into account is an important element of responsible production. To meet the standards the Lufthansa Group sets for the sustainability

of its own production and products, the Lufthansa Group thus relies on close collaboration with suppliers who share and implement these standards wherever possible. This also forms part of the Lufthansa Group's Code of Conduct, which is published on the Lufthansa Group website.

The purchasing units in the Lufthansa Group are organised into a single reporting line. They report to the Chief Financial Officer. In some cases they are centralised, especially for airline-specific actions such as purchasing aircraft or kerosene, and in others, they are decentralised throughout the Group companies (for specific products). Reporting lines are based on responsibilities for different product groups and Group companies. Product grouping optimises positioning by pooling know-how. The purchasing units inform the Executive Board about current developments on a regular basis. In the reporting year, the Governance, Processes and Sustainability Procurement department was established to deal explicitly with sustainability in purchasing and the supply chain. As well as preparing a strategy paper, the new department began implementing a supplier screening process, which included a test phase.

Building and expanding a sustainable supply chain is of strategic importance to the Lufthansa Group

The process-based matrix organisation makes it easier to establish sustainability standards because standardised processes and IT systems are increasingly used. Defining responsibilities within the Group also ensures efficient collaboration. The goal is also to improve the enforcement of sustainability standards.

Targets

The Lufthansa Group expects suppliers to adhere to guidelines

The Lufthansa Group aims for its suppliers to comply fully with current law, guidelines and regulations concerning fair competition, integrity and responsible practices.

Measures

The Group procurement policy includes the obligation to assume social and ecological responsibility

The obligation to assume social and ecological responsibility is a key element of the Group procurement policy. It is to be understood as an overriding specification for all procurement units at the Group companies. In addition, it serves as a handbook for buyers and all employees with contacts in the procurement markets. Among other considerations, it is expected that these obligations are included in contracts with suppliers:

- to comply with the ten principles of the UN Global Compact,
- to comply with the four basic principles of the International Labour Organisation (ILO),
- to consent to announced and unannounced audits by companies of the Lufthansa Group,
- to accept the termination of the contract in the event that these contractual obligations are breached.

Summary

The aspects of corporate responsibility described in the non-financial declaration were significantly affected in the reporting year by the dramatic impact the coronavirus pandemic made on global air traffic and thus also on the Lufthansa Group. Many activities and initiatives could not be carried out as planned, or could only be continued in restricted form.

Nevertheless, a responsible and sustainable approach to resources, the environment, customers, employees and suppliers remains an indispensable condition for the acceptance of the Lufthansa Group's business model, its attractiveness to its stakeholders and ultimately also for its long-term financial stability.

By imposing these obligations, the Lufthansa Group endeavours to ensure responsible practices by its direct suppliers and so to meet its own standards for corporate responsibility. The Lufthansa Group's expectations of its suppliers in terms of social and ecological responsibility are summarised in the Supplier Code of Conduct, which can be found on the Lufthansa Group website.

To identify the type and level of supplier risks, the procurement units responsible for product groups carried out a risk assessment for the suppliers. The outcome is included in the result of Group risk management.

In addition, risk analyses based on expenditure and country were also performed for all direct suppliers in 2019. Suppliers in "extreme risk" countries were identified based on a ranking by Verisk Maplecroft, an advisory company, in order to develop plans for action.

The Lufthansa Group's sustainability commitments are confirmed by EcoVadis

In order to demonstrate its sustainability and responsibility towards its customers, the Lufthansa Group participates in EcoVadis, a sustainability assessment platform for global supply chains. In October 2019, the commitment of the Lufthansa Group was reconfirmed for a further year when it received "Silver Status".

With the activities and concepts described above, the Lufthansa Group aims, as ever, to strengthen the positive effects of its business activities and further reduce the negative impacts wherever possible in order to consolidate its position as a leading player in the airline industry, including in terms of corporate responsibility.

This combined non-financial declaration is based on the GRI Standards 2016. The information in this declaration relates to the following disclosures and management approaches.






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Social concerns	GRI 103-1, 103-2, 103-3	Management approach	➤ p. 112f.
Responsible production and sustainability in the supply chain	GRI 103-1, 103-2	Management approach	➤ p. 113f.



T051 SUSTAINABLE DEVELOPMENT GOALS (SDG)

SDG	Sub-target	Aspect/issue	Page	Activities of Lufthansa Group
	4.1 - 4.6	Social concerns	➤ p. 112	81% of donations to the help alliance used to support education
	4.4	Attractiveness as an employer/ transformation capability	➤ p. 105f.	Transformation support and training established as routine processes
	5.2	Respect for human rights	➤ p. 111	"Zero tolerance" for cases of sexual harassment
	5.4	Employee concerns/ Attractiveness as an employer	➤ p. 104	Gender equality is promoted by a wide range of measures
	5.5	Employee concerns/ Attractiveness as an employer	➤ p. 104	Special focus on support for female junior employees
	8.5	Respect for human rights	➤ p. 110	Respect for human rights is an integral part of the corporate culture
	8.5	Employee concerns/ Attractiveness as an employer	➤ p. 105	Support for LGBTI concerns
	8.5	Employee concerns/ Attractiveness as an employer	➤ p. 105	Inclusion of people with disabilities is part of social responsibility
	8.5	Employee concerns/ Attractiveness as an employer	➤ p. 104	Working and employment conditions for employees and managers are flexible and can be adapted
	8.6	Social concerns	➤ p. 112	For the first time, employees also made use of virtual volunteering programmes such as English teaching or mentoring to advise and support young people, regardless of their location.
	8.6	Social concerns	➤ p. 112	The help alliance responded quickly to global events; it initiated a coronavirus prevention and emergency aid fund as early as April 2020, together with other new fundraising and information campaigns such as "Cook to help" and #helpallianceLIVE. They aimed to inform people about the organisation's project work and to generate donations so that healthcare and food supplies could continue to be sent to the projects as needed and educational activities could be maintained as far as possible.
	8.7	Respect for human rights	➤ p. 111	Management approach to human trafficking developed
	8.8	Respect for human rights	➤ p. 111	Procedures for reporting human rights violations have been implemented
	8.8	Respect for human rights	➤ p. 111	Awareness programmes for target groups of managers and employees
	8.8	Respect for human rights	➤ p. 111	Support for employees during the pandemic
	8.8	Responsible production and sustainability in the supply chain	➤ p. 114	The Group procurement policy includes the obligation to assume social and ecological responsibility
	8.8	Responsible production and sustainability in the supply chain	➤ p. 114	To identify supplier risks, the procurement units responsible for product groups carried out a risk assessment for the suppliers
	8.8	Employee concerns/ Health and safety at work	➤ p. 106ff.	Employee health and preventing work accidents are a top priority
	8.8	Employee concerns/ Attractiveness as an employer	➤ p. 104	Unrestricted freedom of association is an established feature of the Lufthansa Group
		9.1	Customer concerns/ Operational stability	➤ p. 99
9.1		Customer concerns/Concepts	➤ p. 100	Numerous hygiene measures implemented as a result of the coronavirus pandemic
9.1		About this combined non-financial declaration/Social concerns	➤ p. 88 ➤ p. 113	Maintenance of relevant flight connections for the transport of passengers and goods during the global coronavirus pandemic, such as repatriation of stranded passengers, the delivery of urgently needed goods such as protective masks and other equipment to fight the pandemic, early preparations for transporting vaccines, expansion of freight capacities through the conversion of passenger aircraft.
9.1		Environmental concerns/ Active noise abatement	➤ p. 95	The best method of reducing aircraft noise at the source is the modernisation of the fleet
9.4		Customer concerns/ Product and services	➤ p. 98	Lufthansa Group supports environmental sustainability goals in product and service design
9.4		Environmental concerns/ Climate protection	➤ p. 95	Absolute CO ₂ emissions fall by 65.6% due to the pandemic. Specific CO ₂ emissions per passenger-kilometre have risen by 14.1% due to the lower average passenger load factor and the increased proportion of short-haul flights on account of significant travel restrictions during the pandemic.
9.5		Environmental concerns/ Active noise abatement	➤ p. 96	Optimising flight procedures and flight routes helps to reduce noise

T051 SUSTAINABLE DEVELOPMENT GOALS (SDG) (continued)				
SDG	Sub-target	Aspect/issue	Page	Activities of Lufthansa Group
	12.5	Environmental concerns/ Waste prevention	➤ p. 96f.	Lufthansa Group supports a variety of initiatives to comprehensively reduce waste
	12.6	Responsible production and sustainability in the supply chain	➤ p. 114	The Lufthansa Group's expectations of its suppliers in terms of social and ecological responsibility are summarised in the Supplier Code of Conduct
	13.1	Environmental concerns/ Climate protection	➤ p. 90ff.	Continuous investment in modern, fuel-efficient aircraft and engine technologies, as well as investment in research and use of alternative fuels for air transport
	13.1	Environmental concerns/ Climate protection	➤ p. 93	Deployment of efficiently sized aircraft, better load factors, testing and introduction of new flight procedures, as well as the determination of optimal flight routes and flight speeds
	13.1 - 13.3	Environmental concerns/ Climate protection	➤ p. 94	Climate action agreements (CORSIA - Carbon Offsetting and Reduction Scheme for International Aviation)/Opportunities for voluntary carbon offsets
	13.2	Environmental concerns/ Climate protection	➤ p. 92f.	To cut CO ₂ emissions, what is required is a fundamental modernisation of the airspace structure and the development of the intermodal transport
	13.3	About this combined non-financial declaration	➤ p. 87	The Lufthansa Group's engagement is rated by the international non-profit rating organisation CDP
	17.15	Social concerns	➤ p. 113	As a further contribution to overcoming the coronavirus crisis, the Lufthansa Group granted leave of absence quickly and without a lot of paperwork to employees with medical training, enabling them to work as volunteers in hospital facilities. Lufthansa Group employees provided valuable assistance to medical facilities in this way.
	17.16	About this combined non-financial declaration	➤ p. 87	Since 2002, the Company has applied the principles of the UN Global Compact for sustainable and responsible corporate governance



Independent Auditor's Limited Assurance Report regarding the Non-Financial Statement

To Deutsche Lufthansa Aktiengesellschaft, Köln

We have performed a limited assurance engagement on the Non-Financial Statement of Deutsche Lufthansa Aktiengesellschaft according to § 289b HGB ("Handelsgesetzbuch": German Commercial Code), which is combined with the Non-Financial Statement of the Lufthansa Group according to § 315b HGB, also consisting of the chapter "Principles of the Group" in the combined management report of Deutsche Lufthansa Aktiengesellschaft being incorporated by reference, for the reporting period from 1 January 2020 to 31 December 2020 (hereafter "Non-Financial Statement"). Our engagement did not include any disclosures for prior years and any references to further information in the Non-Financial Statement.

Management's responsibility

The legal representatives of the Company are responsible for the preparation of the Non-Financial Statement in accordance with §§ 315c in conjunction with 289c to 289e HGB.

This responsibility includes the selection and application of appropriate methods to prepare the Non-Financial Statement as well as making assumptions and estimates related to individual disclosures, which are reasonable in the circumstances. Furthermore, the legal representatives are responsible for such internal controls that they have considered necessary to enable the preparation of a Non-Financial Statement that is free from material misstatement, whether due to fraud or error.

Auditor's declaration relating to independence and quality control

We are independent from the Company in accordance with the provisions under German commercial law and professional requirements, and we have fulfilled our other professional responsibilities in accordance with these requirements.

Our audit firm applies the national statutory regulations and professional pronouncements for quality control, in particular the by-laws regulating the rights and duties of Wirtschaftsprüfer and vereidigte Buchprüfer in the exercise of their profession [Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer] as well as the IDW Standard on Quality Control 1: Requirements for Quality Control in audit firms [IDW Qualitätssicherungsstandard 1: Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis (IDW QS 1)].

Auditor's responsibility

Our responsibility is to express a limited assurance conclusion on the Non-Financial Statement based on the assurance engagement we have performed.

We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB). This Standard requires that we plan and perform the assurance engagement to obtain limited assurance about whether the Non-Financial Statement of the Company has been prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB. In a limited assurance engagement, the assurance procedures are less in extent than for a reasonable assurance engagement and therefore a substantially lower level of assurance is obtained. The assurance procedures selected depend on the auditor's professional judgment.

Within the scope of our assurance engagement, which has been conducted mainly between October 2020 and March 2021, we performed amongst others the following assurance and other procedures:

- Inquiries of employees regarding the selection of topics for the Non-Financial Statement, the risk assessment and the concepts of Deutsche Lufthansa Aktiengesellschaft and Lufthansa Group for the topics that have been identified as material,
- Inquiries of employees responsible for data capture and consolidation as well as the preparation of the Non-Financial Statement, to evaluate the reporting processes, the data capture and compilation methods as well as internal controls to the extent relevant for the assurance of disclosures in the Non-Financial Statement,
- Identification of likely risks of material misstatement in the Non-Financial Statement,
- Inspection of relevant documentation of the systems and processes for compiling, aggregating and validating data in the relevant areas in the reporting period,

- Analytical evaluation of disclosures in the Non-Financial Statement at the level of the parent company and the group,
- Inquiries and inspection of documents on a sample basis relating to the collection and reporting of selected data and
- Evaluation of the presentation of disclosures in the Non-Financial Statement.

Assurance conclusion

Based on our assurance procedures performed and assurance evidence obtained, nothing has come to our attention that causes us to believe that the Non-Financial Statement of Deutsche Lufthansa Aktiengesellschaft and of Lufthansa Group for the period from 1 January 2020 to 31 December 2020 has not been prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB. Our engagement did not include any disclosures for prior years and any references to further information in the Non-Financial Statement.

Intended use of the assurance report

We issue this report on the basis of the engagement agreed with Deutsche Lufthansa Aktiengesellschaft. The assurance engagement has been performed for the purposes of the Company and the report is solely intended to inform the Company as to the results of the assurance engagement and must not be used for purposes other than those intended. The report is not intended to provide third parties with support in making (financial) decisions.

Engagement terms and liability

The "General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms]" dated 1 January 2017 are applicable to this engagement and also govern our relations with third parties in the context of this engagement (www.de.ey.com/general-engagement-terms). In addition, please refer to the liability provisions contained there in no. 9 and to the exclusion of liability towards third parties. We assume no responsibility, liability or other obligations towards third parties unless we have concluded a written agreement to the contrary with the respective third party or liability cannot effectively be precluded.

We make express reference to the fact that we do not update the assurance report to reflect events or circumstances arising after it was issued unless required to do so by law. It is the sole responsibility of anyone taking note of the result of our assurance engagement summarized in this assurance report to decide whether and in what way this result is useful or suitable for their purposes and to supplement, verify or update it by means of their own review procedures.

Munich, 2 March 2021

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Nicole Richter	Yvonne Meyer
Wirtschaftsprüferin	Wirtschaftsprüferin
(German Public Auditor)	(German Public Auditor)