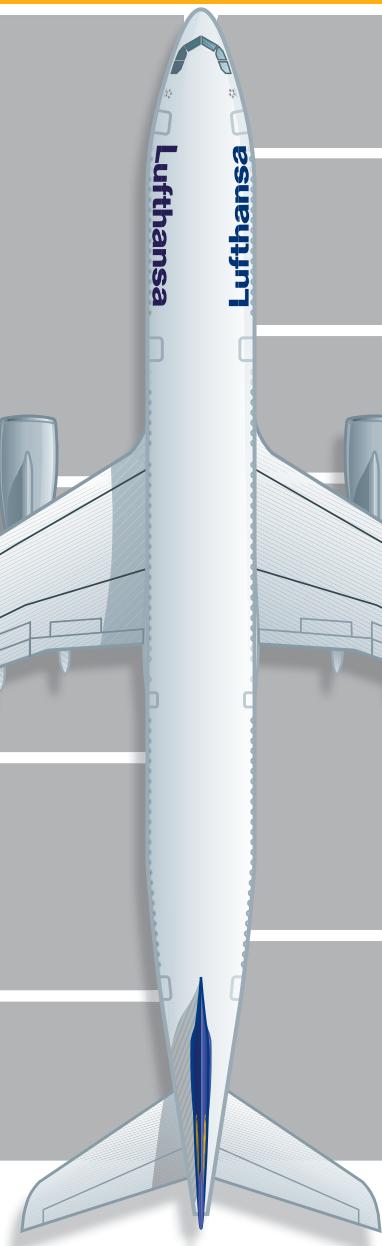




Issue 2013

Balance

Key data on sustainability within the Lufthansa Group



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

 **www.lufthansagroup.com/responsibility**

Order your copy of our Annual Report 2012 at:

 **www.lufthansagroup.com/investor-relations**

1 Source: Lufthansa Annual Report 2012

2 For the reporting year 2012 the following companies are included: Lufthansa (including Lufthansa CityLine, Air Dolomiti, Eurowings, Contact Air, Augsburg Airways), Lufthansa Cargo, Germanwings, SWISS (including Edelweiss Air) and Austrian Airlines. Excluding the services of third parties as the company can influence neither performance nor the equipment operated (see also table "Share of third parties" on page 70).

3 Types of flights taken into account: all scheduled and charter flights.

4 See also table "Fuel consumption" on page 70.

5 Companies referred to as in 2, but including the services of third parties, as these contribute to the Group's results. Types of flights as in 3, but including ferry flights, as these represent costs.

6 *Balance*: segments (operational perspective);
Annual Report: distance (customer perspective); one distance can include several segments, e.g. in the event of stops en route.

7 *Balance*: on the basis of all passengers aboard;
Annual Report: on the basis of all revenue passengers.

At a glance

Business performance data¹

		2012	2011	Change
Revenue	million €	30,135	28,734	+4.9%
of which traffic revenue	million €	24,793	23,779	+4.3%
Operating result	million €	524	820	-36.1%
Profit/loss from operating activities	million €	1,311	773	+69.6%
Net profit/loss for the period	million €	990	-13	
Total assets	million €	28,419	28,081	+1.2%
Cash flow from operating activities	million €	2,842	2,356	+20.6%
Capital expenditure	million €	2,359	2,566	-8.1%
Equity ratio	percent	29.2	28.6	+0.6 PP

Personnel data

		2012	2011	Change
Number of employees (on 31.12., respectively)		116,957	116,365	+0.5%
of these, in Germany		67,620	67,263	+0.5%
of these, outside Germany		49,337	49,102	+0.5%
Staff costs ¹	million €	7,052	6,678	+5.6%
Revenue/employee ¹	thousand €	257	249	+3.0%
Staff costs/revenue ¹	percent	23.4	23.2	+0.2 PP
Average age	years	41.3	40.8	+0.5 Y
Part-time ratio, absolute	percent	27.9	27.1	+0.8 PP
Part-time ratio, men	percent	13.7	13.3	+0.4 PP
Part-time ratio, women	percent	45.3	44.2	+1.1 PP
Share of women in management	percent	13.6	13.6	±0 PP

Environmental data^{2,3}

		2012	2011	Change
Resource consumption				
Fuel consumption ⁴	tonnes	8,878,926	9,023,671	-1.6%
Fuel consumption, specific, passenger transportation	l/100 pkm	4.06	4.18	-2.8%
Fuel consumption, specific, freight transport	g/tkm	230	231	-0.7%
Emissions ⁷				
Carbon dioxide emissions	tonnes	27,968,627	28,424,568	-1.6%
Carbon dioxide emissions, specific, passenger transportation	kg/100 pkm	10.24	10.53	-2.8%
Nitrogen oxide emissions	tonnes	136,805	133,903	+2.2%
Nitrogen oxide emissions, specific, passenger transportation	g/100 pkm	50.0	49.4	+1.2%
Carbon monoxide emissions	tonnes	19,416	20,152	-3.7%
Carbon monoxide emissions, specific, passenger transportation	g/100 pkm	7.8	8.2	-5.2%
Unburned hydrocarbons	tonnes	2,096.0	2,252.8	-7.0%
Unburned hydrocarbons, specific, passenger transportation	g/100 pkm	0.8	0.9	-8.2%

Transport performance data

	Balance ^{2,3}	Change	Annual Report ⁵	Change	
Number of flights ⁶	1,003,182	-0.9 %	1,033,588	-1.6%	
Passengers carried ⁷	100,938,009	+2.9 %	103,051,000	+2.4%	
Freight and mail carried	tonnes	1,972,357	-7.0 %	1,972,357	-7.0%
Seat kilometers offered, SKO	million pkm	256,536	+1.3 %	259,861	+0.6%
Freight tonne kilometers offered, FTKO	million tkm	14,468	-3.3 %	15,249	-6.2%
Tonne kilometers offered, TKO	million tkm	39,819	-0.6 %	40,064	-1.8%
Passenger kilometers transported, PKT ⁷	million pkm	207,747	+2.5 %	204,775	+2.2%
Freight tonne kilometers transported (incl. third-party performance), FTKT	million tkm	9,266	-4.6 %	10,203	-6.1%
Tonne kilometers transported, TKT	million tkm	30,126	+0.2 %	29,754	-0.5%

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**Dear Readers,**

As a company with global operations, we know that treating people and the environment in responsible ways is a fundamental factor for our success. We are committed to corporate responsibility, because our company's success and competitiveness go far beyond growth and profitability. With our corporate program SCORE, which we launched last year, we have set the course for sustainable economic success. And we have come a good bit closer to our goal of achieving a lasting improvement in our economic result. SCORE is on track and will make a decisive contribution to ensuring that we can continue to invest in innovative services and products for our clients, in our employees as well as in environmentally sound technologies in the future.

In the overall context of our value-oriented corporate management, responsibility for climate and the environment has always been a top priority for us. The largest fleet renewal program in the history of the Lufthansa Group means we are making perceptible progress in reducing emissions of pollutants and noise. Last year, the passenger airlines of the Lufthansa Group consumed only 4.06 liters of kerosene per passenger and 100 kilometers on average. This is about 3 percent less than the preceding year – and a new record result. When it comes to fuel consumption, economy and ecology go hand in hand. Therefore, it makes sense in all respects that we improve even further in this area. Currently, we have 236 new aircraft on order. With these new deliveries, we will essentially be replacing older aircraft. In addition, we have set up our new Fuel Efficiency department, which will allow us to optimize in an even more focused way and to harness savings potentials all across the Group.

Alongside the care and protection of the environment and the reduction of noise, the Lufthansa Group is also actively engaged in a wide range of social issues. We promote junior scientists, participate in research projects, sponsor mass and disabled sports, and support social and cultural projects as well as aid associations – particularly the HelpAlliance, which was founded by Lufthansa employees. Especially in the social area, our scope of action is defined not only by current laws but also by many self-imposed obligations, as our ten-year membership in the UN Global Compact illustrates. In the course of the reporting year, for example, we anchored the principles of sustainability even more strongly in our procurement guidelines and reinforced our compliance program further. In the area of personnel, we again launched projects that will further fortify the culture of diversity within the Group and help prepare our management for future challenges.

For more in-depth insights concerning our commitments in the framework of corporate responsibility, I highly recommend the present report and wish you a thought-provoking read.

A handwritten signature in black ink that reads "Christoph Franz".

Christoph Franz
Chairman of the Executive Board and CEO
Deutsche Lufthansa AG

About this report

The present Sustainability Report *Balance* informs stakeholders and the interested public about the goals, activities and advances of the Lufthansa Group in the areas of business, social responsibility, environment and corporate citizenship. The data presented in this report refer to the financial year 2012.

The understanding of corporate responsibility at the Lufthansa Group is based on the following five dimensions:

- Economic sustainability
- Social responsibility
- Climate and environmental responsibility
- Corporate governance and compliance
- Corporate citizenship

The section "Corporate governance and compliance" is part of the chapter "Economic sustainability."

Scope of consolidation

Reporting with regard to transport performance, kerosene consumption and emissions from flight operations in the financial year 2012 is – unless noted otherwise – based on the following scope of consolidation:

- Companies: Lufthansa German Airlines (including Lufthansa CityLine, Air Dolomiti, Eurowings, Contact Air¹ and Augsburg Airways²), Lufthansa Cargo, Germanwings, SWISS (including Edelweiss Air) and Austrian Airlines. Excepted are third-party services, as Lufthansa has no influence either on their performance or on the aircraft they operate.
- Types of service: all scheduled and charter flights.

Methodology of calculations

Kerosene in absolute terms

The calculation of kerosene consumption is based on actual flight operations (i.e. using actual load factors and flight routings), according to the so-called "gate-to-gate" principle. This includes all phases of a flight – from taxiing on the ground to flying detours and in holding patterns in the air.

Emissions in absolute terms

The calculation of emissions from flight operations is based on the actual transport performance (i.e. actual load factors) and the actual absolute quantity of kerosene consumed during the year in review. In this context, each aircraft-engine combination that exists in the fleet is considered separately, and the corresponding values are calculated by means of computer programs provided by the respective aircraft and engine manufacturers. The annual average flight profile of each subset in the fleet is then fed into these programs. This allows us to determine emissions in relation to flight altitude, distance flown, thrust and load. This approach is necessary for nitrogen oxides (NO_x), carbon monoxide (CO) and unburned hydrocarbons (UHCs) in particular. Carbon dioxide (CO_2) emissions do not require special calculation methods, as they are generated in a fixed relationship to the quantity of kerosene burned. The combustion of 1 tonne of kerosene generates 3.15 tonnes of CO_2 .

Specific consumption and emission values

Calculating specific consumption and emissions entails expressing absolute values in relationship to transport performance. For example, the ratio "liters per 100 passenger kilometers" (l/100 pkm) is calculated on the basis of actual load factors, distances actually flown and the kerosene actually consumed. The distances used in the calculations are great-circle distances.

¹ The cooperation with Contact Air ended in September 2012.

² Augsburg Airways will fly on behalf of Lufthansa until the end of the summer timetable 2013.

Evaluation and validation of data and information

Environmental management system

The data used in this report were collected by means of Lufthansa's environmental management system. This system also determines the methods for data verification and its transmission to the division Group Environmental Issues. The basis for data collection is Lufthansa's own Environmental Database.

Accuracy

The figures shown in tables and illustrations are rounded, whereas the values or percentages indicating changes from the previous year always refer to precise figures. Therefore, it is possible that a specific value may remain the same from one year to the next, while a relative change is indicated. Given that certain percentages are rounded, their addition may also lead to results that differ from the addition of non-rounded percentage shares. For example, such rounded percentage shares may not add up to 100 percent, even though it would be logical to expect a sum of 100 percent.

Comparability

Due to changes in the portfolio over the past years, the figures pertaining to personnel and environment in this report are only to a limited extent comparable with those reported for the previous years. For example, the cooperation between Lufthansa and the regional airline Contact Air ended in September 2012. There are also certain differences in approach compared to the Annual Report 2012 when calculating passenger numbers and the related indicators (see explanations relating to the table "At a glance" on page 2).

Publication dates of this report

Balance, the Sustainability Report of the Lufthansa Group, is published once a year in a German and an English edition. The preceding edition was published on 22 June 2012.

Additional information on the Internet

In addition to this report, Lufthansa also informs readers via the Internet about the activities in the area of sustainability within the Lufthansa Group.

 www.lufthansagroup.com/responsibility

Disclaimer in respect of forward-looking statements

The data included in this report has been collected and processed with the utmost care. Nevertheless, errors in transmission cannot be ruled out entirely. Information published in this report with regard to the future development of the Lufthansa Group and its subsidiaries consists purely of forecasts and assessments and not of definitive historical facts. Its purpose is exclusively informational, identified by the use of such cautionary terms as "believe," "expect," "forecast," "intend," "project," "plan," "estimate," "count on," or "endeavor." These forward-looking statements are based on all discernible information, facts and expectations available at the time. They can, therefore, only claim validity up to the date of their publication.

Since forward-looking statements are by their nature subject to uncertainties and imponderable risk factors – such as changes in underlying economic conditions – and rest on assumptions that may not or divergently occur, it is possible that the Group's actual results and development may differ materially from those implied by the forecasts. Lufthansa makes a point of checking and updating the information it publishes. It cannot, however, assume any obligation to adapt forward-looking statements to accommodate events or developments that may occur at some later date. Accordingly, it neither expressly nor conclusively accepts liability, nor does it give any guarantee for the actuality, accuracy and completeness of this data and information.

Fuel efficiency

The harmony of ecological and economic goals is especially pronounced in the area of fuel efficiency. This is why this topic is at the top of our environmental agenda. Energy efficiency in flight operations is a central factor for the Lufthansa Group's business success and an important pillar of our active environmental management.



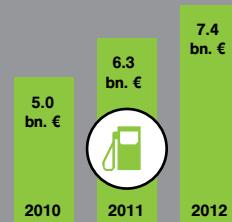
CO₂ emissions: Reducing environmental effects



Aviation's share in global CO₂ emissions is 2.46 percent. The Lufthansa Group does everything in its power to reduce its specific CO₂ emissions further and to fly into the future as efficiently and environmentally compatibly as possible. Each tonne of kerosene that the Lufthansa Group conserves relieves the environment of 3.15 tonnes of CO₂.

Fuel: Largest operative cost item

For years, the cost item "Fuel" has had an ever-growing impact on the Lufthansa Group's budget. At about 7.4 billion euros, the fuel costs in 2012 were about 50 percent higher than in 2010. The Group-wide fuel purchases now come to more than 20 percent of total operating expenses.



Competency: Team of experts established



To achieve sustainable conservation effects concerning fuel consumption, the Lufthansa Group has put the topic of fuel efficiency at the top of its agenda. On 1 May 2013, the Group opened its newly set-up Fuel Efficiency department. Eleven experts from different Group companies work around the clock to develop and implement measures to reduce fuel consumption.

New efficiency record: 4.06 l/100 pkm

With a kerosene consumption of 4.06 liters per passenger and 100 kilometers, the Lufthansa Group set a new efficiency record in 2012 (-2.8 percent compared to preceding year). In absolute terms, the Group managed to conserve no less than 144,745 tonnes of fuel and thus to emit over 455,000 fewer tonnes of CO₂.





Interview with Jens Ritter

Head of Fuel Efficiency and Senior First Officer
Deutsche Lufthansa AG

- You've been heading the newly created department "Fuel Efficiency" since 1 May 2013. What tasks are you faced with?

Out of cost- and eco-consciousness, we want to use each tonne of kerosene as efficiently as possible. To this end, we are taking steps to intensify the successful exchange of information between the Group companies. This will allow us to take better advantage of the diverse know-how and expertise within the Lufthansa Group to develop even more ideas and implement more new projects. Nearly every area of an airline has an influence on fuel consumption or fuel efficiency. This is precisely our starting point for achieving progress in a shared and comprehensive way.

- How do you identify conservation potentials?

Almost every day we receive suggestions for improving fuel efficiency from colleagues in all areas of the company. This gets us a good step further. But in the future we want to open up new potentials more systematically. To do so, we are pursuing two approaches: First, we'll set up a fuel-efficiency information management system to generate new ideas continuously and methodically. Here we're in close coordination with the experts at Lufthansa Technik, who've run a highly successful innovation management for some time. Second, we want to utilize a sophisticated IT system to analyze at which points our flight operations can become even more efficient.

- In which areas do you see the largest savings potentials?

Clearly in the area of new technologies. Modern aircraft are made of more lightweight materials, have more efficient engines and feature improved aerodynamics. Currently, we've more than 200 new aircraft on order. But for our existing fleet as well we have promising projects to increase efficiency, such as engine modifications or the use of low air resistance paints. We also need to support our dispatchers and flight crews with modern IT, so that they can determine optimal flight routings and flight altitude profiles – and even adapt these in flight. We see a great potential in this area and have amassed a lot of know-how as well. And weight is a perennial topic. Unnecessary load costs us a third of its weight in fuel on each long-haul flight.

- Being a pilot, how can you apply your aeronautical know-how to efficiency improvements?

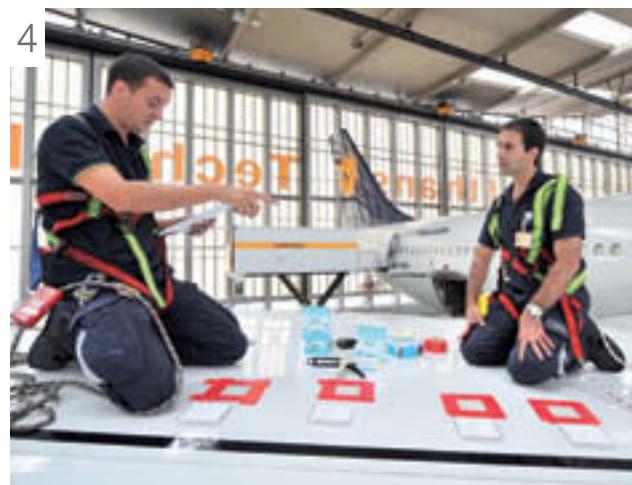
As a pilot, I have to make decisions in flight that have an immediate effect on fuel efficiency. The first consideration is always safety; it is and remains the first goal for our flight operations. Fuel efficiency doesn't contradict this, but rather complements our efforts to ensure safety under all circumstances. This is an important factor. For example, we want to provide our cockpit crews with the best-possible information, so that they can make the safest and most efficient decisions. This means, for instance, that we make current wind and weather models available aboard the aircraft, that we give the crew information about short-term changes in traffic or weather situations at airports and that we pass reports received from preceding aircraft – such as about turbulences – to following aircraft in real-time. For all these topics, my aeronautical experience is naturally helpful.



"An Airbus loses a few kilos"

On 18 December 2012, Lufthansa experts launched a specific campaign to identify potentials for weight reductions: All loose items in the cabin of a Lufthansa Airbus A340-300 were put on the scales. Anyone who thinks that noting the weight of things like clothes hangers, magazines, trolleys, blankets and pillows is going too far is greatly mistaken. A mere 100 kilos less weight on each aircraft of Lufthansa German Airlines lowers fuel costs by 2.6 million euros per year – and avoids quite a few tonnes of CO₂ emissions.





1**Nico Buchholz**

Executive Vice President
Group Fleet Management
Deutsche Lufthansa AG

2**Alexander Spahn**

Managing Director
SPIRIANT, the equipment subsidiary of
LSG Sky Chefs

3**Joachim Buse**

Vice President Aviation Biofuel
Deutsche Lufthansa AG

4**Dr. Georg Fanta**

Director Aircraft Painting
Lufthansa Technik AG

“ With the largest fleet modernization program in the company's history, we also make enormous progress regarding eco-efficiency. **”**

“ Our lightweight trolley 'Quantum' is a real gain for the environment: It's a third lighter than the preceding model and is currently being introduced on the entire Lufthansa long-haul fleet. **”**

5**Björn Ostertag**

Head of Fuel Efficiency and Punctuality
Lufthansa Cargo AG

6**Daniel Meier**

Technical Pilot A320
SWISS

“ We place great expectations on alternative fuels. They lighten the burden in both economic and ecological dimensions. Naturally, this must not be at the expense of food production and biodiversity. **”**

“ In our Multifunctional Coating research project, we tested the advantages of flow optimizations by means of artificial surfaces modeled on sharkskin. The expected fuel savings potential: 1 percent. **”**

7**Matthias Langko**

Section Manager
Engine Life Cycle Services
Lufthansa Technik AG

8**Gerhard Baumgarten**

Director Sales, Marketing &
Product Development
Lufthansa LEOS

“ Weight reductions on our existing MD-11 freighter fleet help us to save on fuel long-term. And with the new Boeing 777F, we'll soon have the most efficient freight aircraft in operation. **”**

“ Our new A320, like those at Lufthansa, is fitted with sharklets. On longer routes, these 2.4-meter-tall wingtip extensions enable fuel savings of up to 4 percent. **”**

The four-liter aircraft

Did you know? On average, German aviation consumes about 4 liters of kerosene to transport one passenger over a distance of 100 kilometers. This topic is taken up by the Federal Association of the German Air Transport Industry (BDL) in its current ad campaign, whose slogan “Four get you further” illustrates the high level of eco-efficiency of German airlines.

According to a representative survey by the Wahlen Research Group, almost half of Germans estimate the average consumption of aircraft to be ten times higher. With its ad campaign, the BDL aims to contribute to fact-based information for the German public.

🌐 www.die-vier-liter-flieger.de



Improvement in energy efficiency since 1990

+ 37 %

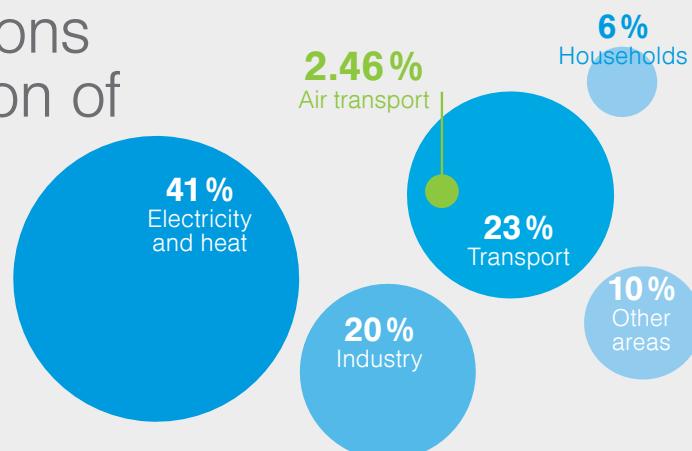
(BDL member airlines)

An eye on emissions

Air transport is incorrectly perceived as being especially harmful for the environment. The fact is that global air traffic's share in CO₂ emissions resulting from the combustion of fossil fuels such as coal, oil and kerosene is 2.46 percent.

The greenhouse gas CO₂, which is responsible for climate change, is above all emitted by electricity and heat generation, industry and other modes of transport. Nevertheless, every reduction in fuel consumption eases the burden on the climate. That is why the members of the Federal Association of the German Air Transport Industry (BDL) have worked successfully for years on using energy ever more efficiently.

Global CO₂ emissions from the combustion of fossil fuels



Source: International Energy Agency (IEA) 2011, values 2009

Reduction of the absolute CO₂ emissions from German domestic flights from 1990 to today

- 14 %

(All airlines offering German domestic flights)

CO₂ reduction goal by 2050 compared with 2005

- 50 %

(International air transport industry)



The Lufthansa Group

Deutsche Lufthansa AG is an aviation group with worldwide operations that is structured into more than 400 subsidiaries and associated companies. Beyond passenger and freight transport, the company's activities also include services in airline catering, maintenance and overhauls of aircraft as well as information technology. In organizational terms the Lufthansa Group comprises five business segments: Passenger Airline Group, Logistics, MRO (Maintenance, Repair, Overhaul), IT Services and Catering.

 www.lufthansagroup.com



103,051,082

passengers in 2012



The five business segments of the Lufthansa Group

Passenger Airline Group

The business segment Passenger Airline Group is the Lufthansa Group's core business. It comprises Lufthansa German Airlines (Lufthansa including Germanwings and regional partners), SWISS, Austrian Airlines as well as the equity shares in Brussels Airlines, SunExpress and jetBlue. The airlines of the Lufthansa Group occupy top ranks in their respective sectors and position themselves as quality carriers.

In the summer timetable 2013, the airlines of the Lufthansa Group offer flights to 285 destinations in 102 countries on four continents from their hubs in Frankfurt, Munich, Düsseldorf, Zurich, Vienna and Brussels. This offer is complemented by numerous code-share flights.

Lufthansa

Lufthansa German Airlines comprises the companies Lufthansa, Lufthansa CityLine, Air Dolomiti, Eurowings, Augsburg Airways and Germanwings. Thanks to a modern and high-quality product, a unique lounge concept and innovative services concerning all aspects of flying, Lufthansa German Airlines and its full range of products enjoy the highest recognition and renown worldwide. In 2012, Lufthansa again received a number of important awards. In a customer service survey carried out by the company Service Value, Lufthansa was elected Germany's "Service Champion 2012"

in the airline category. To increase the satisfaction of its customers further, Lufthansa expands its product portfolio continuously. One of the measures being planned is to equip its entire long-haul fleet with a Premium Economy Class, starting in 2014. This new product closes the gap between the superior Business Class segment and the classic Economy Class.

 www.lufthansa.com

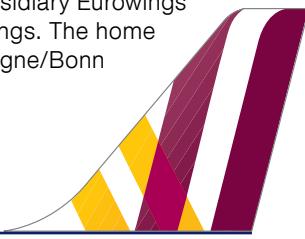


Germanwings

Germanwings GmbH is a fully-owned subsidiary of Deutsche Lufthansa AG. Since 1 January 2013, decentralized European services of Lufthansa German Airlines – meaning those outside of the Frankfurt and Munich hubs – are being shifted commercially and organizationally to Germanwings, forming a company based on Germanwings GmbH. The "new Germanwings" is Germany's third-largest airline. Offering an innovative and high-quality product and brand concept, it positions itself as a quality

airline in the low-cost segment. In future the Lufthansa Group regional subsidiary Eurowings will fly on behalf of Germanwings. The home base of Germanwings is Cologne/Bonn Airport.

 www.germanwings.com



SWISS

Swiss International Air Lines (SWISS) is part of Switzerland's tradition in civil aviation. SWISS is a fully-owned subsidiary of Deutsche Lufthansa AG. From its hub in Zurich and the airports in Basle, Geneva and Lugano, SWISS connects Switzerland with the world. With its modern products, SWISS positions itself in Economy as well as in Business and First Class as a quality airline and premium brand. The leisure travel airline Edelweiss Air, which is consolidated within the SWISS Group, successfully comple-

ments the portfolio of offers. In the financial year 2012, SWISS carried 15.8 million passengers, again surpassing the preceding year's record.

 www.swiss.com



Austrian Airlines

Austrian Airlines is Austria's largest airline and maintains an international route network with about 130 destinations. Austrian is a fully-owned subsidiary of Deutsche Lufthansa AG. Its home base in Vienna offers an advantageous position in the heart of Europe, which makes it an ideal hub between east and west. Passengers flying on this quality airline benefit from excellent service and the proverbial Austrian hospitality. In the financial year 2012, Austrian Airlines carried 11.5

million passengers. On 1 July 2012, Austrian Airlines transferred its flight operations to the fully-owned subsidiary Tyrolean Airways.

 www.austrian.com



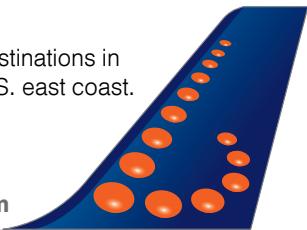
Equity shares

Brussels Airlines (equity share of 45 percent)

Brussels Airlines is Belgium's largest airline. Since June 2009, Lufthansa has held an equity share of 45 percent in the company's parent, the holding company SN Airholding with headquarters in Brussels. Since 2011, Lufthansa has also held a purchase option for the remaining 55 percent of equity. From its hub in Brussels this quality airline flies

to Europe's key regions, 19 destinations in Africa and two cities on the U.S. east coast.

 www.brusselsairlines.com



SunExpress (equity share of 50 percent)

SunExpress is a joint venture of Lufthansa and Turkish Airlines. Since its founding in 1989, it has developed with pronounced dynamism. Today SunExpress ranks among the market-leading airlines on routes between Germany and Turkey. Besides connections to its three hubs Antalya, Izmir and Istanbul, SunExpress operates numerous nonstop flights from Germany to twelve Turkish cities. In addition, the

airline offers numerous direct connections within Turkey.

 www.sunexpress.com



jetBlue (equity share of 15.85 percent)

jetBlue Airways is a U.S. passenger airline with headquarters in New York. It was founded in 1998 and started operations in 2000. Lufthansa holds a 15.85 percent equity share in jetBlue and is thus the first European airline to have made a significant investment in a U.S. airline. jetBlue's home base is at New York's John F. Kennedy Airport (JFK).

 www.jetblue.com



Business segment Logistics / Lufthansa Cargo AG



Lufthansa Cargo

Networking the world.

Business segment MRO / Lufthansa Technik AG



Lufthansa Technik

More mobility for the world

Lufthansa Cargo AG is the specialist provider of logistics services within the Lufthansa Group. It ranks among the market leaders in the international air freight business. Lufthansa Cargo offers a worldwide network, the shortest transport times and high quality standards in many product areas, some of which are highly specialized. The emphasis of Lufthansa Cargo lies in the airport-to-airport freight business. The logistics specialist operates its own fleet of 18 Boeing MD-11F freighter aircraft and holds an interest in the cargo airline AeroLogic (equity share of 50 percent), among others. Lufthansa Cargo offers a comprehensive route network with more than 300 destinations in about 100 countries, which is complemented by cooperations with other cargo airlines and air-freight-related partner companies, including SWISS WorldCargo and Air China Cargo. The product portfolio of the fully-owned subsidiary of Deutsche Lufthansa AG includes standard and express freight, along with special freight as a significant cornerstone. The latter includes the transport of live animals, valuable cargo, mail, hazardous goods and temperature-sensitive goods. The main transfer point is Frankfurt Airport. There are also close ties to the Group companies SWISS and Brussels Airlines. The company's headquarters is in Frankfurt.

 www.lufthansa-cargo.com

Lufthansa Technik AG is the world's leading manufacturer-independent provider of technical aircraft services. The emphasis is on the maintenance, repair and overhaul of civil aircraft as well as engines, electrical equipment and components (Maintenance, Repair and Overhaul, MRO). The fully-owned subsidiary of Deutsche Lufthansa AG attends to more than 730 customers worldwide, which include mostly airlines and operators of government aircraft and VIP jets but also aircraft leasing companies. Within the Lufthansa Group, Lufthansa Technik is responsible for the reliability and value retention of the fleet. Lufthansa Technik comprises six product divisions: maintenance, aircraft overhauls, engines, components, aircraft systems (landing gear and airframe related components) as well as cabin completion and maintenance of VIP aircraft. Its MRO network unites 30 technical maintenance operations worldwide. The company has direct and indirect participations in 55 corporations. Hamburg is the most important location for Lufthansa Technik's maintenance operations, cabin completion for VIP aircraft, engine and component maintenance, the logistics center, and the design and production facility. The largest maintenance stations are in Frankfurt and Munich; additional stations are located at all larger German airports and about 50 other locations worldwide. Lufthansa Technik AG has its headquarters in Hamburg.

 www.lufthansa-technik.com

Business segment IT Services / Lufthansa Systems AG



Lufthansa Systems

IT that makes your life easier

Business segment Catering / LSG Sky Chefs



Lufthansa Systems AG offers consulting and IT services for selected industries and has a worldwide leadership role in the aviation industry. With its comprehensive portfolio of products and services, the fully-owned subsidiary of Deutsche Lufthansa AG covers the entire spectrum of IT services. It ranges from consulting to the development and implementation of tailor-made industry solutions and the operation of solutions in its own data centers. In their work, the experts of Lufthansa Systems combine many years of project experience with comprehensive technological know-how, profound industry knowledge and proven expertise in analyzing complex business processes. Given the high level of complexity of IT projects, project management has a key role in keeping implementations on schedule and within budget. As a certified SAP partner, Lufthansa Systems also covers the entire service range for SAP systems, from design and adaptation to implementation, consolidation and maintenance. Worldwide, more than 300 airlines – as well as about 150 companies in such industries as transport and logistics, manufacturing, media and publishing, energy and health care – rely on the expertise of Lufthansa Systems. The company has its headquarters in Kelsterbach near Frankfurt. In addition, Lufthansa Systems maintains branch offices in Germany as well as at locations in 16 countries.

www.LHsystems.com

LSG Sky Chefs is the global leader in airline catering and the management of all in-flight related service processes. The Group comprises 151 companies at 211 locations in 52 countries. In 2012, this wholly-owned subsidiary of Deutsche Lufthansa AG produced 527 million in-flight meals for more than 300 airlines worldwide – including nearly all international as well as numerous national and regional carriers, network carriers, charter companies and low-cost airlines. The Group's parent company, LSG Lufthansa Service Holding AG, has its headquarters in Neu-Isenburg near Frankfurt. In the area of airline catering, LSG Sky Chefs offers a complete range from premium meals produced to order all the way to cost-efficient snacks. Based on its far-reaching experience, the Group has developed tried-and-tested methods which ensure that customers always receive first-rate quality. Further performance parameters are culinary excellence and innovation, authentic regional cuisines from the airline's international network, and an innovative and appealing menu design. Beyond that, the company offers a broad range of in-flight products and services at the highest level of quality and reliability. Additionally, the Group has begun to open up associated markets such as railway and school catering as well as supplying the retail sector.

www.lsgskychefs.com

Corporate responsibility

Shaping the future together

Corporate responsibility is an important variable in securing the future viability of the Lufthansa Group. Responsible entrepreneurial practice has been firmly rooted in the Group's corporate culture and in its corporate strategy for many years. In this context, "shaping the future together" is the guiding principle of our leadership practice, which is aligned with sustainability.

The basic prerequisite for sustainable management practice is economic sustainability. This is where the Lufthansa Group's corporate program SCORE comes in (see "SCORE: our corporate program is on track" on page 38). It makes a significant contribution to the Group's ability to apply corporate responsibility comprehensively in the future as well. Entrepreneurial practice that is aligned with the principles of sustainable economic development generates more than financial strength and increased competitiveness. The principle of corporate responsibility aims above all at closely interlinking economic, social and ecological factors and ensuring that these influence each other. As the goal is to keep these dimensions of sustainability in a constant equilibrium, the Lufthansa Group consciously selected *Balance* as the title of its sustainability report – not least to illustrate the responsibility for a world based on adjustments among the numerous interests represented by the Group and its stakeholder groups.

Our understanding of corporate responsibility

The Lufthansa Group follows the principles of entrepreneurial practice, which are firmly anchored in the company's values and management principles, including its Mission Statement. In our corporate strategy we set ourselves the goal to increase company value, to expand and strengthen our leading market position by taking an active part in shaping the evolution of the aviation industry, to improve customer satisfaction and to apply sustainable business principles in both the economic and ecological sense. To depict corporate responsibility in all its dimensions and to make it understandable for stakeholders, the Group has developed a model comprising five dimensions or subject areas: economic sustainability, social responsibility, climate and environmental responsibility, corporate governance and compliance and corporate citizenship (see illustration at right).



“ Sustainable corporate management is a fundamental underpinning of our activities. In this context, it is our goal to apply innovative services and products to create long-term positive value for our shareholders, customers, employees and for the good of society. By making a contribution to earnings, our corporate program SCORE creates an important prerequisite and the necessary scope of action for sustainable business practice. **”**

Christoph Franz
Chairman of the Executive Board and CEO, Deutsche Lufthansa AG



Presentation on the topic of corporate responsibility during the Lufthansa Group's Environmental Forum

Climate and environmental responsibility

Social responsibility

Economic sustainability

Corporate governance and compliance

Corporate citizenship

Economic sustainability

The focus of our attention is on our customers and their mobility needs. In our endeavors to improve and evolve continuously, we count on long-term value creation, a circumspect management of opportunities and risks, a consistent management of our supply chains and a constructive dialogue with our stakeholder groups. Our goal: to increase the company's value by applying sustainable business principles.

Corporate governance and compliance

The Lufthansa Group regards effective, responsible corporate governance and control, and careful adherence to laws and regulations as self-evident – and it expects the same of its suppliers. Openness and clarity in communications create the conditions for maintaining and expanding the trust of investors, employees and the public at large.

Climate and environmental responsibility

The Lufthansa Group uses all available means to lower its specific CO₂ emissions, implements environmental management systems and expands these measures further. Moreover, we continuously increase resource and energy efficiency and actively participate in noise and climate research projects. Our environmental and climate protection goals are guided by the established four-pillar strategy for air transport (see illustration on page 66).

“ Especially in times when companies and managers are the targets of public criticism, anchoring sustainability and shouldering responsibility are important values for creating credibility. This applies as much to conducting business as to respecting ecological and social aspects. Against the background of the company's current restructuring processes, this is a particular challenge. But sustainability in this context also means creating new structures to be able to operate successfully long-term. ”

Simone Menne
Chief Officer Finance and Aviation Services, Deutsche Lufthansa AG

Social responsibility

The Lufthansa Group applies strict moral standards to its own actions. Our corporate culture is characterized by the fair treatment of and diversity among staff. The health and safety of our employees enjoy the highest priority, as do broad offers for continuing education and the possibility to balance their professional and private lives.

Corporate citizenship

The Lufthansa Group supports projects in areas of social concerns, culture, education, environmental sponsorship and sports. In addition, the Group's employees are committed to social concerns through volunteer work – including for the organizations HelpAlliance or Cargo Human Care.



Regular exchanges at the upper management level

The Corporate Responsibility Council (CRC) ensures the effective management and control of all topics and processes with relevancy for sustainability within the Lufthansa Group. The CRC is headed by the Senior Vice President Group Strategy. This interdisciplinary and interdepartmental committee is situated at the upper management level and provides the fundamental framework for the activities and projects in this area. Apart from the Senior Vice President Group Strategy, the CRC's members include the heads of the Group departments in charge of political issues, environmental issues, human resources, legal issues, communications, investor relations, controlling and corporate sourcing. The council meets twice a year.



“In aviation there is a great deal of harmony between economic and ecological goals. The latest aircraft generations are not only more fuel-efficient and thus significantly more cost-effective to operate, but they also make an important contribution to reducing emissions of pollutants and noise. Lufthansa is investing in modernizing its fleet like never before. In a parallel move, substantial sums are also being invested in active noise protection. **”**

Carsten Spohr
Chief Executive Officer Lufthansa German Airlines, Deutsche Lufthansa AG

Sustainability activities are recognized again

Respected external sustainability analysts and rating agencies regularly review and evaluate the Lufthansa Group with regard to sustainable business practices. As a result, the aviation company was able to maintain its position in 2012 in several sustainability indices, including the FTSE4Good and the ESI (Ethibel Sustainability Index). Additionally, the renowned rating agency ECPI, which specializes in sustainability, included the Lufthansa Group in two of its indices during the reporting year. The Group has also participated since 2006 in the Carbon Disclosure Project (CDP). The goal of this independent investor initiative with worldwide scope is to persuade companies not only to disclose their CO₂ emissions but also their strategies to reduce them. In 2012, the Lufthansa Group again achieved an improved rating compared with the preceding year.



Forerunner in the UN Global Compact

The Lufthansa Group is committed to the principles of the UN Global Compact, the largest initiative worldwide for responsible corporate management. In 2002 Lufthansa was the first aviation company to become a member of the initiative that had been set up two years earlier by the then UN Secretary-General Kofi Annan. The participating companies have agreed to align their business activities and strategies with ten universally accepted principles concerning human rights, labor standards, environmental protection and anti-corruption measures (see details on page 23).

Since then, the company has launched numerous programs and activities whose scope was guided by the principles of the UN Global Compact. This includes the Compliance Program (2004), the Strategic Environmental Program (2008) and the greater emphasis of the topic of corporate responsibility in the Procurement Guideline (2012, see on page 23). In addition, the then Chairman of the Executive Board and CEO of Deutsche Lufthansa AG, Wolfgang Mayrhuber, signed an international CEO declaration in December 2008 concerning compliance with and promoting human rights within the company's sphere of influence. At the same time, the company asks its employees to participate in an e-learning program on the topic of human rights on a page of the

UN website. The Sustainability Report *Balance* documents the progress achieved in each reporting year concerning the ten principles of the UN Global Compact.

The Lufthansa Group is a member of the International Chamber of Commerce (ICC Deutschland), which defines rules and standards for business. For example, the ICC has been active for more than 30 years in combating corruption and ratified an environmental charter as long ago as the early 1990s, which shows a fundamental shift in how companies perceive their responsibility for the environment. In addition, Lufthansa is a member of Deutsches Netzwerk Wirtschaftsethik e.V. (German Network for Business Ethics) and of Transparency International.

Even more sustainability in procurement

In the context of the 2012 update of its procurement guidelines, the Lufthansa Group placed even more emphasis on corporate responsibility. Now all suppliers must agree to several obligations in the areas of social responsibility as well as climate and environmental responsibility as part of standard contracts. They must adhere to the ten principles of the UN Global Compact and the four core labor standards of the International Labor Organization (ILO). Suppliers also must respect the Lufthansa Group's Environmental Protection Guidelines and permit unannounced audits carried out by the aviation group. And lastly, suppliers must grant Lufthansa the right to terminate contracts in the event of breaches of the obligations named above. By including these stipulations in contracts the Lufthansa Group ensures that the topic of sustainability is taken seriously and filled with life along the supply chain as well.



Ten principles of the UN Global Compact

Human rights

- Businesses should support and respect the protection of international human rights within their sphere of influence and
- make sure their own corporations are not indirectly linked to human rights abuses.

Labor

- Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- eliminate all forms of forced and compulsory labor;
- effectively abolish child labor; and
- eliminate any discrimination in respect of employment and occupation.

Environment

- Businesses should support a precautionary approach to environmental challenges;
- undertake initiatives to promote greater environmental responsibility; and
- encourage the development and diffusion of environmentally friendly technologies.

Anti-corruption

- Businesses should work against corruption in all forms, including extortion and bribery.

 www.unglobalcompact.org

“ Alongside their professional qualifications it is the basic ethical attitude of managers and employees at the Lufthansa Group that is a culture-defining factor with decisive importance for our long-term success as a company. This is even more crucial than ever at a time when we're joining forces to set profound change in motion. **”**

Stefan Lauer
Chief Officer Group Airlines & Corporate Human Resources, Deutsche Lufthansa AG (until 30 June 2013)



Corporate Responsibility

Highlights and awards* 2012



2/2

Lufthansa Group extends partnership with the German Sports Aid Foundation

The Group will remain a National Sponsor of the German Sports Aid Foundation for another four years.



1/12

First scheduled transatlantic flight with biofuel in the USA

For the first time, a Lufthansa Boeing 747-400 fueled with about 40 tonnes of a biokerosene mix flies from Frankfurt to Washington D.C.



2/6

Presentation of the project "Management Landscape 2020"

Based on this project, the Lufthansa Group aims at increasing diversity within the ranks of its managers.

3/8*

LSG Sky Chefs Hong Kong: honored for reducing CO₂ emissions

The Hong Kong airport operator (AAHK) honors the local LSG Sky Chefs operations with the "Most Effective Carbon Reduction – Gold Award."



3/9

Positive test results on biokerosene

Scientists of the German Aerospace Center confirm that the biosynthetic kerosene which the Lufthansa Group used in scheduled flight operations between Hamburg and Frankfurt is suitable for everyday use.



4/24*

LSG Sky Chefs Seattle: award-winning commitment to environmental issues

The LSG Sky Chefs operations in Seattle receive the "Green Gateway Environmental Excellence Award" in the category "Environmentally-friendly performance."



3/19

Lufthansa Technik starts operation of cogeneration plant in Hamburg

This plant allows the provider of aviation services to avoid emissions of 7,200 tonnes of CO₂ per year.

4/3

Launch of a research cooperation to produce biokerosene

Deutsche Lufthansa AG will in future cooperate closely with Leuphana University Lüneburg and INOCAS, a company specialized in raw materials concepts. The goal is to develop application-oriented solutions for producing alternative fuels in sustainable ways.



5/8*

Lufthansa Group receives the award "Gold Eco Airline of the Year"

The U.S. trade publication "Air Transport World" honors the Lufthansa Group for its commitment to environmental and sustainability issues.



5/18-25

Lufthansa Festival of Baroque Music

This festival has been part of the Lufthansa Group's commitment to sponsoring cultural events for 28 years.

**Lufthansa
Festival
of Baroque
Music 2012**

5/23

Lufthansa CityLine again recertified and revalidated

Once again, Lufthansa CityLine receives official proof of successful environmental management.



5/24*

AI Rail serves as a model worldwide

The cooperation between Lufthansa and Deutsche Bahn receives the Global AirRail Award as the "Integrated Air-Rail Partnership of the Year."



6/5-6

Research project "burnFAIR" at the "Woche der Umwelt" in Berlin

During the "Woche der Umwelt" (Week of the Environment) in Berlin the Lufthansa Group presents "burnFAIR," the first regular use of bio-kerosene in scheduled flight operations. Germany's Federal President in cooperation with the Deutsche Bundesstiftung Umwelt (German Federal Environmental Foundation) had invited companies to participate in the event, which took place in the garden of Schloss Bellevue.



6/22

Balance 2012 is published

Christoph Franz, Chairman of the Executive Board and CEO of Deutsche Lufthansa AG, presents the Lufthansa Group's sustainability report at a press conference.

7/7

Climate research on scheduled flights

The Lufthansa Airbus A340-300 "Viersen" has been collecting atmospheric trace elements in the service of science for a year.

7/8*

"Airline Strategy Awards": Lufthansa Group ranks first

The respected British trade publication "Airline Business" honors the Lufthansa Group with first place at the "Airline Strategy Awards" in the category "Environment."



7/9

Lufthansa Cargo has already replaced half of its freight containers with new lightweight models

Germany's largest freight airline is currently replacing its transport containers, meaning that about 5,000 new lightweight containers will be in service in the years ahead.



8/1*

Seeheim honored as "Certified Green Hotel"

The Lufthansa Training & Conference Center Seeheim has been certified by the German Association of Travel Management for its sustainable characteristics.

8/16*

"Fraport Energy Award" for LSG Sky Chefs

LSG Sky Chefs Frankfurt International GmbH receives the "Fraport Energy Award" 2012 in the category "Greatest Savings."



9/5*

"World Savers Award" for the Lufthansa Group

For the second time in a row, the Group is honored for its commitment to sustainable business practices – with the first prize in the category "Doing it All" at the "World Savers Awards" of the U.S. travel magazine Condé Nast Traveler.



10/31*

Environmental award "ÖkoGlobe 2012" for Lufthansa Cargo

The freight airline receives this award for the development and operation of lightweight containers.



11/28

Commitment to climate research

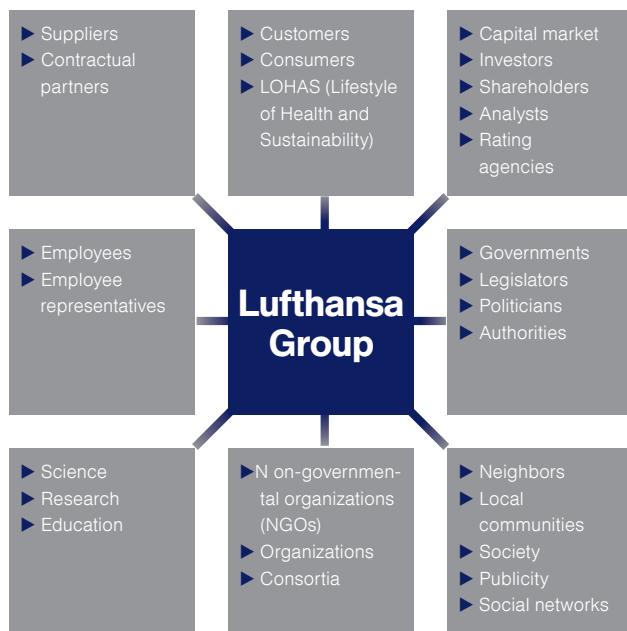
The Lufthansa Airbus A340-600 "Leverkusen" has covered 2 million flight kilometers in the context of the research project CARIBIC.



Stakeholder dialogue

Continuous exchanges with stakeholder groups

The Lufthansa Group places great importance on a regular and trusting dialogue with all stakeholder groups. These include customers, suppliers, investors, lawmakers, municipalities, neighbors and scientists as well as employees. The aviation group always makes their interests, expectations and experiences part of its business actions.



In 2012, these were the most important stakeholder activities:

Survey of experts

With the goal of identifying and prioritizing sustainability topics, we conducted an expert survey involving 21 different stakeholders in 2012. This meant mostly personal interviews with status customers, representatives of non-governmental organizations, people living near airports, investors, customers, employees and scientists.

The spectrum of topics comprised all dimensions of corporate responsibility. Respondents could indicate the importance they attach to individual activities of the Lufthansa Group on a scale from 1 (very important) to 6. The goal was to determine how the Lufthansa Group is perceived by stakeholders concerning these sustainability-related topic areas and where the Group should increase its activities. The results of this survey gave the Lufthansa Group important indications for further developing and expanding the dialogue with stakeholder groups. For example, since the beginning of 2013 the new format "Key phrase of the week" has made an additional information service concerning topics from all areas of sustainability available at our website.

 www.lufthansagroup.com/responsibility



Passengers/customers

Customers are always at the center of the Lufthansa Group's attention. Their satisfaction is an important concern for the aviation company. For this reason, Lufthansa German Airlines has continuously and systematically used the CPI (Customer Profile Index) for more than a decade to measure how satisfied its passengers are. The index is composed of customer evaluations that depict the entire service chain and thus expresses overall customer satisfaction. The scores show that the CPI increased by 83 points to 7,731 points in 2012. Further improvements could be observed in particular concerning the evaluation of the timetable, punctuality, ground product and the general attitude toward Lufthansa German Airlines.

More than 1,000 top customers participated in a "Passenger Experience Day" in May 2012 at the Airbus A380 maintenance hanger in Frankfurt to gain more insights about Lufthansa. They were able to see for themselves, for instance, that both the investments of billions of euros for new aircraft, services and products and the corporate program SCORE share a common goal: to expand the position of the Lufthansa Group as number one in Europe and as one of the leading aviation groups worldwide in the future as well. The "guest of honor" of this event was the new Lufthansa Boeing 747-8.

Investors

In the financial year 2012, the Lufthansa Group informed its investors in the usual timely, comprehensive and factual manner to give them a current and transparent picture of the Group and its perspectives. This is a fundamental prerequisite for gaining and maintaining the trust of shareholders. Members of the Executive Board and employees of the department Investor Relations informed institutional investors about the development of the Lufthansa Group at quarterly conferences as well as during 18 road shows and nine investors' conferences. In this context, they also conducted more than 200 individual and group discussions. Additionally, representatives of Investor Relations answered all questions from private investors at three dedicated forums. The offer for individual investors is complemented by "Shareholder Information," which was published twice in 2012.

In addition to the regular annual and quarterly reports, the Lufthansa Group publishes "Investor Info" on a monthly basis to inform the capital market about the latest development in the traffic figures of the flying companies and current topics from across the Group. In addition, providers of outside capital and bondholders may receive the publication "Creditor Info" several times a year, containing information relevant for their concerns. All publications, financial reports, presentations, background information, speeches and current news are available on the Internet to anyone interested.

 www.lufthansagroup.com/investor-relations



"Ask Franz" – Once a month, the CEO answers employees' questions on current issues in a video interview.



"Breakfast with the Board" – The Executive Board explains its positions and fields questions at these small-group dialogue events.



"Executive Board in Dialogue" – More than 50 of these events have been planned worldwide to the end of 2014.

Employees

During the reporting year, the company again intensified its communication activities with employees in Germany and abroad by launching new dialogue formats, such as "Ask Franz," "Breakfast with the Board" and "Board in Dialogue." The Executive Board and representatives of the expanded top management of the Lufthansa Group are in regular dialogue with the employees to inform them about the company's development and to learn as much as possible about their wishes, expectations and needs.

"Ask Franz" is a new dialogue platform on the intranet that allows employees to ask their questions concerning current topics directly. Once a month, the Chairman of the Board personally responds to the three most important questions in a video interview. In 2012, the scope of topics ranged from the corporate program SCORE and the company's economic situation to the new business model of Germanwings and issues related to fleet strategy.

"Breakfast with the Board" gives employees from different business segments the opportunity to discuss the current situation of the Lufthansa Group with a board member in a relaxed atmosphere and thus to obtain information firsthand.

"Board in Dialogue" is a dialogue event that makes Lufthansa's Executive Board available to the managers and employees of a particular location. More than 50 such events are scheduled to the end of 2014 at the Group's worldwide locations. They aim at intensifying the direct dialogue with employees, to get a feeling for their mood and to further increase transparency. At the same time, it is an important concern for the board to contribute to the understanding of the strategy and to shape the company's future together with the employees.

Concurrently, the established, decentralized Town Meetings at many locations again offered a platform in 2012 for exchanges between management and employees at Group companies. Such meetings took place, for example, at the company's locations in Berlin, Singapore and New York as well as at Eurowings in Düsseldorf and Lufthansa Cargo in Frankfurt.

In addition, local managers maintain a regular dialogue with employees, as demonstrated by the example of the "m.i.n.d. Lounge" (German acronym for "employees – information – news – dialogue") at Lufthansa German Airlines. This series of events offers the employees in the operational areas at the Frankfurt station a guided tour of the company's strategy, competitive environment and current projects. The personal dialogue with a group or department head complements these events. About 2,000 employees visited the first series with 170 events during the reporting year.

In addition to dialogue-based communication formats, employee surveys provide important mood "snapshots" concerning the employees' satisfaction. This includes the "Employee Feedback Management," which Lufthansa implemented in 2012 for the eighth time. Under the motto "Your Opinion Counts" many employees again participated in the survey (see "Employee Feedback Management" on page 58).

Lawmakers

The Lufthansa Group also maintains a comprehensive and ongoing dialogue with representatives of Germany's federal and state governments. The Group is also active at the international level to make its position clear in the context of proposed legal and regulatory guidelines. Additionally, the aviation company's experts contribute their expertise to numerous projects and initiatives, such as the planned unified airspace over Europe.

Municipalities and neighbors

The Lufthansa Group also maintains intensive exchanges with mayors and municipal administrations of the communities around its most important company locations. For example, the Group has been actively involved since 2009 in Frankfurt in the "Airport and Region Forum" in order to develop effective noise protection in cooperation with the partners in the forum (see "Noise" on page 86).

The information center of the "Environment and Community House" in Kelsterbach near Frankfurt, which opened in April 2013, is a visible expression of the efforts aimed at creating good neighborly relations. The history of the expansion of Frankfurt Airport is shown in all its aspects under the title "Protest. Mediation. Dialogue. The Frankfurt Airport, the region and its people." There are also interactive exhibition spaces dedicated to topics such as "Noise and sound" or "Aviation and environment" as well as the airport's importance for the economy and the job market. In addition, the house will offer temporary exhibits on specific topics leading to the opportunity to discuss technical subjects. The most important goal is to improve the communications and the cooperation between Frankfurt Airport, its users and its neighbors in a continuous and lasting manner. Together with other system partners, Lufthansa supports the project with contents and funding.

System partners, scientists and researchers

The Lufthansa Group maintains continuous exchanges with scientists and researchers. The scope ranges from working with students and doctoral candidates to the annual organization of the worldwide student competition Lufthansa Case Challenge and concrete research cooperations. For example, the Group closely cooperates with the European School of Management and Technology (ESMT) in Berlin and supports the expansion of the competency emphasis in

the area of competition and regulation by providing a sponsored professorship.

Third "Cargo Climate Care Conference"

The ongoing dialogue with customers, scientists, environmental organizations and lawmakers is an important concern for Lufthansa Cargo. Thus, on 24 April 2013 the logistics specialist organized its third environmental conference. Against the background of the omnipresent climate debate, numerous industry experts made presentations and discussed the megatrends in logistics and the resulting environmental requirements, including those requirements developed on the basis of a futuristic study that presented five logistics scenarios. The Senckenberg Museum in Frankfurt, with its captivating climate exhibit "Planet 3.0," was the venue for this event. During the conference Lufthansa Cargo presented the Cargo Climate Care Award – whose motto was "More ideas for lower emissions" – to customers and employees whose innovations and commitment helped improve the climate balance sheet of air cargo.

Environmental Week

At the invitation of Germany's Federal President, the Lufthansa Group participated in the "Environmental Week" which took place in the park of Schloss Bellevue in Berlin. At the beginning of June 2012, the Group presented its research project "burnFAIR" which served to test the use of bio-kerosene on a Lufthansa Airbus for six months under the conditions of scheduled operations (see "Using bio-fuels opens up perspectives" on page 76).



Exhibition space with interactive displays at the Information Center of the Environment and Community House.

The Lufthansa Group fleet

Billions for quieter and more efficient aircraft

Aircraft are the Lufthansa Group's most important means of production. A modern and well-structured fleet is the basis for economic success, as it secures the competitiveness of the aviation group. Advanced aircraft increase passenger comfort and by means of their efficiency reduce not only fuel and operational costs but also the environmental effects of flying, as they emit less CO₂ and noise.

The Lufthansa Group works continuously on modernizing its fleet and has added numerous new, fuel-efficient aircraft, such as the Airbus A380 or most recently the Boeing 747-8. In addition, on 13 March 2013 the Supervisory Board approved the acquisition of a total of 108 further new aircraft for the Group: six Boeing 777-300ER aircraft for the Lufthansa subsidiary SWISS as well as two Airbus A380s and 30 Airbus A320ceo (Current Engine Option) aircraft and 70 Airbus A320/321neo (New Engine Option) aircraft for Lufthansa German Airlines.

Overall, the Lufthansa Group expects a total of 236 aircraft with an order value of 22 billion euros (at list prices) to be delivered by the end of 2025. This is the largest investment in the fleet in the company's history.

The aircraft on order cover the growth and replacement needs for the short- and medium-haul segments until 2025. "We always adapt our fleet in a proactive manner to secure existing markets and to open up new ones," explains Nico Buchholz, Executive Vice President Group Fleet Management at Deutsche Lufthansa AG. "This fleet modernization allows us to position ourselves successfully in the highly competitive passenger business, to grow further and to fly more economically and environmentally compatibly at the same time."

Shared specifications mean lower costs

The aviation group is planning harmonized basic standards for its flying companies concerning the equipping of aircraft and cabins. Harmonizing interests and pooling purchasing power leads to cost advantages when ordering aircraft and spare parts, for example. Additionally, maintenance processes can be adapted. The basic version of a type of aircraft is to be agreed jointly within the Group to give the Group airlines the reference point for individual detail specifications, which should deviate as little as possible from one another in the interest of flexibility.

627 aircraft in the fleet

The Lufthansa Group added 41 aircraft to its fleet in 2012. On 31 December 2012, the Group fleet comprised 627 aircraft. This includes the aircraft of Lufthansa German Airlines (including Germanwings and regional partners), SWISS, Austrian Airlines and Lufthansa Cargo. All Lufthansa Group aircraft are continuously being optimized with regard to noise emissions and fuel consumption.



A Lufthansa Boeing 747-8



German Chancellor Angela Merkel, State Prime Minister Matthias Platzeck and Lufthansa Group CEO Christoph Franz (and others) during the naming ceremony of the Boeing 747-8 "Brandenburg" at the ILA Berlin Air Show 2012. Traditionally, aircraft in the Lufthansa fleet are named after German cities and states. With the launch of the Lufthansa A380 in 2010, international metropolises also became sponsoring cities.

An overview of current developments at the Group companies:

Lufthansa German Airlines

Lufthansa German Airlines continues to make significant investments in modernizing its fleet. In 2012, the airline took delivery of two further Airbus A380s and the first four Boeing 747-8s from the manufacturers, among others. At the same time, the airline introduced its new full-flat Business Class seat on the Boeing 747-8s and the newly delivered Airbus A330-300s.

Boeing 747-8 – the "Queen of the Air"

On 1 June 2012, Lufthansa German Airlines became the first airline worldwide to launch scheduled services with the new Boeing 747-8, which some enthusiastically call the "Queen of the Air." The Boeing 747-8 is an aircraft newly developed in its entirety and based on the positive characteristics of Boeing's 747 family, which has proved successful at Lufthansa for more than 40 years. The wings of the Boeing 747-8 are characterized by a significant improvement in aerodynamics and have newly developed wing tips.

In addition, the aircraft offers perceptible improvements in the area of environmental effects. The GEnx-2B67 engines consume less fuel and thus achieve a 15 percent improvement in fuel efficiency and CO₂ emissions per passenger. Thanks to the so-called chevrons on the exhaust nozzle and the nacelles of the newly developed engines, noise emissions are 30 percent lower than those of the predecessor model. These chevrons cause a better mixing of the turbulent shear

layer, the strata of air between the hot, fast exhaust jet from the engine's turbine and the cold bypass stream that flows around the engine's core. Additionally, the chevron concept is used for the external edge of the nacelles of the engines, which lowers the noise emissions generated at that point. Lufthansa was involved in the development of this type of noise-reducing jet engine. In 2001, the airline and the German Aerospace Center used overfly measurements to demonstrate that chevrons on the exhaust nozzle reduce the exhaust jet noise of an Airbus A319 engine by about 1 dB(A).

Another advantage of the Boeing 747-8 in comparison with the predecessor model is the lower level of maintenance costs. Lufthansa has ordered 19 of the new long-haul aircraft.

A320, A320neo and A321neo on approach

Lufthansa German Airlines will receive 22 new Airbus A320s by early 2015, the first of which was delivered on 27 February 2013. All aircraft of this type are equipped with so-called sharklets. These wing extensions are bent upwards and reduce the lift-related resistance at the wingtips – where the high pressure on the wing's underside and the low-pressure of the wing's top side balance each other and produce so-called vortices. Consequently, only relatively small boundary vortices are produced. The airline has calculated that an A320 with sharklets can achieve fuel savings of up to 4 percent and a corresponding reduction in CO₂ emissions, depending on route lengths. As fuel savings are above all realized during a flight's cruise phase, Lufthansa traffic management will deploy the A320s with sharklets primarily on longer European routes.



Fleet modernization at Lufthansa CityLine:
Embraer 190/195 aircraft score points with low emissions values.



A Germanwings Airbus A319

Lufthansa CityLine

Embraer 190/195s replace Avro RJ85s

After 18 years of service, Lufthansa CityLine bids farewell to its Avro fleet: On 27 August 2012 the last of 18 Avro RJ85s made its final scheduled flight. The airline is replacing the 93-seat Avro with the Embraer 190/195. This modern twin-engine aircraft with 100 to 120 seats is characterized by high levels of fuel efficiency and low emission values for pollutants and noise alike. It consumes just over 3 liters of kerosene per passenger and 100 kilometers – an extremely low consumption value for a regional aircraft. By retiring the Avros, Lufthansa CityLine has taken an important step forward in modernizing its fleet.

The Lufthansa subsidiary has focused on the Frankfurt and Munich hubs since September 2012. The previous diversity in its fleet has been limited to Embraer and Bombardier CRJ aircraft. This reduces the organizational and operative effort in flight operations and maintenance – which also lowers operating costs.



Starting in 2014, SWISS will receive the highly efficient CSeries aircraft manufactured by Bombardier.

Germanwings

"Highly reliable" Airbus operator

The Lufthansa subsidiary Germanwings operates a pure Airbus A319 fleet. Aircraft manufacturer Airbus has given the airline an award for the "Highest reliability of all Airbus operators" in the category Airbus A319. At the beginning of 2013 the airline took delivery of four new Airbus A319s. Two more aircraft of this type will be added to the fleet in 2014.

SWISS

Airbus A330-300s replace A330-200s

In 2012, SWISS replaced more long-haul Airbus A330-200 aircraft with the larger and more efficient A330-300s. The latter consume about 11 percent less kerosene than their predecessors. SWISS will operate a total of 15 A330-300s in the future. In addition, the airline will take delivery of 30 CSeries aircraft from Bombardier starting in 2014, which will replace the Avro RJ100 regional aircraft currently in operation.

Austrian Airlines

Homogenous A320 fleet is the goal

The Austrian Airlines Group is making headway in standardizing its medium-haul fleet. In the future, Austrian will operate a homogenous A320 fleet for its continental operations. In addition, the airline phased out the last Boeing 737s in its fleet in spring 2013. Meanwhile, Austrian Airlines has transferred its flight operations to its wholly-owned subsidiary Tyrolean Airways and therefore now flies "operated by Tyrolean."



Lufthansa Cargo will receive five Boeing 777F freighter aircraft.



A Boeing 777 of Lufthansa subsidiary Austrian Airlines

Lufthansa Cargo:

Boeing 777F set to arrive at the end of 2013

Lufthansa Cargo will receive its first two Boeing 777Fs at the end of 2013. Three further aircraft will be delivered in 2014 and 2015. The Boeing 777F is considered the most modern, efficient and quietest freight aircraft in its class. According to its manufacturer it offers higher efficiency and greater capacity than any other twin-engine freighter, especially on long-haul routes.

The Lufthansa Group fleet

As per 31.12.2012

(changes compared with 2011)

	in possession ¹	age ¹	in operation ²	age ²
Lufthansa	360 (+ 5)	10.9 (- 0.6)	276 (+ 1)	12.2 (- 1.0)
LufthansaCityLine	34 (- 7)	9.3 (- 0.3)	60 (+ 3)	5.6 (- 0.7)
Air Dolomiti	6 (± 0)	11.2 (+ 1.0)	16 (± 0)	8.3 (+ 0.2)
Augsburg Airways	0 (± 0)	0.0 (± 0)	14 (± 0)	8.0 (+ 1.4)
Contact Air	0 (± 0)	0.0 (± 0)	2 ³ (- 6)	22.4 (+ 4.6)
Eurowings	1 (- 4)	10.0 (+ 0.5)	23 (± 0)	2.7 (+ 1.0)
Germanwings	32 (+ 2)	7.0 (+ 0.6)	32 (+ 2)	7.0 (+ 0.6)
SWISS (including Edelweiss Air)	92 (- 1)	11.8 (+ 0.3)	91 (+ 5)	11.8 (+ 0.3)
Austrian Airlines	84 (- 4)	13.5 (+ 1.0)	78 (- 3)	13.6 (+ 1.0)
Business segment Passenger Airline Group	609 (- 9)		592 (+ 2)	
LufthansaCargo	18 (± 0)	14.7 (+ 1.0)	18 (± 0)	14.7 (+ 1.0)
Business segment Logistics	18		18	
Lufthansa Group	627 (- 9)	11.2 (- 0.1)	610 (+ 2)	11.0 (- 0.3)

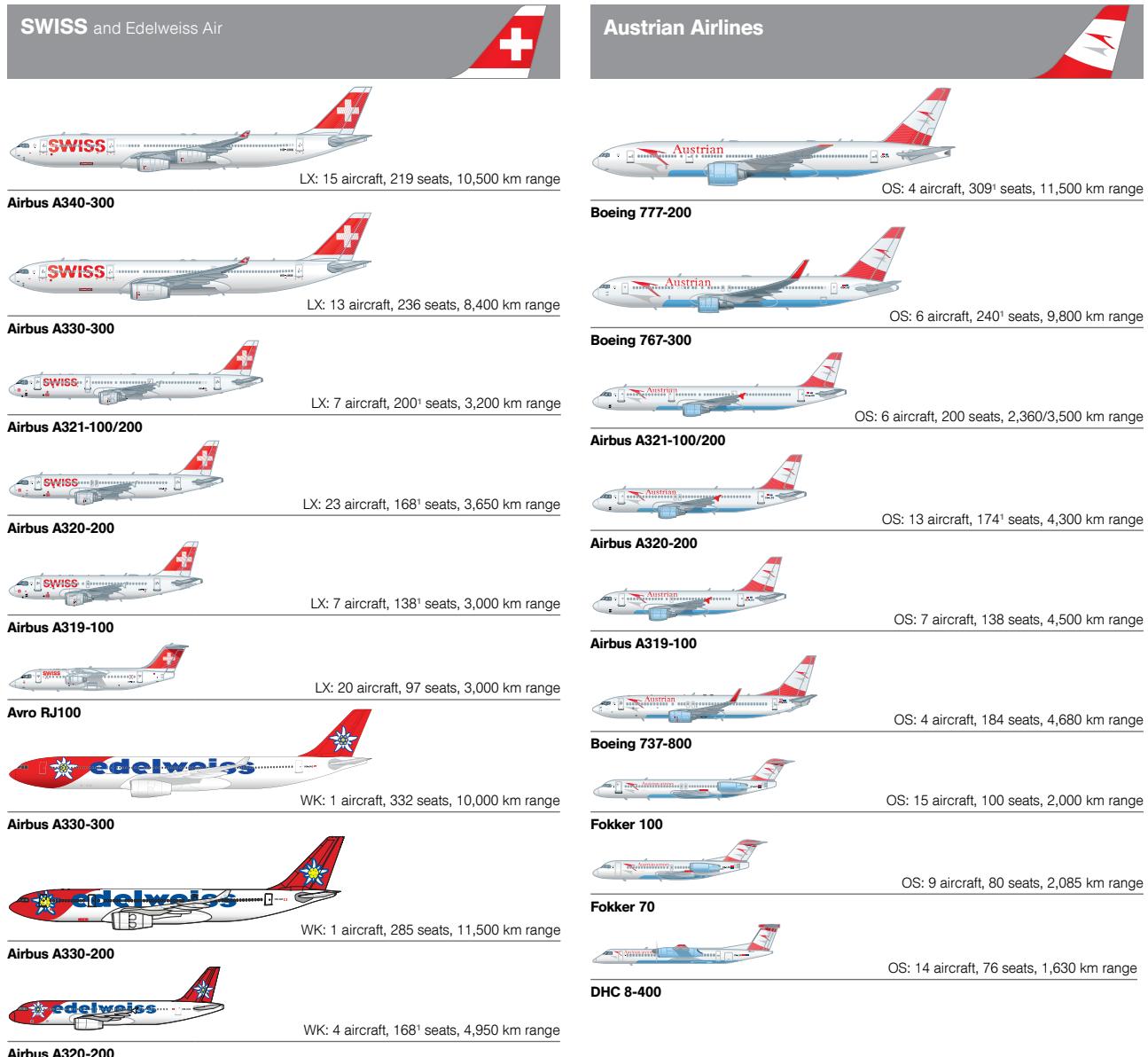
1 Aircraft in the Group's possession

2 Aircraft operated by the Group

3 Operations of the last two Fokker 100s for SWISS ended in January 2013.

The operating fleet of the Lufthansa Group

Lufthansa and regional partners	
	LH: 22 aircraft, 120 seats, 1,950 km range
Boeing 737-500	
	LH: 14 aircraft, 140 seats, 2,000 km range
Boeing 737-300	
	CL: 19 aircraft, 120 seats, 2,450 km range EN: 6 aircraft, 120 seats, 2,450 km range IQ: 5 aircraft, 120 seats, 2,450 km range
Embraer 195	
	CL: 9 aircraft, 100 seats, 3,390 km range
Embraer 190	
	IQ: 9 aircraft, 76 seats, 1,020 km range
DHC 8-400	
	CL: 12 aircraft, 90 seats, 2,260 km range EW: 23 aircraft, 90 seats, 2,260 km range
CRJ900	
	CL: 20 aircraft, 70 seats, 2,310 km range
CRJ700	
	EN: 10 aircraft, 64 seats, 900 km range
ATR72-200	
Germanwings	
	4U: 32 aircraft, 150 ¹ seats, 3,500 km range
Airbus A319-100	
Lufthansa Cargo	
	LH: 18 aircraft, 516 m ³ /89.4t, 7,000 km range
Boeing MD-11F	



Range indicated in general with maximum number of passengers or payload, respectively. Number of aircraft in operation on 31.12.2012

¹ maximum number of seats, different versions in operation

Legend

4U =	Germanwings
CL =	Lufthansa CityLine
EN =	Air Dolomiti
EW =	Eurowings
IQ =	Augsburg Airways
LH =	Lufthansa, Lufthansa Cargo
LX =	SWISS
OS =	Austrian Airlines
WK =	Edelweiss Air

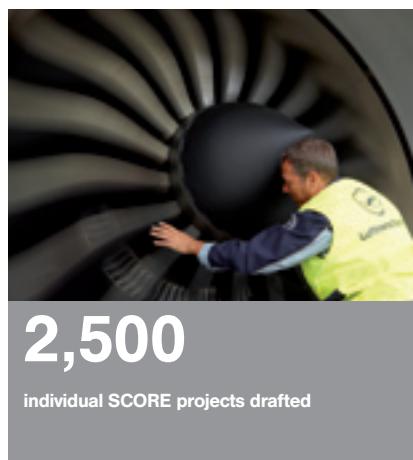


SCORE 

Change for Success

Economic Sustainability

The Lufthansa Group counts on increasing the company's value long-term by following the principles of sustainable business. With our corporate program SCORE, we aim to increase the operating result sustainably to 2.3 billion euros by 2015. This requires efficiency increases at all levels and in all business segments. At the same time, we are investing in competitive infrastructure and innovative products.



Group strategy

SCORE: our corporate program is on track

The Lufthansa Group's corporate program "SCORE – Change for Success" is on schedule and in 2012 even achieved results that were significantly ahead of the objectives. By now, SCORE comprises more than 2,500 individual projects, of which about 800 have already been implemented. They all share the goal of reducing costs, increasing revenues and above all optimizing structures. In this way, the Group secures its capacity to actively shape the future over the long term.



SCORE helps the Lufthansa Group to grow profitably in the future and to maintain its room for maneuver in shaping investments in a modern fleet and innovative products. This secures the company's competitiveness and thus jobs over the long term. In this way, the entire Group also becomes more efficient, faster and more agile in the market, which makes it more attractive for customers, investors and employees at the same time. SCORE allows the Lufthansa Group to participate in shaping changes in the aviation industry from a position of strength.

To this end, SCORE is to improve the operating result to 2.3 billion euros by 2015 in a sustainable manner. "The corporate program SCORE strengthens the Lufthansa Group. We need this strength to make comprehensive investments for our customers and to take an active part in shaping the airline industry," explains Christoph Franz, Chairman of the Executive Board and CEO of Deutsche Lufthansa AG.

As a verb, SCORE means "to achieve something" and "to pick up points." The program's name is also an acronym of the initial letters of the five focus areas on which SCORE concentrates: synergies, costs, organization, revenue and execution.

The SCORE program is geared to three levels: Group-wide projects, joint projects of the airlines in the Passenger Airline Group, and projects within individual companies. Each project passes through five phases: from concept, evaluation and detail planning to implementation and measuring success. The SCORE tracker gives everyone involved an instrument with which to monitor the current status of a given project.

Comprehensive Group-wide projects

One of the measures the Lufthansa Group is planning in the framework of SCORE is to combine administrative activities in finance, procurement and human resources and to introduce more efficient processes in the administration of the entire Group. For example, the company is working on standardizing the posting and settlement systems in accounting as well as the ordering procedures in procurement across the Group in order to reduce costs.

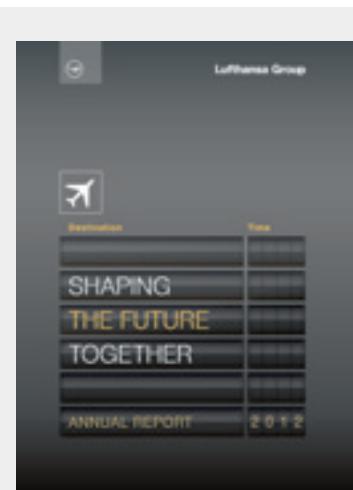
The aviation company has to cut 3,500 administrative jobs worldwide over the duration of SCORE. These changes will affect the company's locations in Cologne, Norderstedt and Hamburg in particular. Current plans call for the closure of headquarters in Cologne by the end of 2017, involving about 365 jobs. During the same period, the location of Lufthansa Revenue Services GmbH in Norderstedt is to be closed, affecting about 350 jobs. Additionally, Lufthansa is planning to shift 80 percent of the 200 jobs in Financial Services at the Group's administrative center in Hamburg to a specialized service center. Management is in discussions and consultations with employee representatives to find socially compatible solutions for the employees affected.

"SCORE creates the base for sustainable growth and jobs that are secure long-term – but to achieve this the Lufthansa Group has to reduce its personnel costs significantly. The planned steps are painful, but there's no way around them. There is no doubt that it is the Executive Board's responsibility to keep an eye on the entire ship. We have the responsibility for about 117,000 employees worldwide," says Christoph Franz.

Joint projects of the airlines

One of SCORE's tasks concerning the airlines within the Passenger Airline Group is to further harmonize the types of aircraft they will operate in the future. Working in close coordination, the departments aircraft procurement, MRO and marketing are currently developing basic specifications for aircraft and cabins that the individual airlines can use to define their detail specifications. This harmonization means more than cost advantages when ordering aircraft and spare parts as maintenance procedures can also be standardized (see "Billions for quieter and more efficient aircraft" on page 30).

But there are more areas where the Group companies are currently expanding their cooperation and organizing an increasing number of joint projects. The best example of a successful cooperation of the Group airlines is the setting up of a department in charge of the Group-wide SCORE project Fuel Efficiency (see "Fuel Efficiency: Every drop counts" on page 71). The airlines are also assessing how redundant structures in distribution and at stations can be eliminated, and they are defining shared processes on the ground.



Solid result in a difficult business climate

The Lufthansa Group increased its revenue in financial year 2012 by 4.9 percent to 30.1 billion euros. At 524 million euros, the Group's operating result was down 36.1 percent on the figure for the previous year. The main reason for this decrease in the operating result was the cost of fuel, which rose by 1.1 billion euros compared with the previous year.

The Lufthansa Group's broad strategic lineup again had a positive and stabilizing effect on the company's net result in 2012: All service-related business segments increased their operating results compared with the previous year.

In its first year, the corporate program SCORE produced an earnings contribution of 618 million euros – about 300 million euros more than planned. Making better use of synergies in purchasing, coordinating the timetables of all Group airlines, adapting capacities and lowering personnel costs through more efficient processes in administrative areas all contributed to this improvement, as did numerous measures which had been initiated before the official launch of SCORE but whose positive effects on earnings were only felt in 2012. For more information see the Annual Report 2012.

www.lufthansagroup.com/investor-relations

Projects at individual companies

With numerous SCORE projects, Lufthansa German Airlines aims at improving its economic efficiency for the long term. For example, the long-haul business is to become even more profitable than before by operating the latest aircraft models. Additionally, the airline is examining structures and processes in all areas on the ground, including those in administration and passenger handling. Once implemented, the measures of the SCORE program ensure that the company can react significantly faster to changing market conditions and customer requirements.

Furthermore, since 1 January 2013 Lufthansa has transferred the commercial and organizational aspects of its European connections outside the Frankfurt and Munich hubs to Germanwings, forming a company on the basis of Germanwings GmbH. In the past, both airlines offered intra-German and European direct flights. The "new" and upgraded Germanwings positions itself under the motto "inexpensive, but not cheap" as a quality product in the low-cost segment. By accomplishing this strategic setting of switches, Lufthansa has created the prerequisites for again flying profitably on European routes.



The "new" Germanwings positions itself as a quality airline in the low-cost segment.

New dialogue formats for informing employees

The Group has also given high priority to comprehensively informing employees about the reasons why SCORE is necessary. "Dialogue is at the very top of my list," emphasizes Christoph Franz. To explain the background of the corporate program to employees, the company has established several new communications formats. (see "Continuous exchanges with stakeholder groups" on page 26).

Additionally, representatives of the Group-wide SCORE teams have participated in departmental meetings on request since September 2012. Thanks to the format "Book a SCORE member" the SCORE experts have since reached more than 1,600 employees at about 50 events and responded directly to their questions. This offer of dialogue will continue in the usual form in 2013 and can now also be booked as a web conference. This makes it possible to reach stations outside Germany and teams who work at several locations in a simple and quick way.



Discussion on the harmonization of aircraft cabins in the framework of the SCORE project

Management and corporate structures

Lufthansa is a German stock company with headquarters in Cologne. The company employs the dual management and supervisory structure ordinarily followed in Germany. The Executive Board is solely responsible for steering the company, aligning it strategically and increasing its value long-term. The Supervisory Board appoints, advises and supervises the Executive Board. Deutsche Lufthansa AG fulfills two functions: It is the ultimate parent company and the largest operating company within the Group.

Shareholder structure

The Lufthansa share has been traded on German stock exchanges since 1966. It is represented in the German Share Index DAX and is part of the Prime Standard of Deutsche Börse (German Stock Exchange). Lufthansa fulfills the highest level of international transparency requirements related to this standing. The company's share capital is divided into 459.9 million registered shares, which are held by about 352,000 shareholders. At the end of 2012 the free-float quota for Lufthansa shares was at 100 percent. 40.1 percent of the equity capital was held by private investors, and 59.9 percent by institutional investors. The share of German shareholders was 66.0 percent. To maintain its international traffic rights and air transport operating permit, Lufthansa must be able to prove at any time that the majority of its shares are in German possession.

Corporate governance and compliance

In the Lufthansa Group, corporate governance is expressed as responsible company management and control that is aligned with sustainable value creation and adheres to high international standards. It is of central importance for increased transparency vis-à-vis shareholders and the continuous rise of trust in the company's management. The German Stock Corporation Act and the German Corporate Governance Code are key elements in this context. Deutsche Lufthansa AG fulfills the recommendations of the German Corporate Governance Code with few exceptions. For the

declaration of conformity pursuant to the German Corporate Governance Code, see the Group Management report in the Annual Report 2012 on page 24.

Furthermore, Lufthansa voluntarily signed up for the joint transparency register of the European Commission and the European Parliament. The goal of this public register, which was set up in June 2011, is to increase the transparency of decision-making processes within the EU and to ensure that the interactions between EU institutions and organizations, associations and companies are in conformity with current law and are carried out on the basis of ethical principles. By the end of 2012 more than 5,000 representatives of interests had registered.

The Lufthansa Compliance Program

Compliance describes all measures that ensure the lawful conduct of companies, their executive bodies and employees with regard to adhering to laws. The Compliance Program, which Lufthansa established in 2004, aims at keeping employees from breaking the law and training them in applying and interpreting legal norms. As an aviation company with global activities, the Lufthansa Group advocates fair competition, integrity and responsible action. The compliance guidelines are in unison with existing guidelines, programs and work regulations at the Lufthansa Group.

Organization

The Compliance Office, which was set up on 1 October 2007 within the central legal department, is responsible for the implementation, development and communication of the Lufthansa Compliance Program. In addition, the various Group companies have named Compliance Commissioners and Compliance Managers. The Compliance Office coordinates the investigation of circumstances relevant to compliance and in this context serves as a contact point for cartel and investigative authorities. In such cases, Lufthansa fully cooperates with the authorities. The core components of the Lufthansa Compliance Program are its compliance guidelines. These are binding internal regulations that give employees a precise framework for action which guarantees a standardized and law-abiding external conduct for Lufthansa. The company is not willing to tolerate possible violations of law on the part of its employees. Culpable breaches of law lead to consequences under labor law and may also entail personal liability.

The Lufthansa Compliance Program currently comprises four building blocks: Competition, Capital Market, Integrity and Corporate Compliance.

Competition Compliance

The module Competition Compliance introduces employees to the relevant regulations of cartel legislation, so as to minimize or exclude risks for Lufthansa in this area. All employees handling issues relevant to a cartel are trained in the fundamental regulations of European and national antitrust legislation.

Capital Market Compliance

The module Capital Market Compliance gives employees an overview of current capital market law, such as regulations relating to insider trading or ad hoc publicity. In this way and by means of appropriate training all employees and company bodies concerned receive an in-depth insight into regulations of the securities trading law.

Integrity Compliance

With the module Integrity Compliance, Lufthansa documents its fundamental approach of law-abiding conduct in business relationships. The obligation to adhere to non-corrupt and ethically correct conduct flows naturally from current law, the internal compliance guidelines and Lufthansa's memberships in relevant national and international organizations. Examples of these are Lufthansa's commitment to the principles of the UN Global Compact and its membership in Transparency International. The Integrity Compliance guideline provides support in handling invitations, gifts and other attentions.

Corporate Compliance

The module Corporate Compliance bundles those internal regulations that are considered essential for Lufthansa from a legal perspective and makes these transparent for employees.

Regular training

Automated IT processes ensure that all employees and executive bodies at Lufthansa participate once a year in the web-based trainings relevant for them (eLearning courses). The employees of the subsidiary companies can also access these eLearning courses and are partially included in automatic mailings of materials. As a complement to eLearning courses, the Compliance Office regularly offers trainings involving the participants' physical presence. Compliance trainings are also an integral part of leadership seminars, management courses and other internal continuing education and training events at Lufthansa.

Ombudsman system

The ombudsman system, which has been implemented worldwide, is an integral and tried-and-tested part of Lufthansa's Compliance Program. It was introduced on 1 December 2007 and serves both as an additional preventive measure against economic crimes. Relevant information can be given by employees or by third parties to an ombudsman outside the company, either by telephone, in writing or in person. This function is fulfilled by a lawyer who is fully bound by the legal obligation of professional secrecy and also has the right to refuse evidence vis-à-vis any public investigative authorities that might become active. The ombudsman passes any information received on to Lufthansa while respecting absolute confidentiality concerning the name and identity of the informant. The revealing of an informant's identity to Lufthansa or third parties without his or her consent is therefore ruled out.

Monitoring and reporting

All Compliance Commissioners of the Lufthansa Group meet once a quarter. Their goal is to inform about current new developments in the area of compliance and initiate the implementation of relevant measures.

In addition, self-audits and external audits take place to evaluate the effective implementation of the compliance program with reference to the current requirements in the context of the accounting modernization law. Furthermore, the Supervisory Board's Audit Committee is informed twice a year about current developments as they relate to compliance issues and the current state of the program's implementation within the Group.



Information stand on the topic of data protection at the Lufthansa Aviation Center in Frankfurt.

Conscientious and secure: Data protection at the Lufthansa Group

Handling personal data in a conscientious and secure manner is the very basis for trusting business relationships. Data protection must shield the Lufthansa Group's customers, shareholders, suppliers and employees from any infringement of their privacy due to incorrect handling of their personal data. Data protection is the responsibility of the Executive Board or the management board of a Group company. They are supported in exercising this responsibility by the department Corporate Data Protection, headed by Dr. Barbara Kirchberg-Lennartz.

The framework for data protection at the Lufthansa Group is provided by the Corporate Data Protection Guideline, which is based on laws such as Germany's Federal Data Protection Act and accepted principles of data protection. Corporate Data Protection comprises the obligations related to adhering to data protection and provides rules that ensure procedures in conformity with data protection across the Group, that make data protection risks transparent and safeguard against such risks.

The task of the department Corporate Data Protection is to ensure that the Lufthansa Group as a whole adheres to the stipulations of the Federal Data Protection Act, to familiarize employees with the relevant areas of the Act and to carry out data protection audits. Additionally, the data protection

experts advise individual departments when new systems are introduced or when processes are designed or changed. Issues related to data protection and economic considerations can thus be optimally coordinated at an early stage.

The central point of departure for identifying and avoiding data protection risks is to increase employees' and managers' awareness. In 2012, the data protection experts therefore again intensified both the information provided and the trainings offered to employees worldwide by means of online learning programs. In addition to web-based trainings they offered open and closed events requiring physical attendance as well as working tools for specific topics. In 2013, information stands at different company locations helped to inform employees about more in-depth and current topics, such as the correct use of social media and mobile devices. In addition, Corporate Data Protection expanded its base during the reporting year both in Germany and abroad, thus expanding the reach of the company's central data protection team.

Over the past years, a special area of conflict has developed in data protection law because foreign authorities increasingly demand passenger information related to passport and/or reservation data. On the one hand, Deutsche Lufthansa AG is subject to data protection laws that apply to German companies; on the other hand, airlines also have to adhere to the immigration and security regulations of destination countries. However, this problem can only be solved at the political level.

For a service company such as the Lufthansa Group, the protection of personal data has special economic importance. Such companies can only provide their services optimally if they know who their customers are. Against this background it is heartening that the aviation company was not affected by any punishable infringements in the protection of customer data in 2012.

Infrastructure

Competition is decided on the ground as well

According to forecasts by the International Air Transport Association (IATA), the number of passengers in civil aviation will reach about 3.6 billion worldwide in 2016. This is an increase of 800 million passengers over 2011. To be able to handle this growth, aviation needs demand-related and appropriate infrastructure at airports. For this reason, the Lufthansa Group makes continuous investments in terminals, buildings and hangars, as well as functioning, efficient and optimally interlinked processes on the ground, to secure the competitiveness of individual locations and ultimately that of the entire Group. Here is an overview of key events in the reporting year:

Frankfurt



A-Plus pier inaugurated

On 2 October 2012, Frankfurt Airport inaugurated the A-Plus pier, the westerly 800-meter expansion of Terminal 1. The new pier increases the capacity of Germany's largest hub by 6 million passengers per year. The new building is used exclusively by Lufthansa and its partners in the Star Alliance and is above all geared at handling wide-body aircraft such as the Airbus A380 or the Boeing 747. For passengers, the new pier means significantly simpler and faster transfers at Lufthansa's most important hub. In addition to passenger comfort, environmental protection was given high priority. Among other features, the building's insulated outer skin and the intelligent, automated building technology ensure that the A-Plus pier consumes 40 percent less energy and emits 28 percent less CO₂ than was stipulated in the 2007 Energy Conservation Act.

Construction of modern logistics center approved

On 19 September 2012, the Lufthansa Supervisory Board approved the construction of a modern logistics center at Frankfurt Airport. The Project LCCneo was set up to plan and realize the new building, which was designed in accordance with the latest logistics standards and is to replace the now 30-year-old Lufthansa Cargo Center. Construction work will be carried out on the existing plot while operations continue; it will start step by step at the end of 2013. The investment in the building will come to a mid three-digit million euro amount. Thanks to its state-of-the-art technical infrastructure and automated storage logistics, the new hub will allow faster processing times at significantly reduced unit costs, while substantially increasing the service quality for the customers of Lufthansa Cargo at the same time. The company plans to construct the building in accordance with the stringent Gold Standard of the German Sustainable Building Council.



Hamburg

New workshop and office building

In February 2013, Lufthansa Technik started construction work on a new workshop and office building in Hamburg, which will also provide space for the important Central Material Technology department. In the construction of this new building, the Lufthansa subsidiary counts on long-term investments on the basis of advanced energy standards. It will feature modern insulation, use of rainwater and partially-greened roofs. Upon completion in spring 2014 the new building will replace an existing office building that is cost-intensive and no longer up-to-date.

Munich

New terminal satellite

On 23 April 2012, the cornerstone was laid at Munich Airport for the satellite building at Terminal 2, which is to start operations in 2015. The airport operator, Flughafen München GmbH, and Lufthansa jointly operate Terminal 2 and decided in favor of an expansion as the current capacity of about 25 million passengers per year is exhausted today. The satellite gives the international hub additional handling capacities of 11 million passengers per year. The building is designed in accordance with the principles of sustainable construction, which improves its CO₂ balance sheet by 40 percent compared to the two existing terminals.

Berlin

New maintenance hangar

Lufthansa Technik has invested 16 million euros in a new maintenance hangar at the future Berlin Airport, which offers space for five short-haul and medium-haul aircraft or one wide-body aircraft up to the dimensions of an Airbus A340. The new hangar is above all characterized by its high level of energy efficiency.

Vienna

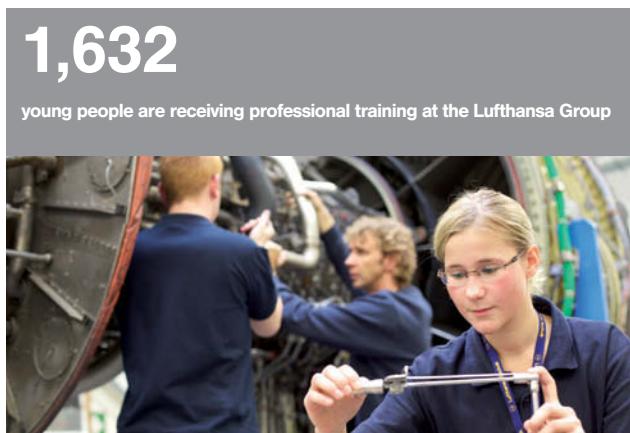
New terminal

At Vienna Airport, the new Austrian Star Alliance Terminal "Check-in 3" was inaugurated on 5 June 2012, and has since been used by Austrian Airlines, Lufthansa, SWISS and other members of the Star Alliance. The terminal represents a milestone in Austrian aviation and improves the quality of the travel experience for passengers, as it shortens transfer times and allows comfortable transfer paths. Long lines at the gates also a thing of the past due to central security checks.



Social Responsibility

In 2012, the Lufthansa Group began – as part of its corporate program SCORE – to adapt its structures, develop future-oriented HR strategies and establish change management even more strongly than before as a classic management discipline. In this context, we also developed new dialogue formats in Germany and abroad to intensify the exchange between employees and managers. Our investments in training and continuing education as well as our activities to promote diversity across the Group continue to have a high priority.



HR management

Actively shaping change

Rapid changes in working environments, increasing complexity in everyday professional life, lack of qualified personnel, demographic change and globalization – the issues that a modern HR management must take into account are now more comprehensive than ever. Alongside the multilayered demands on work processes and competencies, the lifestyles of employees and managers have also become increasingly diversified.

For the economic success of the Lufthansa Group, it is crucial to further develop its HR management under consideration of the above variables and in harmony with Group strategy. Therefore, against the backdrop of its SCORE program, the aviation company began in the reporting year to adapt structures, develop future-oriented HR strategies and establish change management more firmly than ever as a classic management discipline.

The project “Management Landscape 2020” – which was launched in 2011 by the Lufthansa Group’s Executive Board (see also *Balance* 2012 issue on page 46) – was further developed in 2012 with a strong focus on the components “Leadership” and “Cultural transition.” The goal is to include the company’s managers even more actively in the inevitable reshaping and reorganization of structures and processes. Moreover, the planning, implementing and monitoring of change processes are to be given perceptibly more weight. For managers, this means expanding their theoretical know-how through sound practical experience. They must also acquire additional expertise by means of targeted continuing education – in areas such as complexity and diversity management, transformational leadership style, customer-driven sustainable entrepreneurship (smart business), as well as change and talent management.

The Lufthansa Group defined and implemented numerous measures in 2012 to further develop the Group’s management landscape systematically. This package of measures is the basis from which the company intends to control and advance the necessary changes successfully. And some objectives have already been reached:

Among the milestones of the reporting year were a Group-wide cultural and structural analysis as well as an intensive debate regarding the company’s management and change cultures. In addition, the Lufthansa Group restructured its HR organization and adapted its mission statement so that leadership competencies are now the focus of attention.

Furthermore, the Group began in 2012 to make the process of filling vacancies more transparent by publishing job offers in middle and upper management Group-wide. The goal is to reach the entire spectrum of potential candidates and to consider all of them in the selection process. Diversity criteria will also play a greater role in filling management positions – as previously defined in Management Landscape 2020. Flanking these efforts are an array of measures which the aviation company has implemented to accompany the process of change.



Interview with Dr. Bettina Volkens

Senior Vice President Corporate Personnel
From 1 July 2013 Chief Officer Corporate
Human Resources and Legal Affairs
Deutsche Lufthansa AG

— You are head of the Group's HR division, and from 1 July 2013 you will also be its board member in charge of corporate human resources and legal affairs. What are some of the tasks that you are faced with?

Together with all business segments, we want to position the Lufthansa Group for the long haul as an attractive employer in the international competition for qualified personnel. We need employees and managers who work with passion and enthusiasm and are proud of their company. The Lufthansa Group is a fascinating company with numerous employment and development options – and that is to stay the same. It is indispensable for a popular employer to have the right strategy and appropriately adapted structures. At the same time, it's only in accord with a strong corporate culture that the company will be able to successfully maintain its market position long-term in a rapidly changing competitive environment – of this I'm deeply convinced.

— How do you intend to bring this about?

We need a corporate culture that is characterized by openness, courage and the willingness to change as well as by appreciation and respect in dealing with each other. At the core this means a sense of togetherness – between the individual business segments, among managers and between managers and employees. Above all, it's important that people in all their diversity work well together. It's in this sense that we want to further develop the Lufthansa Group's corporate culture.

We're in a difficult situation at the moment: On the one hand, we have to take steps to adapt personnel levels; on the other, we have to retain employees and managers who work with commitment and pleasure for the Lufthansa Group. This demands that we treat all parties concerned with transparency, fairness and appreciation. If we don't do that, we might in a worst-case scenario jeopardize the future of all employees at the Group.

— Which measures are you planning concretely?

We support employees and managers in the process of professional reorientation. That's why we created the COMPASS program, which provides professional and confidential help. This might be changing jobs within the Group or assistance with an external job search – such as when employees are affected by personnel restructuring processes or no longer see any perspectives within the company and so express a desire for support. I think that a company is well advised not to leave its employees to their own devices, especially during critical phases.

Many of our employees have done a great job for many years or even decades. In such situations, change can be very difficult. But it can also be a fresh start. We also know that many employees have very close ties to Lufthansa. As an employer, we take a keen interest in keeping it that way. What's more, we observe time and again that individual employees or managers want to rejoin the company after a certain time elsewhere. The experience that these colleagues gather outside the Lufthansa Group is quite valuable and therefore we want to keep the contact with them even after they have left the company.

What is the role of managers in changing corporate culture?

The Lufthansa Group is undergoing a comprehensive transformation toward becoming a durably competitive company. However, this process will only be successful if managers and employees are ready for and open to fundamental changes. Much depends on our managers, whose task it is to initiate change and to question the status quo, but also to keep the tried and tested. They also have to make not only inconvenient but also innovative decisions and give their employees orientation.

It is our task to support managers and employees in this phase of upheaval. This is why we launched the project "Cultural Transition & Leadership." It bundles all approaches, resources and measures that are needed for change management, transformation support and leadership development. Furthermore, we support our managers in handling resistance and emotions in a professional manner, enduring states of limbo and getting employees enthusiastic about the necessary changes. All of this requires continuous communication, active diversity and ongoing curiosity.

Beyond that, we need to ask critically which managers can drive cultural change. How do we identify those who're really able to form a corporate culture that permits and promotes the most diverse ideas, points of view, interpretations and solutions? In the final analysis, this is also a question of diversity when selecting managers – in terms of age, gender, internationalization and backgrounds of experience. The HR management of the entire Lufthansa Group assumes a central role in this task: It initiates change, drives it forward and supports employees and managers along the path toward a fundamental transformation.



In 2012, the Lufthansa Group defined and implemented numerous measures that systematically develop the company's management landscape further.

Measures 2013

The Lufthansa Group has undertaken all necessary steps to adapt its HR policies to current and future challenges. Its "homework book" for 2013 is already well filled:

- Fine-tuning HR management in accord with strategy, structure (structural organization and process organization) and corporate culture. These must be optimally adapted to each other at all times.
- Intensifying communications concerning the process of change with special attention paid to the new leadership guidelines. The same applies to the dialogue between the Executive Board, managers and employees.
- Providing professional and confidential support for employees affected by personnel restructuring processes or seeking a new career challenge. The program COMPASS was set up for this purpose (see page 57).
- Adapting management diagnostics and the management grading system.

Numerous activities for a culture of diversity

In the wake of reorienting its HR management, the Lufthansa Group launched numerous initiatives in 2012 to foster diversity across the Group and to take best advantage of its potential as a strategic competitive factor. For instance, management positions are now being filled with an even stronger emphasis on diversity aspects than before.

At a glance:

116,957 employees, of whom

- 44.7 % are women.

They represent

- 34.5 % of all employees with staff responsibility,
- 13.6 % of all managers,
- 5.3 % of all pilots.

Worldwide,

- 147 nationalities are represented in the Lufthansa Group.

The average age is

- 41.3 years.

As per 31.12.2012

Women in management positions

The Lufthansa Group has set itself the goal of increasing the share of women in management positions by 30 percent by 2020, compared with the end of 2010. In Germany, this corresponds to a Group-wide share of 20.2 percent. At the end of 2012, this value stood at 15.5 percent – worldwide at 13.6 percent. The Group has turned its particular attention to increasing the number of female managers at the upper levels of management, and it therefore launched comprehensive measures in this area in 2012. Below is an overview of these measures.

“Focus Track” is a program aimed at paving the way for more women to reach senior positions. It also comprises the sub-project “GoAhead,” which specifically targets women who strive for a managerial position. By February 2013, four three-day events had taken place in the context of “GoAhead,” resulting in the promotion of a number of participants. The resonance among the young managers – and representatives of management who attended the event series as guests – was therefore highly positive. Given the success of “GoAhead,” Lufthansa decided to continue and further expand this training format. In terms of content, emphasis is placed on subjects such as networking competency, personality, self-management and career planning. Meanwhile, certain business segments have also begun to launch programs aimed at increasing the share of women in senior management positions.

The Group monitors and steers the success of all measures designed to increase the share of women on the basis of the personnel ratios “Share of women in management positions,” “Share of women with staff responsibility” and “Share of women in the cockpit.”



The share of women in the cockpit currently stands at 5.3 percent.

Success story Cross-mentoring

To strengthen one's own leadership qualities and gain insights into other corporate cultures – that's the goal of the cross-mentoring program, which Lufthansa initiated in 1998. The 14th edition of this cross-industry qualification offer was run in October 2012. Its concept is for a young female manager or manager-in-the-making of one company to form a tandem for a limited time with an experienced male or female mentor at a higher hierarchical level of another company to exchange views and to learn from each other. Currently, Lufthansa takes part in this "double change of perspectives" with 12 mentees and provides the same number of mentors. The cross-mentoring program is presently supported by eight other companies: Axel Springer, Bosch, Commerzbank, Deutsche Bank, Fraport, Hewlett-Packard, Merck and Sanofi.

Leadership in part-time jobs

Employees who have found a good balance between their work and private lives are healthier, more satisfied, more motivated and more effective. This also leads to benefits for the Lufthansa Group. Hence the company has offered its employees a broad range of flexible work time models for many years. Among these, FlexCareers is a relatively recent offer that makes possible leadership on a part-time basis. This offer is in keeping with the times and is primarily directed at managers who have far-reaching family obligations and a particular need for part-time work. Moreover, FlexCareers is designed to help avoid bottlenecks in filling key positions in the future and thus cushion the effects of demographic changes. Although a survey shows that only 18 percent of men aspire to a part-time management position, 48 percent of women do so. To tap this potential, HR management started in 2012 to proactively offer individual work-time consultations that pay particular attention to part-time models for managers.

Expansion of child-care infrastructure

More leeway for working parents: This is provided by the comprehensive child-care options that Lufthansa offers for its employees. During the reporting year the company invested in its cooperation with Terminal for Kids GmbH, so that an increased number of private child-care places are now available to Lufthansa employees with children under three years of age. In addition, young mothers and fathers can turn to the tried-and-tested pme Familienservice, with which Lufthansa has cooperated since 1992; the linkup saw its 20-year anniversary in the reporting year. This company-independent consulting and placement service supports employees in their searches for private child care options, household help and in the framework of "Elder Care" for care personnel.

Emergency and vacation child care, a service that is logically aligned with the needs of working parents, is provided by "Fluggiland" whenever kindergartens are unexpectedly closed or child minders cancel appointments.



In summer 2013, the Lufthansa Group will set up its own full-day vacation child-care service for the first time at the Lufthansa Aviation Center in Frankfurt for employees' children between the ages of six and twelve. Under the motto "Happy-go-luckies – Children conquer Lufthansa's world," these kids will participate in a program of fun and exercise as well as insights into their parents' work environment.

Supporting change in the role of fathers

The number of fathers who desire a more active role in their families is growing – among Lufthansa employees as well. This is reason enough for the aviation company to support employees who would like to take paternity leave to look after their children. In the reporting year, the company organized numerous presentations and discussion events on the compatibility of career and family, which met with lively interest. Lufthansa is planning to intensify its commitment to this subject area and to expand its counseling and information offers in cooperation with the organization Väter gGmbH in 2013.

Looking beyond borders

Every day, employees from the most diverse countries and cultures meet within the Lufthansa Group. With the aim of optimizing the cooperation within intercultural teams, the first Awareness Day for employees in the administration took place in September 2012 in Frankfurt. HR management and employees from very different backgrounds designed and organized this cultural dialogue entitled "Diversity@Work." The event focused on sharing general information about countries such as Japan, Austria, India, Portugal and Thailand, to name but a few. Furthermore, Lufthansa employees gave their colleagues insights into national customs, traditions, religions as well as verbal and nonverbal habits of their native countries. A similar goal is pursued by the multi-day continuing-education event "Kulturraum" for pursers and flight attendants: It gives them regular opportunities to expand their intercultural knowledge with service-specific aspects – in particular with regard to the Lufthansa markets India, Japan, China and Korea as well as the Arabic countries.

Inclusion of people with disabilities

The Lufthansa Group owes its economic success to all its employees – including those with disabilities. Physical or psychological limitations do not necessarily limit a person's performance or motivation. Therefore, it is an important goal of the Group's human resources policies to include people with disabilities in professional settings and to grant them equal opportunities. This is achieved primarily by means of workplaces which have been adapted to their actual strengths and potentials and thus help them produce results that are comparable to those of non-disabled employees.

In 2012, the share of employees with disabilities at Lufthansa in Germany stood at 3.8 percent (preceding year: 3.4 percent). While some Group companies exceed the legally defined minimum quota of 5 percent, the flying companies do not ordinarily reach this level. This is due to legal regulations that prohibit airlines in Germany in almost all cases to employ people with disabilities aboard aircraft.

On 13 March 2012, the first Inclusion Day took place at Lufthansa under the motto "Top on the job – Despite disability." The goal was to reduce contact fears and prejudices and to join forces to advance the change in attitudes (see *Balance 2012 "People with disabilities"* on page 53). An internal inclusion award was given in the context of this event to three different company areas.



Culture dialogue event 2012 at the Lufthansa Aviation Center in Frankfurt



This information stand addresses pursers and flight attendants at the continuing education event "Kulturraum."

Furthermore, the Executive Board maintains a regular dialogue with the representatives of the Group's disabled employees. The focus of these discussions is on subjects such as individual support for employees with handicaps or ways to continually increase the share of people with disabilities within the company.

As an expression of its social responsibility for people with disabilities, the Lufthansa Group sponsored the film project "GOLD – You can do more than you think." The documentary tells the story of three world-class athletes before and during the Paralympics in London (see "A perfect match" on page 104).

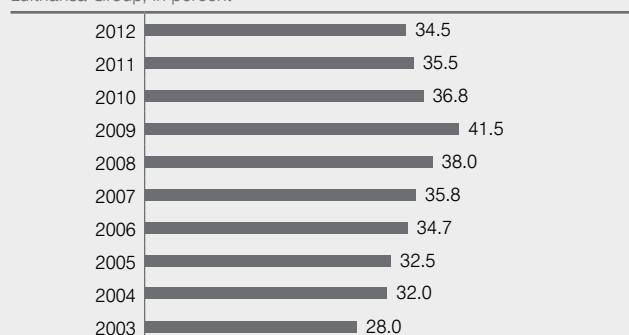
Share of women in management positions¹

Lufthansa Group, in percent



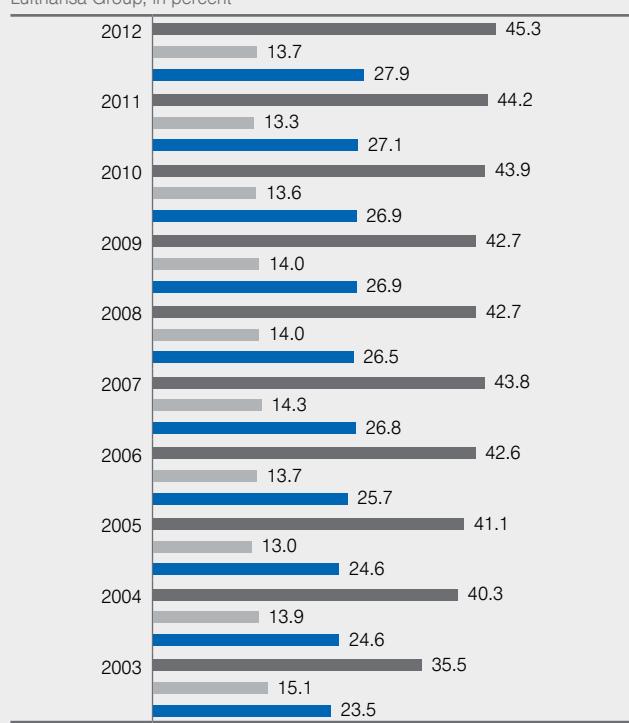
Share of women with staff responsibility¹

Lufthansa Group, in percent



Part-time employment

Lufthansa Group, in percent

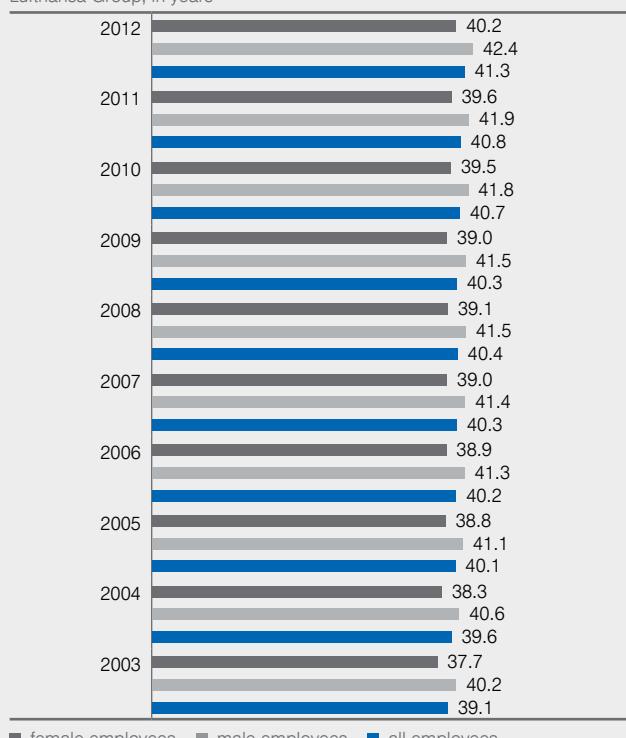


■ female employees ■ male employees ■ all employees

As per 31.12.2012

Average age²

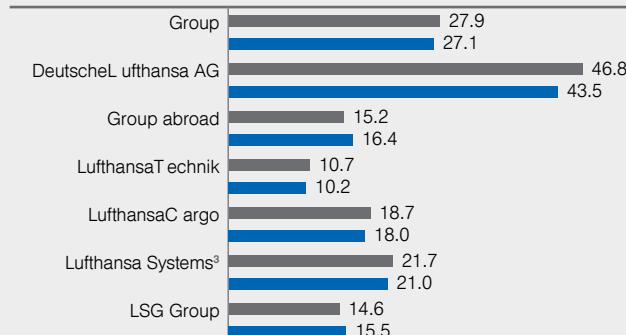
Lufthansa Group, in years



■ female employees ■ male employees ■ all employees

Part-time work by Group companies

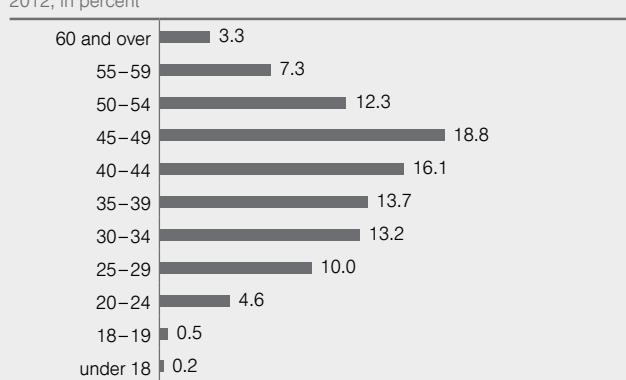
in percent



■ 2012 ■ 2011

Age structure at the Lufthansa Group²

2012, in percent



AG, AirPlus International Inc., LH Malta Finance Ltd.

2 Scope of consolidation partially without LSG outside Germany, Lufthansa Malta Holding Ltd., Lufthansa Malta Aircraft Leasing Ltd., Lufthansa Technik Philippines Inc., Shannon Aerospace Ltd., Lufthansa Technik Malta Ltd., Lufthansa Technik Airmotive Ltd., Lufthansa Technik Budapest Repülőgép, Hawker Pacific Aerospace Inc. (US), LH Technik Landng Gear Services UK Ltd., BizJet Int. Sales & Support Inc., AirLiance Materials LLC, LH Technik North America Holding Corp., LH Systems Americas Inc., AirPlus Air Travel Card Vertriebsges. mbH, LH Flight Training Berlin GmbH, AirPlus International Ltd., AirPlus International S.r.l., AirPlus Payment Management Co. Ltd., AirPlus International

3 Selected companies only

Employment policy based on partnership

Creating viable conditions for the future

The Lufthansa Group's success depends greatly on the ideas, enthusiasm and commitment of its employees. Therefore, the aviation company attaches the greatest importance to providing its employees with an attractive working environment and appropriate salaries. Likewise, it is an established tradition to balance the economic interests of the company and the expectations and needs of the employees at all times in a fair and trusting manner.

It is tried-and-tested company policy to clarify conflicts of interest between company management and the employee representation in an open and transparent manner. A fair approach to coexistence in all areas of the company creates the necessary balance to advance the Lufthansa Group's position in the market. The growing plurality of opinions and opinion leaderships – analogous to social developments as a whole – is an increasing challenge for all parties concerned. The guidelines for their joint efforts are flexibility and the ability to react within the market.

Partnership in collective agreements in Germany

Lufthansa employs its staff under conditions that provide them with social and material security not only during but also after their professional lives. These are established on the basis of collective agreements which the company negotiates with its union partners Vereinte Dienstleistungsgewerkschaft (ver.di), Vereinigung Cockpit (VC) and Unabhängige Flugbegleiter Organisation e.V. (UFO). Overall, 97.5 percent of the Lufthansa Group's employees in Germany are covered by collective agreements (pay settlements and works agreements). The goal is to treat all employee groups within the company fairly and justly – a standard that is faced with an increasingly challenging framework of conditions owing to the plurality of unions within the company.

Pay negotiations with ver.di for ground staff

At the beginning of 2012, the Air Transport Employers' Federation (AGVL) and the trade union ver.di agreed on a wage settlement valid until the end of January 2013 for the ground staff of Deutsche Lufthansa AG in Germany. The agreement

provided for a 3.5 percent pay increase, backdated to 1 January 2012, for ground staff employed in Germany under collective agreements. This corresponds to an annualized increase of 3.2 percent. In addition, other allowances and supplements were increased moderately, and specific regulations were agreed upon for the business segments Catering and MRO. Ver.di terminated this wage agreement with due notice on 31 January 2013. The negotiations between AGVL and ver.di to conclude a new pay agreement for these employees were begun in February 2013.

In their fourth round of wage negotiations, the Air Transport Employers' Federation and the ver.di union reached an agreement on 1 May 2013. This agreement provides for pay rises differentiated for the first time according to the performances of the different business segments. It is valid for a period of 26 months from 1 February 2013 to 31 March 2015.

New wage agreement for cabin staff

2012 was the year of dialogue about the need to make changes in remuneration schemes. Even before the termination with due notice of the wage agreement for cabin staff on 31 March 2012, an intensive exchange of ideas took place with the Unabhängige Flugbegleiter Organisation (UFO) concerning the conditions of a new, sustainable pay system. The negotiations that followed failed to lead to a solution for this difficult issue. The result was that the cabin staff entered into a labor dispute with the company in late summer. The breakthrough was finally achieved in the arbitration proceedings led by former government economic advisor Professor Bert Rürup.

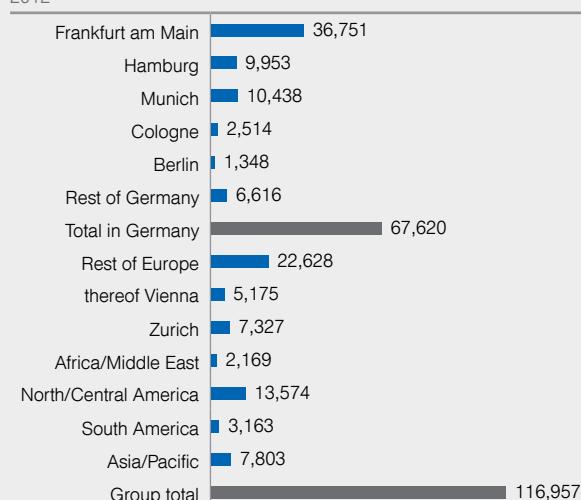
Distribution of employees within the Lufthansa Group

2012, changes in percent

Group	2012	2011	change
Group	116,957	116,365	+ 0.5
of which Passenger Airline Group	55,236	55,361	- 0.2
of which Logistics	4,606	4,624	- 0.4
of which MRO	20,282	19,975	+ 1.5
of which IT Services	2,766	2,820	- 1.9
of which Catering	30,088	29,586	+ 1.7
of which Others	3,979	3,999	- 0.5

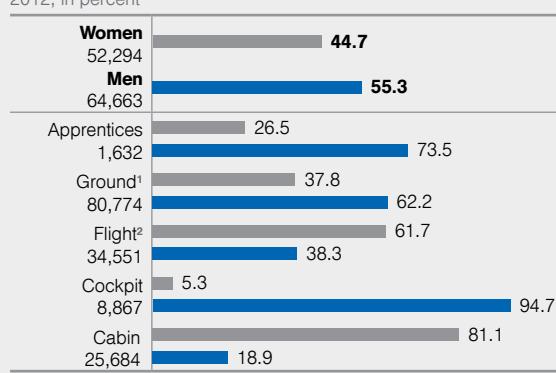
Lufthansa Group: Jobs around the world

2012



Employees by group and gender

2012, in percent



1 without apprentices

2 consists of cockpit and cabin

In a balance between personnel policy and economic considerations, the compromise includes a revision of the basic remuneration scale for flight attendants and an increase of all pay levels by 100 euros (except the final pay level, which is increased by 50 euros) from January 2013. In addition, all members of cabin staff receive a one-off payment of 320 euros and an increased profit-share payment. To cushion the cost increases from these pay rises, the flight attendants and pursers agree in return to a one-time waiver of their annual pay-level upgrades. Additional measures to increase productivity in continental traffic are also to be implemented.

In response to existing and anticipated overcapacities in the cabin area, the parties to the wage agreement consent in solidarity to a working-time corridor that makes both working hours and salaries flexible within a margin of up to 5 percent for the next 24 months. In return, operations-related layoffs are ruled out until the end of 2014.

With regard to the planned transfer of point-to-point routes outside of the Frankfurt and Munich hubs to Germanwings, a range of assurances – especially the safeguarding of existing wages and benefits – have been agreed upon for the employees affected.

To secure a long-term perspective for cabin staff at Lufthansa, the wages of newly-hired flight attendants follow a new pay scale with higher starting pay, lower final-level salaries and an overall development of remuneration related to the increase of experience. The introduction of an annual working-time model provides additional options for leveling out the demand swings that are typical for the industry in the course of the year.

Following the past wage freezes for cabin staff, the arbitration proposal strikes a fair balance between the employees' interests through an appropriate pay increase with long-term job security guarantees and Lufthansa's interests through practicable solutions in a demanding competitive environment. By agreeing to a well-balanced structural reform in the cabin, the employees have made an important contribution at the wage agreement level to the corporate program SCORE.

As per 31.12.2012

Negotiations started with cockpit staff

The wage agreement for cockpit staff concluded in 2011 ended on 30 April 2012. The union Vereinigung Cockpit (VC) terminated this agreement with due notice and initiated discussions about a new agreement. Concerning this employee group as well, the challenge is to strike a balance between the different interests against the backdrop of a difficult competitive situation. Here also, Lufthansa will continue to seek solutions together with VC by pursuing a constructive dialogue.

Active pay and social policies abroad as well

Internationalization and globalization offer a broad range of opportunities for the business and personnel processes across the Group. As a company with international operations, Lufthansa's pay and social policies are guided by the respective general conditions in individual countries. The focus is on the long-term definition of the conditions of employment, which depend on employee needs, operational requirements and the local labor market – including compensation rules, working conditions and pension schemes. Lufthansa defines these agreements in cooperation with internal employee representations.

In all countries where Lufthansa acts unilaterally, the company uses benchmarks and macroeconomic data, such as inflation, to assess salaries once a year for their viability in the context of the market and competitiveness. In this way, Lufthansa offers a continuous evaluation and adaptation of working conditions for its locally employed staff. In countries with very high rates of inflation, this assessment is carried out every six months and ordinarily leads to pay increases. Moreover, Lufthansa enters into pay negotiations with employee representatives not only in countries where it employs a higher number of people (such as France, Italy and India) but also in countries where it has no more than 15 to 20 employees (such as Ghana and Ethiopia).

As a member of the UN Global Compact, Lufthansa has documented its support of the freedom of association and the right to collective bargaining for all its employees worldwide. Employees in any country where Lufthansa companies are active are free to organize themselves according to legal conditions and thus participate in shaping their working conditions.



The COMPASS program offers professional and confidential support for career reorientation.



COMPASS – Program for professional reorientation

The Lufthansa Group assumes responsibility for its employees in times of change as well. As an expression of its long-term personnel policy, the aviation company launched the COMPASS program, which supports employees and managers in successfully repositioning themselves professionally. For this purpose, the Group cooperates closely with leading personnel consulting companies.

COMPASS specifically targets employees and managers in Group functions and at Lufthansa German Airlines whose jobs are threatened or who voluntarily seek new professional challenges. In principle, the COMPASS program consists of the following performance elements: a confidential initial discussion, a comprehensive consultation concerning the professional reorientation, and a company-related job market based on current contacts of the Lufthansa Group and available exclusively to all program participants.

All contact with the COMPASS office is voluntary and is handled confidentially. There are no costs for employees and managers who want to take advantage of the program. The placement service is offered for up to six months and comprises both an assessment of the client's current personal and professional position and an analysis of his or her strengths and opportunities. In addition, the placement experts identify options for action and support the COMPASS participants in all phases of the application process.

Employee Feedback Management: Knowing what matters most to employees



Employee surveys are an important instrument for the Lufthansa Group to obtain a comprehensive picture of the mood within the company. With its Employee Feedback Management (EFM), the aviation group has established an efficient, standardized process for this purpose. One of its aims is to facilitate a company-wide dialogue between managers and employees. "In difficult times especially we need a strong sense of community within the employee ranks to solve problems," says Matthias Borchers, Vice President Personnel Development at Lufthansa German Airlines.

In 2012, under the motto "Your opinion matters," Lufthansa German Airlines and all Group functions gave their employees the opportunity to provide feedback concerning their satisfaction with the job, the immediate work environment and the company in general for the eighth time. Worldwide, 22,634 employees participated in the survey. At 60 percent, the participation rate was only slightly below the record result of 64 percent in 2011.

Company-wide comparisons

Lufthansa had the survey analyzed by an external institute. The results for 2012 were published in the form of 1,400 individual reports and are freely available to all employees. The EFM has been carried out annually since 2011. This yearly basis serves the company's efforts to carry out the measures derived from feedback in a timely manner and to monitor their success. In this way, the Group ensures the sustainability of its EFM process.

Employee surveys at the Group companies

Using the standardized Employee Commitment Index (ECI), a quantitative internal benchmark can be established Group-wide. The ECI is employer independent and calculated on the basis of four questions, which must be a constituent part of each employee survey. Lufthansa Cargo has already integrated these questions. In 2012, the logistics specialist surveyed its employees for the 14th time in a row. With a grade of 2.17, the Cargo employees ranked their employer higher than ever; the participation rate reached 77.9 percent. Lufthansa Systems carried out its first worldwide employee survey, in which 73 percent of its employees participated. And Lufthansa Technik again asked its employees to give its managers feedback on their leadership performance: As part of the "Great Place to Work®" initiative, the employees of Lufthansa Technik, Lufthansa Technik Logistik, Lufthansa Technik Maintenance International and Lufthansa LEOS took part in the survey. Appraisal sessions involving supervisors and employees complement the manager feedback, which aims among other things to strengthen open and fair dialogue about problems within teams and by extension to improve the work situation.

Corporate training and continuing education

Identifying talents – Fostering potentials

The Lufthansa Group is convinced that investments in the training and continuing education of its employees and managers pay off – independently of the general economic development. The better an employee is qualified, the better he or she can help to boost the company's innovative capacity and competitiveness. With the Lufthansa School of Business, the Group operates Germany's first corporate university.

Therefore, despite the current climate of change, the Group increased its expenditure for internal educational measures in 2012 by 18 percent to 145 million euros. Including the Group airlines, the number of participant days increased by 7 percent to 727,000. Systematic monitoring ensures that all training and continuing education measures have the intended success. The focus is on events targeted at acquiring and expanding professional and personal competencies.

Lufthansa School of Business

It is an important concern for Germany's first corporate university to facilitate the optimal interlinking between the employees' individual development and the company's economic requirements. Whether job starters or experienced professionals: The guiding principle of lifelong learning stipulates that employees need to acquire new knowledge on a continuous basis. That is why the Lufthansa School of Business (LHSB) provides employees of all ages and hierarchical levels with a broad range of offers that are tailor-made for specific target audiences – including training courses, management programs as well as dialogue and network platforms. The LHSB cooperates with selected international organizations, business schools and academic institutes.

To support the necessary changes in the area of personnel at the Lufthansa Group (see "HR management" on page 48), the Lufthansa School of Business organized numerous specific training courses on the subject of diversity in 2012. Moreover, it expanded its classic "blended learning" portfolio with offers in the area of "mobile learning." In the reporting year, the company again supported outstanding

projects and best-practice models in the area of technology-supported knowledge management. For example, Ronald Urgast, who is responsible for education management and education controlling at Lufthansa, again served on the jury of the European Award for Technology Supported Learning (eureleA), formerly the eLearning Award.

Top spots for the Lufthansa Group in employer rankings

Placing at the top of leading rankings year after year documents the aviation company's high level of attractiveness as an employer in Germany. In the reporting year, for instance, this was evidenced by the "trendence Graduate Barometer 2012" among university graduates, who voted the company into fourth place on the list of top employers. Lufthansa also ranked fourth in a survey conducted among more than 23,000 university students by the consulting company Universum Communications.

Talent management

The Lufthansa Group has launched diverse programs to boost the internationality among its talented career-starters with academic degrees. The "ProTeam General Management Trainee" program, for example, allows university graduates to form a comprehensive picture of the professional perspectives in the Lufthansa Group by means of presentations and project assignments in Germany and abroad. This offer has also been made available to trainees at SWISS in 2013. More diversity within the company is also generated by the employee engagement and development program "explorers." Its ninth year, which took to the starting blocks in November 2012, comprises 147 young managers from all Group companies who would like to advance their professional and personal development.



Training and continuing education have a high priority at the Lufthansa Group.



Lufthansa Case Challenge: Group photo of the 2012 finalists at the Lufthansa Training & Conference Center in Seeheim

Professional training in 56 professions

The Lufthansa Group's education spectrum is as diverse as its product portfolio: To assume its social responsibility in a comprehensive way, the company currently trains young people in 56 professions. This number also includes the dual courses of study, which were followed by 400 young people in the reporting year. Against the background of the Bologna reform, which the Group accompanied and supported actively from the start, Lufthansa has gradually switched its Group-wide entry-level training programs to Bachelor's and Master's degrees over the past years.

In 2002, Lufthansa launched the online career portal Be-Lufthansa.com, which is now used by the majority of job applicants for their initial contacts with the Lufthansa Group. Additionally, information about professional perspectives is also available to job seekers on Facebook and Twitter, and since December 2012 via a new career blog.

Yet the professions that committed young people may choose at the threshold to their working lives are not only those with a technical, business or IT orientation. In Germany the company's Medical Service, for example, has for many years offered a three-year course leading to qualification as a medical assistant.

That professional training at the Lufthansa Group not only challenges but also advances talent is illustrated by the distinction awarded to two young female employees as Germany's best apprentices: one as an aviation service professional, the other as an aircraft equipment mechanic. To encourage girls and boys early on to break through the classic divisions of "female" and "male" jobs when choosing a profession, the Group again participated in 2012 and 2013 in the annual Girls' and Boys' Day. With the same goal, SWISS participated in Switzerland's National Future Day in 2012.

Lufthansa Case Challenge 2012

Innovations in the aviation industry: That was the topic of the third edition of the "Lufthansa Case Challenge" competition, which the Lufthansa Group again organized in the reporting year jointly with the EBS Business School. Bachelor's and Master's students from around the world took advantage of the opportunity to develop futuristic concepts and attempt to qualify for the final round, which took place from 15 to 17 October 2012 at the Lufthansa Training & Conference Center in Seeheim. As in previous years, only the six best of the total of 105 applicant teams from 20 countries got the chance to present their ideas in person to a jury composed of top managers from the Lufthansa Group and EBS experts.

Employee safety and health protection

For a safe and healthy professional life

The healthier and more motivated our employees are, the better they are able to perform. Safe working conditions that aim at maintaining health and well-being are, therefore, an integral part of the Lufthansa Group's job safety and health protection programs. As the business activities of the individual Group companies vary significantly, the requirements on job safety and health management also vary. So it is only logical that these are essentially organized in a decentralized manner.

The Medical Service, with its physicians specializing in occupational, aviation and tropical medicine, looks after all health-related concerns that Lufthansa Group employees might have. This department works in close contact with Group Employee Safety, Lufthansa's Social Counseling Service and the health experts at the various Group companies. The working group Health has established itself as a forum for regular interdepartmental exchanges; it meets four times a year.

Medical Service: certified with DIN EN ISO 9001

In order to fulfill the steadily increasing legal requirements in health care even more effectively, the Medical Service had its quality management system successfully certified in 2012 in accordance with DIN EN ISO 9001. The Medical Service had intensively prepared for the audit by the certification organization CERT iQ since 2011. The certification applies to the locations in Frankfurt, Munich, Hamburg and Cologne comprises the following areas: occupational, aviation and tropical medicine, Aero Medical Center, administrative control, Passenger Medical Care and Social Counseling Service. With the goal of securing and further expanding the achieved standards in quality management (QM), the Medical Service has begun to train internal QM commissioners. Furthermore, the Medical Service will assume the medical consultation and the quality management of all medical transports – including those that require the use of Lufthansa's flying intensive-care unit, the Patient Transportation Compartment (PTC), which is unique worldwide.





Social Counseling set up this information display circuit for the annual Health Week campaign.

Social Counseling

The Lufthansa Social Counseling Service has served the Group's employees as a central contact point for private, financial and family-related problems as well as for job-related conflicts since 1985. This offer is a voluntary social service provided by the Lufthansa Group and has an important function in fulfilling the public welfare obligation in the context of job safety and health protection. The Social Counseling Service has a presence at numerous locations in Germany, including Frankfurt, Munich, Cologne, Nuremberg, Hannover, Berlin, Düsseldorf and Stuttgart. Its service portfolio comprises five areas: individual psycho-social counseling, coaching and counseling of managers and officeholders, team counseling and conflict moderation, prevention, and corporate health management. The Social Counseling Service publishes an annual activity report. In addition, it works actively for the various health campaigns within the Lufthansa Group.

In 2012, numerous campaigns to support employee health again took place at Lufthansa's German locations.

Effective management of employee safety

The Group department Employee Safety works closely with physicians, social counselors, employee representatives and the responsible staff at the companies of the Lufthansa Group. Its goal is to assure and increase the employees' health and employability sustainably – particularly by determining and evaluating hazards in the workplace on a regular basis and by implementing measures that reduce the number of work-related accidents and illnesses long-term. In addition, the department's experts are concerned with identifying risk factors of work-related illnesses at an early stage and warding these off. Their tasks also include measures to promote health, safety training, instruction of employees in the noise laboratory as well as expansion and updating of health-related information on the company's intranet.

A permanent exhibition at the Lufthansa Base in Frankfurt has provided information about the subject of job safety since November 2012. Safety commissioners from cockpit and cabin were actively involved in conceiving and implementing the exhibition. It offers above all information on the subject of cabin air. The main goal is to sensitize employees to the correct evaluation of smells and signs of smoke generation aboard aircraft.

The safety and health of passengers, crew members and employees has the top priority for the Lufthansa Group. Therefore, the Group is even more committed than before to researching technical and operational topics and cooperates closely with engine and aircraft manufacturers to develop effective preventive measures. This includes the clarification of so-called smell events in aircraft cabins, which have occurred repeatedly in the past and led to controversial discussions in the media.

For this purpose, a measurement case has been available for use in analyzing possible harmful substances since April 2013. Lufthansa intends to use this case on selected flights to attempt to record changes in the composition of cabin air during a smell event. The goal is to identify and quantify substances potentially present in the cabin air and to optimize the objective assessment of such events. Particular attention is given to organic phosphates such as Trikresyl phosphate (TCP), Tributyl phosphate (TBP) and Triphenyl phosphate (TPP). Development partner for the project is the renowned Hannover Medical School. A total of 15 rotations with the Airbus A380 are planned. The final scientific analysis of all measuring data is expected in the fourth quarter 2013.



As the title sponsor of the Frankfurt half-marathon since 2009, Lufthansa sets an example for promoting mass sport in the Rhine-Main area.

Company and mass sports

People who regularly engage in sports activities not only do something good for their bodies. They also create a form of compensation for the many demands that work and family place on them every day. As an active contribution to preventive health protection, the Lufthansa Group has always supported its employees with a comprehensive offer of sports that aims to cover all preferences. Instead of top performance, the emphasis is on the joy of movement and the satisfaction of shared experience, which also has a positive effect on the company's working atmosphere. In 2012, 7,196 Lufthansa employees participated in Germany in sports associations with their various disciplines.

The campaign "Lufthanseaten laufen" ("Lufthansa employees run") has invited employees since 2009 to get some fresh air and clear their minds. In this spirit, 1,225 Lufthansa employees participated in the JP Morgan Corporate Challenge on 14 June 2012 in Frankfurt. In fact, the aviation company has provided the second-largest team at Europe's largest inter-company run for a number of years. In addition, the company has committed itself since 2009 as the title sponsor of the Frankfurt half-marathon and thus set an example for promoting mass sport in the Rhine-Main area.



A rowing team from the Lufthansa sports association in Hamburg participated in the world's largest rowing regatta at the end of October 2012, the "Head of the Charles" in Boston.



Climate and Environmental Responsibility

The Lufthansa Group assumes its responsibility for climate and the environment. As an innovation driver in the aviation industry, we are committed to numerous future-oriented initiatives and projects that improve the environmental compatibility of flying in sustainable ways. And successfully so: In 2012 we again achieved an efficiency record and improved our specific kerosene consumption by 2.8 percent.



4.06

liters of kerosene consumed per passenger
and 100 kilometers

144,745

fewer tonnes of fuel consumed than in 2011



500

fuel efficiency projects launched



2,000,000

flight kilometers in the service of climate research



Environmental strategy

Many measures, one goal: To reduce the environmental effects of flying

For many years, the Lufthansa Group has done everything in its power to minimize the environmental effects of its business activities at all levels and to use the resources it requires as efficiently as possible. The company's chief concern is to continuously reduce the carbon dioxide and noise emissions generated by its flight operations.

Air transport's share in global CO₂ emissions caused by human activities is comparatively low, at just below 2.5 percent (see illustration on page 13). However, this transport mode's share is on an upward trajectory due to the growing worldwide demand for mobility. For this reason, airlines are also faced with the challenge of further increasing the environmental compatibility of flying despite a steadily growing transport performance.

The Lufthansa Group underpins such efforts with the strategic environmental program it set up in 2008. In addition, the Group supports the industry's ambitious environmental goals: to improve fuel efficiency by 1.5 percent per year on average until 2020 and to grow in a CO₂-neutral way there-

after. "Since 2008, we've increased fuel efficiency within the Group by 1.5 percent a year and so have consistently met the industry's goal," says Dr. Karlheinz Haag, Vice President Environmental Issues at the Lufthansa Group.

To reach these goals, the aviation industry developed a four pillar strategy for climate protection (see illustration below), which links the various environmentally relevant measures in the areas of technological progress, improved infrastructure, operational measures and complementary economic measures. On the basis of this strategic platform, the Lufthansa Group has implemented many measures and launched numerous programs to continuously increase the efficiency of flight operations.

Four pillars for climate protection

1

Technological progress

- Innovation in aircraft and engine technologies
- Alternative fuels



2

Improved infrastructure

- Improved use of airspace
- Airport infrastructures adapted to needs



An overview of the most important activities in this area:

Investment in modern aircraft

According to the current order status, the Lufthansa Group will have taken delivery of 236 new aircraft by year-end 2025. These are above all characterized by low figures for fuel consumption and noise emissions. A modern and sensibly structured fleet not only forms the basis for lasting economic success but also makes an important contribution to keeping the environmental effects of flying as low as possible.

Analysis of consumption

The Group project "Fuel Efficiency" bundles all activities within the Lufthansa Group that aim at using fuel as efficiently as possible. These measures include, for instance, intelligent software solutions and procedures to lower kerosene consumption by reducing the weight of aircraft.

Use of biofuels

Lufthansa carried out pioneering work in 2011 by running a long-term trial of biofuel in regular scheduled flight operations and demonstrated that biofuels can be used without problem in everyday settings. Currently, the company is committed to a range of future-oriented projects that focus on alternative fuels. The direction of these efforts is set by the Biofuel Strategy 2020, approved by the Executive Board in 2012.

Reduction of noise

Lufthansa works permanently with partners in industry, public administrations, academic institutions and research to develop perceptible noise-reduction measures. This manifests itself in concrete efforts, such as the continuous modernization of the aircraft fleet, the ongoing optimization of the existing fleet and the use of noise-reducing procedures in daily flight operations.

Promotion of electromobility

Airlines must cut emissions and noise to a minimum, not only in the air but also on the ground. For this reason, the Lufthansa Group emphasizes the development and trial of electric propulsion technologies for taxiing aircraft.

Cooperation with science

Be it climate research, electromobility, noise reduction or modifications on existing aircraft – the Lufthansa Group counts on cooperations with science and research to further improve the Group's environmental care in a targeted manner on the basis of sound knowledge.

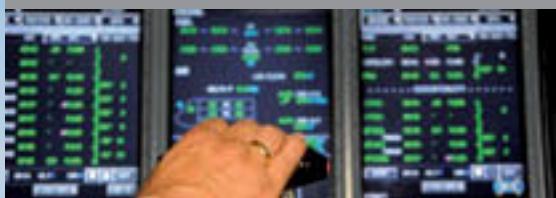
In addition, the Group actively participates in the work of numerous associations, committees and initiatives for sustainable air transport, including the Federal Association of the German Air Transport Industry (Bundesverband der Deutschen Luftverkehrswirtschaft – BDL) and the Environmental Committee of the International Air Transport Association (IATA). Lufthansa experts also contribute their know-how to the Single European Sky ATM Research Program (SESAR) by working in more than 50 individual projects. SESAR's goal is to implement the single airspace above Europe, the largest climate protection project of European aviation (see *Balance 2012* on page 75). Moreover, the aviation company is active in the communities surrounding airports through expert panels and working groups to search jointly with all parties concerned for practicable solutions in the area of noise reduction. This is but one example of how the Group maintains a constant dialogue with publics and stakeholders whose interests are affected by the company's business activities.

You can find more detailed information on these topics on the following pages.

3

Operational measures

- More efficient aircraft sizes
- Optimal flight routes and speeds
- Optimized processes on the ground



4

Economic measures

- A global, sensibly designed, market-based system for reducing emissions to complement the other three pillars



Kerosene and emissions

Efficiency record: 4.06 l/100 pkm

The Lufthansa Group flies more and more fuel-efficiently: In 2012, the specific kerosene consumption fell to only 4.06 liters per 100 passenger kilometers, after having already reached a record company low the previous year with a value of 4.18 liters per 100 passenger kilometers. This represents a decline of 2.8 percent over 2011. The specific CO₂ emissions fell proportionally.

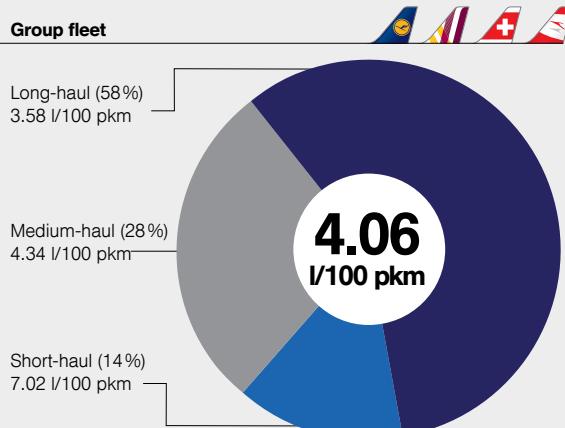
In addition, it is especially encouraging that the Lufthansa Group's absolute fuel consumption declined from 9.02 million to 8.88 million tonnes of kerosene – even though the Group's flying companies transported more payload and carried significantly more passengers to their destinations during the reporting year. This illustrates that the aviation group has successfully continued its decoupling of transport performance from fuel consumption. While the Lufthansa Group's transport performance has grown by 329 percent since 1991, its kerosene consumption has only increased by 183 percent (see graph on page 69). The main reasons for this positive development are the continuous measures to modernize the fleet (see "Billions for quieter and more efficient aircraft" on page 30) and the reintensified efforts to use fuel as efficiently as possible (see "Fuel efficiency: Every drop counts" on page 71).

The Lufthansa Group's specific kerosene consumption declined in 2012 in all traffic areas: On long-haul routes it fell from 3.64 to 3.58 liters per 100 passenger kilometers, on medium-haul routes from 4.52 to 4.34 liters per 100 passenger kilometers, and on short-haul routes from 7.30 to 7.02 liters per 100 passenger kilometers. The individual Group airlines, with the exception of Germanwings, also increased their fuel efficiency. As a result, the aircraft of SWISS needed only 3.64 liters of kerosene on average in the reporting year to transport one passenger over a distance of 100 kilometers, down from 3.72 liters in the preceding year. The SWISS long-haul fleet was especially fuel-efficient with a specific kerosene consumption of 3.08 liters per 100 passenger kilometers. The specific fuel consumption at Austrian Airlines reached 3.98 liters per 100 passenger kilometers (preceding year: 4.18 liters) and at Lufthansa German Airlines 4.16 liters per 100 passenger kilometers (preceding year: 4.27 liters). The pure Lufthansa fleet (without regional companies and Germanwings) achieved a specific kerosene consumption of 3.98 liters per 100 passenger kilometers on average.

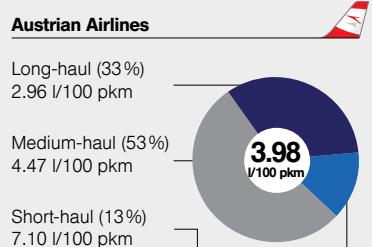
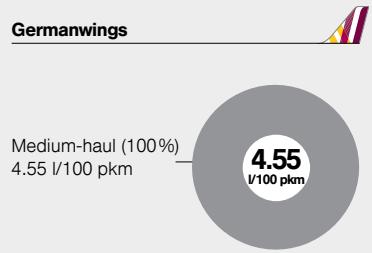
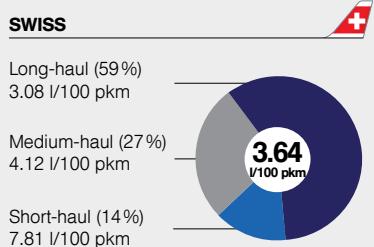
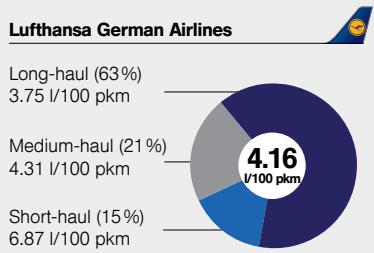


Specific fuel consumption, passenger transportation

active fleet in 2012, in liters per 100 passenger kilometers (l/100 pkm)



Average specific fuel consumption in l/100 pkm (center of circle) and shares of different traffic areas (segments) in total fuel consumption for passenger transportation active fleet 2012.



Definitions of traffic areas: ■ Long-haul more than 3,000 km ■ Medium-haul 800 to 3,000 km ■ Short-haul less than 800 km

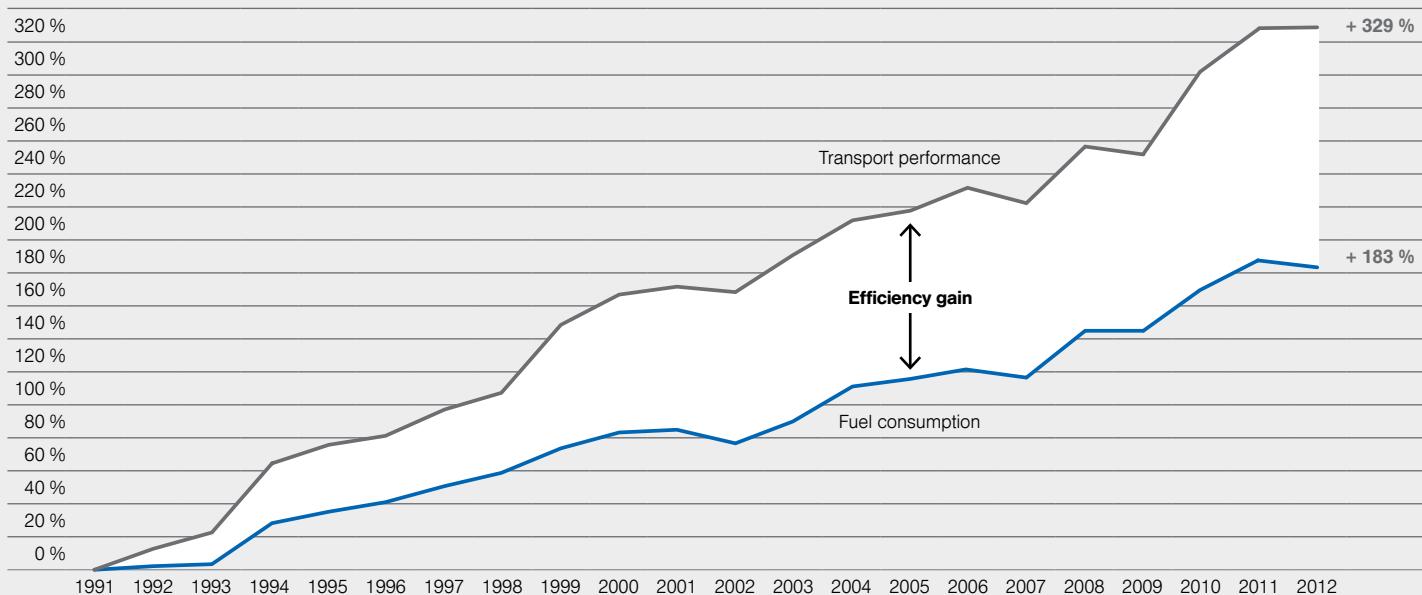
Specific CO₂ emissions passenger transportation

active fleet in 2012, in kilograms per 100 passenger kilometers (kg/100 pkm)

	Group fleet	Lufthansa German Airlines	Germanwings	SWISS	Austrian Airlines
■ Long-haul	9.03	9.46	–	7.77	7.45
■ Medium-haul	10.93	10.87	11.46	10.39	11.26
■ Short-haul	17.68	17.30	–	19.68	17.89
Total averages	10.24	10.47		9.17	10.04

Decoupling of transport performance and fuel consumption

Change compared to 1991 in percent, values for the fleet of the Lufthansa Group



Fuel Dumps

2012

changes
compared to 2011

Events, total	17	+2
thereof medical reasons	11	+6
technical reasons	4	-5
other reasons	2	+1
Quantity, total	444 tonnes	-15.7%

Specific fuel consumption, passenger transportation

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

	2012	2011	changes in %
Group fleet	4.06	4.18	-2.8
Lufthansa German Airlines	4.16	4.27	-2.8
Germanwings	4.55	4.42	+2.8
SWISS	3.64	3.72	-2.3
Austrian Airlines	3.98	4.18	-4.8

Fuel consumption¹

2012 (in tonnes)

	passengers	freight	total	share
Scheduled flights^{2,3}				
Lufthansa	4,873,880	1,676,438	6,550,318	72.7%
Germanwings	243,541	212	243,753	2.7%
SWISS	1,065,389	374,352	1,439,741	16.0%
Austrian Airlines	568,647	76,467	645,114	7.2%
	8,878,926		98.5%	
Third parties ⁴	113,896	7,872	121,768	1.4%
Other flights⁵				
	13,800		0.2%	
All flights				
	9,014,494		100.0%	

Emissions^{3,6}

2012 (in tonnes)

	passengers	± 2011	freight	± 2011	total	± 2011
CO ₂	21,267,096	-0.4%	6,701,531	-5.3%	27,968,627	-1.6%
NO _x	103,813	+3.7%	32,992	-2.4%	136,805	+2.2%
CO	16,187	-2.8%	3,228	-7.5%	19,416	-3.7%
UHC	1,661	-5.9%	435	-10.7%	2,096	-7.0%

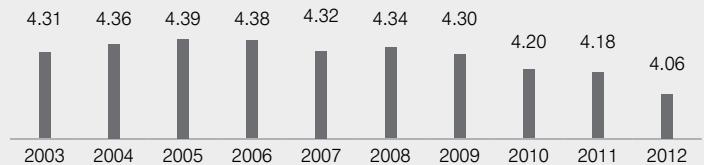
Share of third parties⁴

2012

Flights	3.3%
Passengers	2.3%
Tonne kilometers transported, TKT⁷	0.8%
Fuel consumption	1.4%
Carbon dioxide emissions	1.4%

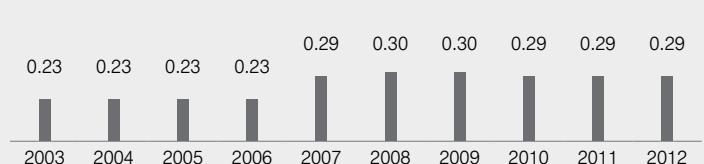
Specific fuel consumption, passenger transportation

in liters/100 passenger kilometers



Specific fuel consumption, freight transportation⁸

in liters/tonne kilometers

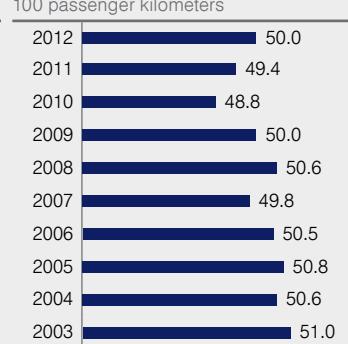


Passenger transportation

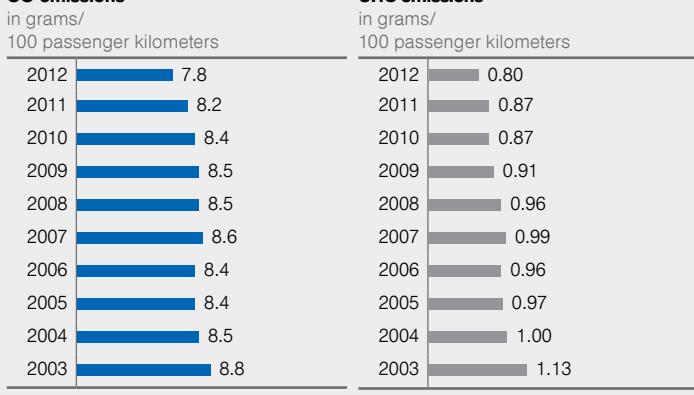
CO₂ emissions in kilograms/ 100 passenger kilometers



NO_x emissions in grams/ 100 passenger kilometers



CO emissions in grams/ 100 passenger kilometers



UHC emissions in grams/ 100 passenger kilometers

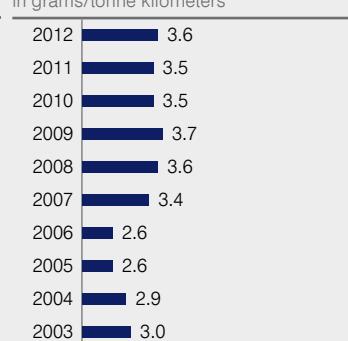


Freight transportation⁸

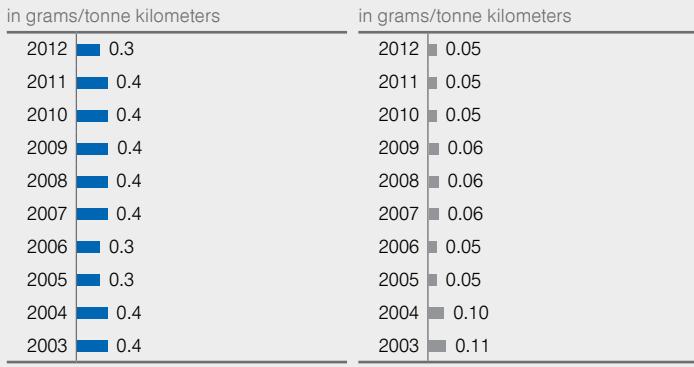
CO₂ emissions in kilograms/tonne kilometers



NO_x emissions in grams/tonne kilometers



CO emissions in grams/tonne kilometers



UHC emissions in grams/tonne kilometers



1 Actual fuel consumption in tonnes from flight operations, based on all flight events. Recorded are consumption values from gate to gate, i.e. including taxiing on the ground and holding patterns and detours in the air.

2 Scheduled flights, charter flights.

3 For the reporting year 2012, the following companies have been included in Balance: Lufthansa (including Lufthansa CityLine, Air Dolomiti, Eurowings, Contact Air, Augsburg Airways), Lufthansa Cargo, Germanwings, SWISS (including Edelweiss Air) and Austrian Airlines. Excluding the services of third parties as the company can influence neither their performance nor the equipment operated (see table "Share of third parties").

4 Includes flights operated by airlines that do not belong to the Group, which carry out services on Lufthansa's behalf at short notice, e.g. in the event of capacity bottlenecks.

5 Ferry flights, special flights, training flights, test flights, aborted flights.

6 Absolute emissions in tonnes resulting from flight operations (all scheduled and charter flights). Recorded are emission values from gate to gate, i.e. including taxiing on the ground and holding patterns and detours in the air (see "About this report - Methodology of calculations" on page 4).

7 Excludes road feeder service and partial capacity chartered by Lufthansa Cargo, as no fuel consumption and emissions values are available for this performance.

8 On the basis of freight tonne kilometers (FTKT), transported on both cargo and passenger aircraft.

Fuel efficiency: Every drop counts

Fuel is the largest cost item in the Lufthansa Group's operating expenses – and has been on the rise for years. At about 7.4 billion euros in 2012 – which is about 1.1 billion euros more than in 2011 – the Group's fuel purchases now account for more than 20 percent of operating expenses. That is why the aviation company has been working flat out to use kerosene as efficiently as possible. Because cutting fuel consumption by just 1 percent can improve the annual result by about 74 million euros.



For more information on fuel efficiency see page 6.

Put differently: If an aircraft weighs 100 kilos less on average, a company such as Lufthansa German Airlines stands to save 2.6 million euros a year in kerosene expenses. This is a plus for the environment as well, as a considerable number of tonnes of CO₂ emissions are avoided at the same time.

This is why the companies of the Lufthansa Group have been focusing on numerous ways to reduce kerosene consumption. The scope of the measures they have developed in diverse projects ranges from technical solutions and weight reductions to adapting ground handling processes, fine-tuning the network, advancing political structural projects and introducing innovative procedures in flight operations (see overview on page 72). With the introduction of the Group's SCORE program, which aims at sustainable cost reductions, the topic of fuel conservation has again gained in importance (see "SCORE: our corporate program is on track" on page 38).

The Group-wide SCORE project "Fuel Efficiency"

In the framework of the Group-wide SCORE project "Fuel Efficiency," the experts at the Lufthansa Group airlines and Lufthansa Technik collect and share successful, tried-and-tested solutions from daily practice to effectively increase the efficient use of kerosene. The project's declared goal is to intensify cooperation with regard to both exchanging information and implementing concrete projects.

To create the prerequisites for contents and organization, the project is divided into three topic areas. These comprise facilitating the systematic exchange between experts, launching individual projects with exceptional conservation potentials and establishing standards and structures.



Measures to increase fuel efficiency within the Lufthansa Group (selection of examples)



Members of the Fuel Efficiency project team during a meeting.

Systematic exchange

All the airlines within the Lufthansa Group have long since had rules and measures to make kerosene consumption as efficient as possible. However, a standardized overview of their many different activities did not exist until recently. "None of us knew which measures might also be implemented by the other airlines," explains Jens Ritter, head of the SCORE project Fuel Efficiency. Since this project's launch in spring 2012, the experts of the participating Group companies have exchanged information about their activities in the area of fuel efficiency regularly and even more intensively and systematically than before. At the same time, they have assessed whether these measures might be implemented by the other Group airlines as well. And successfully so: So far the experts have launched 500 projects to develop fuel-saving measures, around 200 of which the flying companies will be able to adopt over the short- or medium-term. These include technical improvements, altered flying procedures and further weight reductions.

Projects with exceptional conservation potentials

The team headed by Jens Ritter has also identified several individual projects with especially significant savings potentials, which are to be implemented by the Group airlines. For example, completely clearing out a Lufthansa Airbus A340-300 drew particular attention. On 18 December 2012, nearly 40 Lufthansa employees unloaded all loose items in the aircraft's cockpit, cabin and cargo hold to weigh and painstakingly catalogue them. This resulted in no less than four tonnes of material – from cockpit documentation, pillows and blankets to torch lights and trolleys. Currently, the operating departments are evaluating which items in which quantities can remain on board, which can be eliminated and which can be replaced by more lightweight versions. In the future, all airlines within the Lufthansa Group will benefit from the results of this campaign.

Another project focuses on the Strategic Cost Index. This figure indicates the overall costs incurred for each flight and depends on the load, speed and item costs for crew, MRO and engines. By using the "new" Strategic Cost Index, flight crews are able to calculate this value on a basis that has again become significantly more precise. This is because the system now includes not only time costs (crew and MRO) but also current fuel costs to determine the performance indicator. Once an aircraft has taken off, the Tactical Cost Index comes into play to support the pilots in flying in economically optimal ways. In the future, its calculation will be based not only on the parameters mentioned above but also on current data about weather and the aircraft's performance. All flights of Lufthansa German Airlines have been planned and operated with the Strategic Cost Index since July 2012. The other Group airlines are currently evaluating its introduction.

Beyond that, the Group airlines together with Lufthansa Technik are examining the economic feasibility by type of aircraft of specific technical advancements, such as those to improve aerodynamics. For example, the experts are investigating whether air resistance at landing gear flaps and passenger doors might be reduced by means of slight modifications. And whether the current low-drag operation of engine blades can be optimized even further. Lufthansa Technik has compiled packages with measures for technical modifications for the aircraft types operated by the Group airlines, which the latter are currently evaluating for their applicability.

Setting up standards and structures

In addition to joint project work, the experts have anchored standards for goals, monitoring and reporting along with communicative and organizational structures within the Lufthansa Group. The result is the new "Fuel Efficiency" department, which began its work at Lufthansa German Airlines on 1 May 2013 and is responsible for developing and coordinating all measures to cut the airline's fuel consumption. Furthermore, the team is responsible for auditing the other fuel efficiency units and steers all activities at the Group airlines and at Lufthansa Technik which aim at increasing fuel efficiency. The department also drives the introduction and further development of Key Performance Indicators (KPIs) valid Group-wide.

A selection of the diverse activities through which the companies of the Lufthansa Group make their contribution to fuel efficiency is shown on the following pages.

Lufthansa

In the framework of the SCORE program's "Fuel Efficiency" project, Lufthansa heads individual projects including the above-mentioned "clearing out" of the Airbus A340-300, the Strategic Cost Index and the Tactical Cost Index.

Furthermore, all new A320s put into service at Lufthansa by the beginning of 2015 are to be fitted with sharklets as a standard feature. These upward-bending wingtip extensions reduce fuel consumption and thus CO₂ emissions.

At the same time, Lufthansa is working on increasing the number of "Fuel Reporter" users. Developed by the airline, this software package analyzes the impact of various variables on fuel consumption and automatically generates relevant indicators and reports. So far, the Fuel Reporter is used by Lufthansa and the regional airlines. However, SWISS is highly interested in using this application as well.

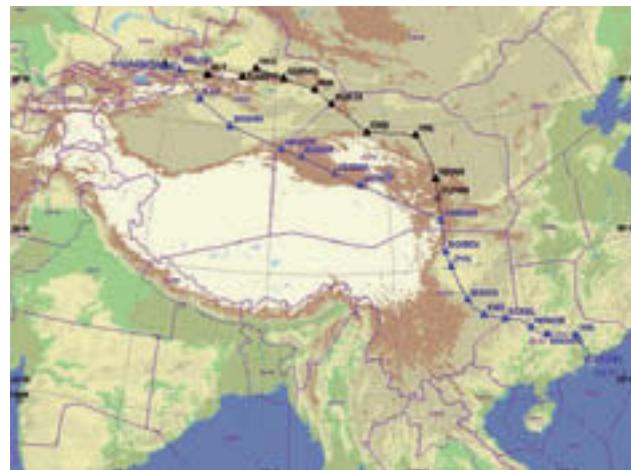
European air traffic control organization Eurocontrol. The goal of this innovation is to equip aircraft with the new ADS-B IN technology as a standard. It enables aircraft to transmit their exact positions and identities automatically to ground systems and to process the corresponding information from other aircraft. With support from this system, pilots are even better able to assess current circumstances in air-space, avoid turbulence and reduce CO₂ emissions. The initial test results are promising.

Austrian Airlines

In the reporting year, Austrian Airlines implemented above all a number of measures to minimize the weight of its aircraft and thus to conserve fuel. For example, the airline reduced the number of magazines on board. Furthermore, Austrian Airlines pays close attention to loading its long-haul aircraft optimally to promote kerosene-conserving flying. All measures are coordinated with the Fuel Efficiency team.



SWISS is the first airline worldwide to test the new ATSAW equipment developed by Airbus.



The satellite communication system SATCOM allows shorter flight routings. This helps Lufthansa Cargo save time, fuel and money.

SWISS

In the context of SCORE, SWISS is implementing various fuel efficiency projects and closely coordinates these with the Fuel Efficiency team. For example, it is the first airline worldwide to test the new Airborne Traffic Situational Awareness (ATSAW) equipment in commercial operations on North Atlantic routes. Developed by Airbus, ATSAW enables pilots to optimally adapt a flight's altitude to wind and weather conditions and thus minimize fuel consumption and CO₂ emissions.

In this context, SWISS was selected as one of five airlines worldwide to participate in the ATSAW pilot project of the

Lufthansa Cargo

Lufthansa Cargo has made an investment in five Boeing 777Fs, the first two of which will be delivered at the end of 2013. These new freighters consume 17 percent less kerosene on average than the current Boeing MD-11Fs and are also significantly quieter (see "Billions for quieter and more efficient aircraft" on page 30).

Since the winter timetable 2012, the logistics specialist has also been navigating the first of its freight aircraft with the support of SATCOM – a satellite communications system that makes aircraft reachable worldwide and allows shortened flight routings. Using SATCOM, for example, Lufthansa Cargo



Less fuel, less CO₂, less noise: The Boeing 777F will join the Lufthansa Cargo fleet from end of 2013.

freighters can now fly from Hong Kong and Guangzhou to Almaty on more direct routes and thus conserve about 2,000 tonnes of kerosene per year. The entire Lufthansa Cargo fleet will be equipped with this system by the end of June 2013.

Moreover, the replacement of standard freight containers made from aluminum with the almost 13 kilos lighter version made from composite materials is progressing. When the more than 5,000 containers have been completely replaced by the end of 2013, the annual fuel-savings volume will reach 2,160 tonnes of kerosene. Removing the paper-based navigation kit and document file from the cockpit will produce another weight reduction of 20 kilos. Lufthansa Cargo also has appointed a Fuel Efficiency manager and some of the company's employees regularly participate in the SCORE working group Fuel Efficiency.

Brussels Airlines

In the context of its "b.green" program, Brussels Airlines continuously works on reducing its kerosene consumption and the related CO₂ emissions. All measures to increase fuel efficiency are coordinated with the Lufthansa Group's Fuel Efficiency team. As far back as 2009, the airline received the "Environmental Award" from Brussels Airport for its commitment.

Lufthansa Systems

Lufthansa Systems developed the flight route planning solution Lido/Flight, which helps airlines to cut their fuel costs by up to 5 percent. This application calculates the most efficient route among the innumerable possible combinations and takes all current flight-relevant data into account to do so. At the same time, users can decide if the route is to be optimized in terms of costs, flying time or fuel requirements. Lido/Flight not only optimizes individual flights but also allows the strategic analysis of future routes and the statistical assessment of individual city pairs.

Furthermore, the IT service provider expanded Lido/Flight by adding the high-performance module Lido/Flight Winds, which visualizes flight routings and other flight-relevant information such as meteorological radar images or information on the airspace situation. This improves the airlines' ability to monitor flights in all phases all the way to landing and to intervene with support if needed. Airlines are thus able to further improve the efficiency of their flight operations and the punctuality of their flights.

LSG Sky Chefs

LSG Sky Chefs develops environmentally friendly products, such as the lightweight trolley "Quantum" and lightweight dishes that can also be recycled. For example, Lufthansa began in summer 2011 to replace its conventional service trolleys with the "Quantum" trolleys, which weigh one-third less. For the airline, this means a reduction in kerosene consumption of 9,000 tonnes per year and the avoidance of about 28,350 tonnes of CO₂ emissions. All Lufthansa long-haul aircraft will be equipped with the new lightweight trolley by mid-2015.

Using biofuels opens up perspectives

The Lufthansa Group accomplished pioneering work by running a six-month trial of biokerosene on scheduled flights between Hamburg and Frankfurt in 2011. Carried out in the context of the “burnFAIR” research project, this concrete test proved that alternative fuel is suitable for use under daily operating conditions (see *Balance* 2012, “Long-term trial of biofuel” on page 67). Even though the scientific data analysis has not been fully completed, there is no doubt that the Group will continue to pursue this promising topic.

The main focus is currently on creating availability and secure supplies of biofuel for the Lufthansa Group. In this case, it is important to consider that the large-scale introduction of biokerosene comes with additional challenges in assuring the quality of the kerosene filled into aircraft tanks. On the one hand, new suppliers without the decades of experience of the mineral oil companies will be entering the market. On the other hand, the new synthetic fuels will in various ways be composed differently from conventional kerosene.

The Lufthansa Group actively participates in the project “Quality assurance and sustainability in supplying biofuels for aviation” (QuaNatBioL), which is supported by Germany’s Federal Ministry for Economics and Technology. As project sponsor, the aviation company cooperates closely with Fraunhofer UMSICHT, Bauhaus Luftfahrt and Technische Universität Berlin. The project’s goal is to evaluate quality-relevant effects on production processes and to develop possible solutions for adapting quality standards. In this context, the project partners also include aspects related to legality and sustainability.

Furthermore, Deutsche Lufthansa AG will analyze the blending properties of biokerosene and conventional kerosene in 2013/2014 on behalf of the EU Commission. Carried out in cooperation with the German armed forces’ Research Institute for Materials, Fuels and Lubricants in Erding, this joint project determines for various conventional and synthetic fuels how the properties of a given blend change as the share of synthetic kerosene is

increased. This question is important for a number of factors: including the upcoming use of biokerosene mixes in routine operations, the operative handling of transport and storage logistics with the transition to large-scale production and the wide-ranging supply at airports including storage and throughput of biokerosene blends.

In addition, the Group has cooperated since April 2012 with the University of Lüneburg’s Sustainability Department and Lüneburg-based company INOCAS GmbH. The goal of this cooperation is to develop application-oriented concepts for the sustainable and competitive production of raw material for alternative aviation fuels.

Wide-ranging international commitments

Beyond this, the Lufthansa Group is active in several initiatives to help advance the development of alternative fuels and ensure their sustainability. This includes the nonprofit Aviation Initiative for Renewable Energy in Germany (aireg e.V.) and the Sustainable Aviation Fuel Users Group (SAFUG). With Group company SWISS as an intermediary, the Lufthansa Group also participates in the Roundtable on Sustainable Biofuels (RSB, Lausanne).

Moreover, Lufthansa is active in the European Advanced Biofuel Flight Path initiative, whose goal is to produce 2 million tonnes of sustainable aviation fuel in Europe by 2020. In 2013, the Lufthansa Group provides the chair of this European initiative.



In 2011, Lufthansa became the first airline worldwide to test the use of biofuel in scheduled flight operations.

The special importance the topic of alternative aviation fuels currently holds is illustrated by the intergovernmental agreement between Germany and the United States signed in September 2012. Both countries aim at a closer cooperation in this area by further developing sustainability standards, approving production processes and extending the raw materials base.

Biofuel strategy 2020

With its Biofuel Strategy 2020, the Lufthansa Group reconfirms its commitment to climate protection. The activities in its different initiatives serve toward setting up a new supply chain for the future provision of the Lufthansa Group with biofuel. The key principles in this context are to certify cultivation and processing of raw materials and to respect food safety and biodiversity.

To achieve this, in addition to the above-mentioned projects, the Group will participate in the licensing process for kerosene based on plant oils. The focus here is on analyzing the different ways of gaining and processing raw materials. It is also of great importance to define the sustainability aspects along the entire supply chain of biofuels.

No competition with food stuffs

The Lufthansa Group's biofuel strategy includes plans to have the required cultivation of raw materials organized professionally by specialized agricultural companies and to have it adhere to the regulations of the European directive for renewable energy (EU-RED). The aviation company will use a delivery contract to participate in shaping the ways and means of this raw materials production and thus secure the investments of third parties in the cultivation of sustainably farmed energy plants. The key prerequisite in this context is that the cultivation of the energy plants under consideration must at no time be in competition with food production. For this reason, the Group plans

to coordinate closely with Germany's Federal Ministry for Economic Cooperation and Development and Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation).

Moreover, a number of other prerequisites have to be met before biokerosene can be used in daily operations. This includes its proven environmental utility and sufficient availability at an acceptable price. An indispensable criterion for selecting suppliers is that their fuel must be produced in sustainable ways and certified accordingly. For the Lufthansa Group, certification based on the standards International Sustainability and Carbon Certification (ISCC) or the Roundtable on Sustainable Biofuels would be acceptable. ISCC is the first officially recognized global certification system for sustainability and greenhouse gas emissions and is based on six principles. These require, for instance, that biomass be produced in environmentally compatible ways – regarding not only the sparing use of resources such as soil, water and air but also the application of sound agricultural practices. The production of biomass must also not violate human rights, labor law or land use rights. The RSB standard places nearly the same requirements on biokerosene production, while its criteria are in part even stricter. More information on these standards is available at

- www.iscc-system.org
- www.rsb.org

By establishing a supply of alternative fuels step by step, the Lufthansa Group is pursuing demanding objectives: It is to make a significant contribution toward enabling the company to reach the aviation industry's ambitious climate protection goals (see "Environmental strategy" on page 66). Furthermore, the Group's strategic environmental program calls for adding up to 10 percent of a synthetically produced fuel to conventional kerosene by 2020. This goal, however, also includes the use of synthetically produced fuel from alternative sources such as GtL aviation fuels (Gas-to-Liquids).

- www.puresky.de/en

Emissions trading and aviation tax

Unilateral burdens remain

The European Union suspended emissions trading for the reporting year 2012 for flights to and from Europe. However, for flights within the community of states – which includes feeder flights to large hubs – airlines still have to prove their emissions rights. This remains a significant disadvantage for airlines with hubs within the EU that serve their intercontinental routes.

By partially suspending emissions trading – initially for 2012 – the EU wants to give the international aviation community more time to find a global solution for climate protection. When the plenary session of the UN air transport agency International Civil Aviation Organization (ICAO) convenes at the end of September 2013, one of the central topics will thus be the draft of a standardized worldwide system (global sectoral approach). At the same time, the EU has for the time being averted the threat of a trade dispute with important aviation nations such as China, India and the United States. These and about 40 other countries had vehemently resisted the EU's unilateral initiative in emissions trade starting on 1 January 2012. Should the ICAO fail to reach a solution in September 2013, the conflict threatens to flare up again.

The German and European aviation industries especially have long demanded that the 191 ICAO member states agree on a market-based, globally-valid steering instrument. For international challenges such as global warming can only be solved jointly by all countries and aviation companies. Even after partial suspension, the EU emissions trading distorts competition to the disadvantage of European airlines. One example: There is no direct connection on the route Hamburg-Delhi, so passengers must transfer at a hub. If this airport is located outside of the EU, such as in Istanbul or Dubai, no costs are incurred from emissions trading. But it is different for hubs such as Frankfurt, Paris or Munich, as the flight segments within the EU are subject to emissions trading and thus the long-haul connection becomes more expensive. This is also true against the backdrop of the relatively low price for the CO₂ certificates. The additional costs for the Lufthansa Group come to over 50 million euros, despite the partial suspension of emissions trading for the year 2012.

In Lufthansa's estimation, there are significantly more effective climate protection measures than emissions trading limited to the EU. To further reduce its specific CO₂ emissions, the aviation industry has developed its tried-and-tested four pillar strategy with support from the Lufthansa Group (see illustration on page 66). It comprises innovations in engine and airframe technologies, improved infrastructure and new procedures in flight operations. These are complemented by globally valid economic instruments, such as market-based mechanisms. In Europe, the largest potential for avoiding CO₂ emissions is still provided by the planned Single European Sky (SES), a transnationally organized air space management of air traffic control organizations.

Besides emissions trading, the national aviation tax, which continues to be levied in Germany, constitutes a unilateral burden that cost German airlines about 1 billion euros in 2012. For the Lufthansa Group alone, the cost came to 362 million euros. This is a considerable sum, which is not available to the Lufthansa Group for investments in modern aircraft and new environmentally compatible technologies. In April 2013, the CEOs of the German airlines and airports as well as the chairs of employee representations and trade unions in the aviation industry therefore jointly appealed to politicians to create competitive and fair conditions for the industry. This includes the abolition of the aviation tax, which Germany's upper parliamentary chamber demanded with a significant majority at the end of 2012.

Environmental management

Coordinating and steering environmental care

To minimize the environmental effects of flight and ground operations as much as possible is an important concern for the Lufthansa Group. This endeavor is also expressed by the Group's Strategic Environmental Program 2020, which was adopted in 2008. Its 15 guidelines point the way toward making mobility as environmentally compatible as possible in the future as well. One of the measures to reach this goal is the continuous expansion of the environmental management both at the Group level and within the individual companies until 2020.

The Group-wide environmental goals, strategies and measures are coordinated by the Group Environmental Issues department. In addition, the executive divisions and all companies with environmental relevance have their own environmental department, an environmental commissioner or a contact person for this area. The Lufthansa Group's Environmental Forum meets twice a year to give the company's experts in this area the opportunity to discuss current environmental issues. This platform allows the environmental commissioners to take advantage of synergies as well as to present and discuss new ideas, measures and plans with regard to environmental protection.



Lufthansa's environmental experts meet twice a year to discuss current topics.

In 2012, the Lufthansa Group made further progress in the area of environmental management structures, as the following examples from the Group companies show. At the same time, the company has been successful in integrating environmental topics even more deeply into its business processes than before.

Lufthansa CityLine

As a distinction for its successful environmental management, Lufthansa CityLine received the certificate of the European eco-audit regulation EMAS in 2012 for the fifth time in a row. Concurrently, the airline was recertified for its exemplary environmental management system in accordance with the international environmental norm ISO 14001. Both certifications were reconfirmed by the monitoring audit in 2013. This Lufthansa subsidiary has operated a certified environmental management system since 1999 at its three company locations in Cologne, Munich and Frankfurt.

Lufthansa Cargo

As part of its environmental strategy, Lufthansa Cargo created its environmental management system as an effective instrument to manage and document its environmental measures in a systematic manner.

The certification of the environmental management system in accordance with the internationally acknowledged standard ISO 14001 was reconfirmed in November 2012 by external auditors during their annual monitoring audit. "The certification underscores that we assume responsibility

ity for our actions and that environmental protection has a high priority within the company," says Bettina Jansen, head of Environmental Management at Lufthansa Cargo. The environmental management system at the Frankfurt location was certified according to ISO 14001 for the first time in 2008. All German stations followed two years thereafter.

Lufthansa Technik

Lufthansa Technik is working towards having an environmental management system certified according to ISO 14001 and a job safety management validated according to the job safety specification OHSAS 18001 at all its subsidiaries worldwide by the end of 2013. The technical aviation services provider has itself been certified according to ISO 14001 and OHSAS 18001 since 1999.

On 27 March 2013, Lufthansa Technik signed an agreement – together with 14 other Hamburg-based companies – in which it has committed itself to further reducing its energy consumption through voluntary additional measures by 2018 and to reduce its CO₂ emissions by 30 percent in the process. Furthermore, Lufthansa Technik set all subsidiary companies the goal of reducing CO₂ emissions by 30 percent by 2018. Targeted, programmatic support from mid-2013 is to ensure that existing individual know-how and experience can be applied effectively across the entire Lufthansa Technik Group.



Lufthansa Technik has set itself ambitious environmental goals.

LSG Sky Chefs

Over the past five years, LSG Sky Chefs has developed and implemented a structured and comprehensive environmental management system that leads the way in the area of aviation catering and is modeled on the standard ISO 14001. Located at the Executive Board level, its environmental management allows the airline caterer to achieve continuous improvements within its global network. The Executive Board defines environmental goals as measurable indicators for energy, water and waste management, which the individual management regions are required to achieve.



The company restaurant at the Lufthansa Aviation Center in Frankfurt has held the organic certification "Bio" since 2012.

LZ-Catering

Since December 2010, LZ-Catering has participated in the "Ökoprofit" project of the city of Hamburg. This "ecological project for integrated environmental technology" aims at the systematic implementation of cost-reducing environmental measures in companies. For this purpose, the various resources (such as water and energy) and waste materials are carefully examined and analyzed to optimize or reduce respective consumption or production.

The project is a solid base for implementing a planned environmental management system durably. Since 2012, individual Lufthansa company restaurants at the Frankfurt location run by LZ-Catering have also participated in this innovative project. Furthermore, LZ-Catering had the company restaurant at the Lufthansa Aviation Center in Frankfurt certified in accordance with the EU eco-regulation "Bio" during the reporting year. A menu prepared exclusively from organically produced ingredients is offered on Tuesdays and Thursdays.

In July 2012, LZ-Catering also introduced the climate-preserving nutritional concept "Climate Plate" at the company restaurants in Hamburg. Each Wednesday, red meat (beef, pork and lamb) and high-fat milk products are avoided in warm dishes for climate protection reasons. With "Climate Plate" the Lufthansa subsidiary can avoid about 37 tonnes of CO₂ per year in Hamburg alone. The roll-out for all locations in Germany is planned for mid-2013.

Energy and resource management

The Lufthansa Group drives environmentally compatible electromobility concepts forward

As an innovation driver in the aviation industry, the Lufthansa Group has also been committed for many years to projects that limit the environmental effects of its ground operations at airports. The focus is on finding effective ways to reduce fuel consumption and emissions of pollutants and noise when taxiing and towing aircraft and when deploying earth-bound vehicles.

In this spirit, Lufthansa Technik and its project partners put Germany's first car with inductive charging technology into service in 2011 at Frankfurt Airport – in conjunction with the first inductive charging station (see *Balance 2012*, "First electric car with inductive charging technology" on page 82).

Continuous research of alternative propulsion concepts
 Furthermore, at the beginning of 2012, the company supported the bid of the Frankfurt-Rhine-Main region to become a "Showcase for Electromobility" in the framework of the German federal government's National Development Plan for Electromobility (see *Balance 2012*, "Towards sustainable practices on the ground" on page 82). "Even though the region unfortunately did not win the bid, we will naturally continue our cooperation with the Hessen state government, the coordinating office for the Electromobility Model Region Rhine-Main and Fraport," says Markus Pauly, Director Commercials & Development Frankfurt at Lufthansa. One opportunity to do so is the project "Airport eMove," for which the Group and its project partners applied for subsidies from Germany's Federal Ministry of Transport, Building and Development, which were granted at the end of 2012. Technische Universität Darmstadt provides scientific consulting for the project.

Airport eMove

Airport eMove bundles three subprojects

Airport eMove binds together various future-oriented electromobility concepts which are set to make the taxiing and towing of aircraft on the aprons and taxiways at Frankfurt Airport as environmentally compatible as possible. All these procedures contribute to conserving kerosene or diesel and thus to lowering emissions of pollutants. Furthermore, they make it possible to avoid a significant part of the noise generated on the ground. To realize this potential, aircraft are in future not to use their engines as propulsion when taxiing to runways, parking positions or hangars. Instead, they are either to be towed by electrically driven aircraft tow trucks (eTruck and TaxiBot) or to be driven by an electric propulsion system integrated into the aircraft (eTaxi). Furthermore, the Airport eMove project partners advocate the development of a homogeneous charging infrastructure to create the basis for increasing the number of electrically driven vehicles at Frankfurt Airport. The starting signal for the overall project, which is to run until May 2016, was given in January 2013. The sub-projects of Airport eMove are as follows:



eTaxi: The revolutionary idea for environmentally friendly ground operations.

eTaxi: Electrically driven landing gear for taxiing

As a result of the eTaxi project advanced by Lufthansa, Lufthansa Technik and partner organizations since the end of 2011 (see *Balance* 2012 on page 82), short- and medium-haul aircraft will soon roll on the apron (taxiing) in an environmentally friendly way. This will be made possible by installing an electric motor in the aircraft's main landing gear. Besides the ecological advantages already mentioned, eTaxi reduces wear and tear on brakes, spares the engines by lowering their operating hours and reduces the risk of damage from objects being sucked into the engines (foreign object damage, FOD). The pilots in the cockpit control the electric motor. In the framework of this project, the technical and operative integration into flight operations is being investigated and developed.

TaxiBot: Pilot steers diesel electric powered aircraft tow truck

The subproject TaxiBot, whose focus is a hybrid diesel electric powered aircraft tow truck, has advanced the furthest. It too enables commercial aircraft to taxi to the runway with their engines off (dispatch towing). This process is based on a technology patented by Israel Aerospace Industries (IAI) and developed with participation from Lufthansa LEOS. Unlike eTaxi, this system requires no or only minimal modifications to the aircraft. And unlike conventional tow trucks, this custom built tractor picks up the aircraft via its nose landing gear using a mounting device with a rotary plate (rotating turret). The rotary plate registers the nose wheel's steering movements and transmits the chosen angle to the steering mechanism of the TaxiBot's wheels. After push-back of the aircraft from the gate, the TaxiBot driver hands over the truck's controls temporarily to the pilot in the cockpit, from whence he or she steers the truck in the Pilot Control Mode (PCM). Once the aircraft reaches the disconnect position, the TaxiBot driver resumes control and separates the tow truck from the aircraft. Only at this point are the aircraft's engines started.

Towbarless eTow Truck on a hybrid basis

The third subproject involves an electrically driven towbarless aircraft tow truck on a hybrid basis, which Lufthansa LEOS is currently developing together with Kalmar Motor AB. One of the project's goals is to compare its efficiency and economic viability with those of a diesel driven model. Furthermore, concrete possibilities of deployment must be evaluated and specifications for the construction of a prototype need to be derived. What makes this tow truck so special? Unlike conventional towbarless models, which are designed for aircraft up to a maximum takeoff weight (MTOW) of 160 tonnes, the eTow Truck will be the first worldwide to tow aircraft with an MTOW up to 570 tonnes in a purely electrically driven fashion. It will also manage on-base tows over longer distances of five to seven kilometers, require less maintenance and allow the repositioning of aircraft. Its lithium-polymer batteries are charged externally via the mains supply, while a small, additional diesel engine (range extender) can be used to recharge the batteries during operation as needed.



With TaxiBot, commercial aircraft can taxi to the runway with the engines off.



In cooperation with Mercedes-Benz, LSG Sky Chefs is testing a catering lift truck powered by natural gas technology.

eLift: LSG Sky Chefs develops catering lift truck of the future

Another company setting milestones in electromobility is LSG Sky Chefs. Under the name eLift, the Lufthansa subsidiary and its cooperation partners are currently advancing the development of an electrically powered catering lift truck based on an electrically driven truck chassis, which is to help reduce CO₂ and noise emissions at the Frankfurt hub long-term. The goal of eLift is to develop concepts for the electrification of the lift truck's individual components, such as its lifting mechanism. In addition, the cooperation partners are working on separating the truck chassis and box body mechanically and energetically to be able to power the lifting system autarkically and to ensure the independence of future vehicle developments. The project was launched at the beginning of 2013 and has a planned duration until the end of 2015.

In addition to eLift, LSG Sky Chefs launched a field test together with Mercedes-Benz involving a catering lift truck on the basis of a Mercedes-Benz Econic model using natural gas technology (NGT). In LSG Sky Chefs' vehicle fleet since the end of November, this lift truck is also used at Frankfurt Airport. Among the pilot project's objectives are to clarify the extent to which this truck is appropriate for use in an airport environment and to further the analysis and optimization of loading and unloading processes. The first results of this field test are expected in the second half of 2013.

Focus on electric cars

Other companies within the Lufthansa Group also provide examples for the consistent advancement of environmentally compatible car technologies. For example, Lufthansa Cargo expanded its vehicle fleet according to energy-efficiency criteria in 2012 and also carried out a six-month practice test with an eGolf. Austrian Airlines tested an electrically driven Renault Kangoo Z.E in its MRO operations during the reporting year. And since November 2010, aircraft handling at Lufthansa's Munich hub has been evaluating the operation of e-cars. The future use of electric vehicles will depend on not only the further development and capacities of batteries but also the duration of charging processes.

LSG Sky Chefs: Waste management in catering

Recycle, dispose, reduce: Based on this principle, LSG Sky Chefs, the world's largest provider of airline catering and management of all in-flight processes, has operated a structured, comprehensive environmental management system for many years. The goal is to recycle as much waste material as possible – insofar as practicable – and to further reduce waste quantities continuously.



Since 2008, LSG Sky Chefs has recorded all waste quantities generated at its 117 wholly-owned locations in 31 countries. These recorded values are the basis on which the company sets recycling quotas for each location, each country and the entire LSG Sky Chefs Group.

As a company operating according to sustainable principles, LSG Sky Chefs has developed a comprehensive system of key performance indicators (KPIs). These KPIs are used to measure and continuously optimize the success of all its measures to reduce waste quantities and conserve resources. This includes the indicator "waste per meal in grams," which the company wants to lower worldwide by a further 2 percent in the three years ahead. Furthermore, there are the indicators "water consumption per meal" and "energy per square meter of operating surface." The catering specialist plans to add two more KPIs to the current system of indicators: "energy per meal" and "percentage share of recycled waste of total waste."



Different types of waste

LSG Sky Chefs distinguishes essentially three types of waste materials worldwide:

1. Recyclable on-board waste materials

This includes plastic bottles, glass bottles, beverage cartons and cans as well as newspapers and magazines. However, recycling of these materials is only possible if they have not come into contact with food. Otherwise, they must be treated and disposed of exactly as leftover food.

2. Non-recyclable on-board waste materials

Non-recyclable on-board waste materials (EU Category I) include all leftover food as well as objects that have come into contact with meals – such as disposable materials, aluminum packaging of croissants, aluminum covers of hot meals and beverage packaging used on meal trays. The contents of the trash containers on board also fall into this category. According to the European directive EG 1069/2009, which regulates the handling of foodstuffs in cross-border EU traffic, all wastes in Category I have to be incinerated or thermally sterilized (autoclaving) without exception. For logistical reasons, however, most airline catering operations do not distinguish between international, European and domestic flights, so all non-recyclable on-board waste materials are incinerated as a rule and thus disposed of in a harmless manner.

3. Other waste materials

The third group comprises residual waste, which cannot be recycled. Depending on the country, such waste is disposed of either in waste combustion or landfills.

Recycling on board

Lack of time and space are the determining variables in beverage and meal catering aboard aircraft – and thus also have an effect on waste management. For example, the incorrect sorting of recyclable wastes cannot always be avoided. To conserve valuable resources nevertheless and to avoid increased disposal costs, specific special criteria are applied to airline catering. For instance, flight attendants are urged to store all items in those places from which they removed them. While open foodstuffs have to be disposed of by means of waste boxes or removal trolleys, empty beer bottles belong back in the beverage trolleys. It is also important not to dispose of liquids by pouring them down drains or toilets. In addition, national disposal guidelines play an important role.



Information stand for flight attendants on the topic of sustainability and recycling on board.

Information on sustainability

It is LSG Sky Chefs' declared goal to realize the highest degree of sustainability in all its processes. In this spirit, the company has not only developed service trays made from sugar cane, which weigh less and reduce greenhouse gas emissions by 80 to 90 percent. In 2008, this Lufthansa subsidiary also adopted an Environmental Policy, which has since been displayed at all of its locations. Since 2009, the company has published an environmental report. In 2012, it also published the white paper "Sustainability in In-flight Services and Beyond," which describes insights from the airline industry concerning all aspects of sustainability.

● www.lsgskychefs.com

Resource efficiency in administration as well

There are good reasons for the Lufthansa Group to continuously increase the share of recycling paper in its overall paper consumption: It is technically mature, suitable for all uses and its production consumes less water and energy than that of fresh-fiber paper. Currently, the share of recycling paper for printing and copying purposes stands at 78 percent at the Group's German locations. Only recycled paper with the "Blue Angel" seal is used. This also applies to the production of the Sustainability Report *Balance*, including this issue. In this way, more than 91 tonnes of CO₂ emissions can be avoided and more than 16 million liters of water can be conserved per year.

Since September 2012, Christoph Franz, Chairman of the Executive Board and CEO of Deutsche Lufthansa AG, has personally pushed for another significant increase in the Group-wide share of recycling paper under the slogan "CEOs pro recycled paper." This campaign follows a joint appeal by Germany's Federal Ministry for the Environment, the Club of Rome, NABU and the Initiative Pro Recycling Paper.

Promoting paperless means of communication

The Lufthansa Group makes another contribution to energy and resource conservation by promoting paperless processes with determination. Examples range from electronic boarding passes to "paperless" cockpits. Beyond that, the company is keen on continuously reducing the internal dispatch of documents in the future and increasingly switching to digital transmissions.

● www.papiernetz.de

Noise

Numerous measures for active noise protection

For many years, the Lufthansa Group has been working to reduce the noise emissions that are unavoidably generated by flight operations in the vicinity of airports. To this end, the aviation company continuously invests in ever-quieter aircraft, refits existing aircraft and introduces noise-reducing flight procedures. Moreover, the company is actively involved in noise research and works constructively in expert bodies.

As a result, 607 of 610 aircraft operated by the Lufthansa Group fulfill today's most stringent noise standard: the important "minus 10 EPNdB" criterion (Effective Perceived Noise dB) of the Chapter-4 noise standard of the International Civil Aviation Organization (ICAO). This standard has been in force for new aircraft since 2006 (see diagram on page 87).

By operating the most modern aircraft, the Group achieves the greatest advances in reducing aircraft noise. The best example is the Boeing 747-8, whose noise footprint is about 30 percent smaller than that of its predecessor model, the Boeing 747-400. In 2012, Lufthansa German Airlines received the first four of 19 Boeing 747-8s on order from the

manufacturer (see "Billions for quieter and more efficient aircraft" on page 30). Furthermore, the Lufthansa fleet will receive from 2015 onward new Airbus A320neo and A321neo aircraft, whose noise footprints will be significantly smaller than those of the preceding models owing to their newly-developed engines. The transport of air freight will cause lower noise emissions in the future as well. At the end of 2013, Lufthansa Cargo will take delivery of its first two Boeing 777Fs, with another three to follow by 2015. The Boeing 777F is considered the most modern and quietest freight aircraft in its class.

Research for quieter flying

In the framework of the aviation research program set up by Germany's Federal Ministry for Economics and Technology, the project entitled "Models and Data for the Development of Active Noise Protection Measures in Aviation" (MODAL) was launched in January 2012 (see *Balance* 2012 on page 86). The goal of this project, which is headed by Lufthansa, is to identify noise sources in existing aircraft fleets (here Boeing 747-400) and to develop suitable measures as needed. Another concern is to improve the assessment of active noise protection measures by means of more accurate calculations.

Furthermore, the Lufthansa Group advocates making the taxiing and towing of aircraft as quiet, as environmentally protective and as resource conserving as possible. In the foreground are the research and development of alternative propulsion concepts that allow aircraft either to be towed or to taxi under their own power to and from gates as well as takeoff and landing positions. The aim is to avoid the use of engines on the ground whenever possible (see "Energy and resource management" on page 81).

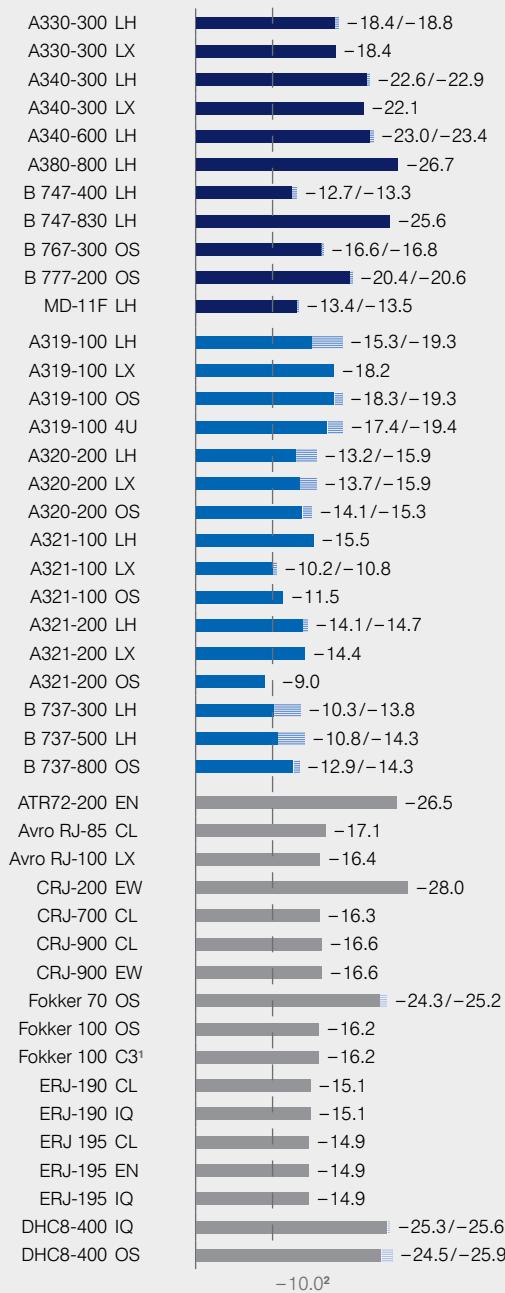


The Boeing 747-8 is significantly quieter and produces fewer emissions than its predecessor model.

Margins below the noise limit of ICAO Chapter 3

Lufthansa Group: active fleet on 31.12.2012

in EPNdB



Grouping of aircraft types according to MTOW:

■ less than 50 t ■ 50 to 150 t ■ more than 150 t

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

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 (cumulated margin). Where necessary, the values based on the reduced maximum takeoff weight prevailing in flight operations are indicated. To allow a more transparent depiction, an improved method of analysis was developed for the previous issues of *Balance*, which include the individual noise certificate data of all Group aircraft. Different versions of an aircraft model and its engines by year of construction are thus better taken into account. While the conservative approach used until reporting year 2008 meant that only the values of the sub-fleet with the lowest cumulated margin were reported to describe an aircraft fleet, the new analytical method used since reporting year 2009 means that the value ranges from the lowest to the highest cumulated margin are now 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 cumulated margins in certain cases. In addition, numerous additions and withdrawals in individual fleets lead to changes in the value ranges reported.

- 4U = Germanwings
- CL = Lufthansa CityLine
- C3 = Contact Air
- EN = Air Dolomiti
- EW = Eurowings
- IQ = Augsburg Airways
- LH = Lufthansa, Lufthansa Cargo
- LX = SWISS
- OS = Austrian Airlines

¹ Operations of the last two Fokker 100s for SWISS ended in January 2013.

² New ICAO Chapter 4 limit, which has been effective for new aircraft since 2006: -10.0 EPNdB when compared to Chapter 3.



Noise protection has progressed a good bit at Frankfurt Airport over the last few years.

Beyond that, the Lufthansa Group has cooperated with partners such as the German Aerospace Center (DLR) for more than ten years in the research network "Quiet Traffic." This initiative counts on the interdisciplinary cooperation of industry, research institutions and transport companies in investigating road, rail and aircraft noise. In the working group Aircraft Noise, for example, the partners have successfully concluded various research projects in the past years, all of which have provided decisive results in the fight against aircraft noise.

More noise protection at Frankfurt Airport

Noise protection has progressed a good bit at Frankfurt Airport over the last few years. Two agreements have especially contributed to this result: the "First Package of Measures for Active Noise Protection" (introduced in June 2010) and the second package of measures "Together for the region – Alliance for more noise protection" (signed in February 2012).

The "First Package of Measures for Active Noise Protection," which was developed in the framework of the Forum Airport and Region (FAR), comprises seven projects to reduce the number of people affected by noise in the area surrounding the airport. Lufthansa takes a leading role in the work of the Forum's "Expert Group for Active Noise Protection," which evaluated and analyzed the measures with support from Lufthansa pilots. The spectrum of noise-relieving steps ranges from replacing the acoustic panels in the engines of the Boeing 737 fleet stationed in Frankfurt to introducing the segmented approach and increasing the number of arrivals under the Continuous Descent Approach (CDA). Since summer 2010, six of these projects have already been implemented. One measure is currently being tested in trial operations.

The second package of measures "Together for the region – Alliance for more noise protection" will bring further relief for people around the airport. At the beginning of 2012, Lufthansa, Fraport, the airline association BARIG, Deutsche Flugsicherung (DFS), the Forum Airport and Region and the state government of Hessen adopted a total of 19 measures for active noise protection at the important international hub in Frankfurt. The first ten of these have already been initiated.

The participating partners developed all measures jointly. For example, one of the obligations Lufthansa agreed to was to replace a total of 32 older aircraft with quieter ones in 2012 – and it even surpassed this goal. Additionally, the airline is planning to equip its A320-family aircraft with so-called vortex generators under the wings, which reduce the noise level during the approach phase by up to 2 decibels. These measures are complemented by improved approach and takeoff procedures (see interview with Lufthansa Captain Markus Kreher at right).

In evaluating approach and takeoff procedures, the reduction of other emissions plays an important role alongside the avoidance of noise. By using a modified takeoff procedure, which allows changing from takeoff thrust to climb thrust at an altitude of 1,000 feet (305 meters) instead of 1,500 feet (457 meters), Lufthansa will be able to avoid the emission of 18,000 tonnes of CO₂ per year worldwide. This procedure is used in Germany and around the world by numerous airlines. Before introducing it in Germany, Lufthansa is planning trial runs on selected routes from Frankfurt to check its effect on noise in cooperation with the partners in the FAR.



Interview with Markus Kreher

Captain A320 and Manager Navigation
and Airside Infrastructure
Deutsche Lufthansa AG

Markus Kreher has participated in the development of improved approach and takeoff procedures at Frankfurt Airport. In this *Balance* interview, he explains the different measures.

Improved approach and takeoff procedures are an area of emphasis in the active noise protection at Frankfurt Airport. In concrete terms, what is the contribution of Lufthansa and its pilots in this area?

Our flight operations are directly and in numerous ways tied into the measures for active noise protection. Especially in Frankfurt – our biggest hub – representatives of the Lufthansa fleets regularly take part in expert rounds and work intensively to introduce new approach and take-off procedures. One measure that was already implemented in June 2012 is the Dedicated Runway Operation. This scheduled rotation of different runways for takeoffs leads to real and calculable noise breaks. In addition, we pilots in cooperation with Deutsche Flugsicherung (DFS) now use the Tactical Continuous Descent Approach (Tactical CDA) for landings. It avoids unnecessary flying at low altitudes when the traffic density allows us to do so. What's more, the angle of approach to the new Runway Northwest has been increased under certain weather conditions from 3.0 to 3.2 degrees, which results in higher overfly altitudes. And finally, we're working on a reduced landing flap position during approach – when conditions allow. Overall, this is a large package of measures. Many of these had to pass stringent analyses and safety assessments. Several pilot colleagues tested them exhaustively in numerous simulator flights.

Which measures are likely to yield the greatest successes with regard to active noise protection?

We hope that all the changes in procedures I've mentioned will reduce noise levels. But some of these measures are still in the test phase, so we will only be able to evaluate them in a few months. The success of the Tactical CDA, however, can already be measured. And the DFS has already reported on this.

Have the implemented measures achieved their goals? Can the success be measured?

In principle, this is possible. But noise measurements are a highly complex subject. And that's why we pilots have an ongoing exchange with the environmental experts of the Lufthansa Group, Fraport and the Forum Airport and Region, which works closely with the aircraft noise commission.

Do you also discuss such noise protection measures with pilot colleagues at other airlines within the Lufthansa Group?

Flight Operations at Lufthansa German Airlines has regular exchanges with colleagues at SWISS, Austrian Airlines, Lufthansa CityLine and Lufthansa Cargo and is also in direct contact with the pilots at Condor. A good cooperation has grown over the past years, which has also produced some successes. And that's something we can be proud of.

Research projects

Developing innovative solutions for a sustainable future

The Lufthansa Group actively participates in research projects and is committed to innovations that reduce the environmental effects of flying for the long run. To reach this goal, the aviation company cooperates closely with respected partners in science and industry.

Their joint projects range from research in the areas of climate protection, the use of biofuels and alternative propulsion techniques for operational processes on the ground to the development of low-resistance aircraft surfaces and resource conserving low-pressure toilet systems on board. The following is an overview of selected examples.

Measurement container CARIBIC: Two million flight kilometers in eight years

The Lufthansa Group has supported the European basic research project "Civil Aircraft for the Regular Investigation of the Atmosphere Based on an Instrument Container" (CARIBIC) since 2004. The project's center piece is an automated, 1.6 tonne measurement container, which collects data on more than 50 different gases and particle

compounds aboard the Lufthansa Airbus A340-600 "Leverkusen" at altitudes between 8 and 12 kilometers. Its 80th mission was flown in November 2012. Among the project's goals is to investigate the intricate processes in the boundary layer between troposphere and stratosphere. These are exceedingly complex, influence the atmosphere's radiation balance and thus affect the Earth's climate. Headed by the Max Planck Institute for Chemistry in Mainz, CARIBIC unites participants including 12 other scientific institutions from all over Europe as well as Lufthansa and Fraport. "Projects like CARIBIC can advance climate research a good bit further, and as an aviation company we want to contribute to this in the future as well," says Dr. Karlheinz Haag, Vice President Environmental Issues at the Lufthansa Group.



Project CARIBIC: Air intake system under the fuselage of the Lufthansa Airbus A340-600 "Leverkusen."



Project IAGOS: Measuring probe on the front left-hand fuselage of the Lufthansa Airbus A340-300 "Viersen."



"Multifunctional Coating": Lufthansa Technik is testing an innovative paint system to reduce air resistance.

Learning from sharks: Innovative paint system reduces air resistance

In the context of a research project entitled "Multifunctional Coating," Lufthansa Technik has been testing an innovative paint system developed on the basis of technically simulated sharkskin structures since summer 2011. This project is carried out in cooperation with Airbus and the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM). For test purposes, the cooperation partners attached eight 10 by 10 centimeter "patches" to the fuselage and leading edge of the wings of two Lufthansa Airbus A340-300s. This step aims at evaluating the durability of these surfaces under the conditions of real flight operations. Should the paint system prove suitable for everyday operations and feasible in economic terms, its application could help conserve about 1 percent of kerosene.

● www.lufthansa-technik.com



"Waliclean": Technicians at Austrian Airlines developed this new cleaning system for low-pressure toilets.

Getting innovative with lemon juice: New low-pressure toilet system saves resources, time and money

Employees of Austrian Technik have developed a revolutionary cleaning method for aircraft toilets, which is now also being tested by Lufthansa Technik. This innovative system not only protects the environment but also saves resources, time and money. Unlike conventional solutions, "Waliclean" – as this system is called – cleans an aircraft's drain pipes with citric acid instead of chemicals. For this purpose, a solution of commercial citric acid and warm water circulates at low pressure through the wastewater system. Once the cleaning process has been begun, the equipment works fully independently and turns itself off automatically at the end. The use of "Waliclean" avoids not only the disassembly of the individual segments of the drain pipes but also acid baths, reinstallation work and leakage tests. And the flushed water can then be conveniently disposed of via the sewer system. Austrian Airlines employees Klaus Banny and Robert Hartl received the city of Vienna's Environmental Award 2013 for their invention. Lufthansa Technik plans to use the "Waliclean" system starting in summer this year. The preparations for doing so are currently underway at Lufthansa Technik in Frankfurt.

● www.austrian.com



Corporate Citizenship

The Lufthansa Group assumes its civic responsibility in many ways. In the reporting year 2012, we again supported numerous projects in the areas of social issues, culture, education, environment and sports. Beyond that, we expanded our commitment to humanitarian emergency aid. Of particular importance here are the employee initiatives at the different Group companies. They are an integral part of the Lufthansa Group's social commitment.



10

sponsorships for outstanding, talented young sportsmen and sportswomen

42

HelpAlliance projects providing "help for self-help"



15,000

visitors to the Crane Information Center



2,000

patients per month at the Cargo Human Care Medical Center



Social commitment

Every minute counts: Immediate humanitarian aid when disasters strike

Whenever earthquakes, floods or droughts threaten human lives, measures that ensure immediate survival have top priority. As an aviation company with worldwide activities, the Lufthansa Group has participated for many years in the logistic support of emergency aid to victims by flying relief supplies into disaster areas – usually in close coordination with the German federal government and renowned aid organizations.



Airborne ambassador: A Lufthansa Cargo MD-11F with the logo "Aktion Deutschland Hilft" (Campaign Germany Helps).



CEOs Christoph Waffenschmidt (World Vision), Karl Ulrich Garnadt (Lufthansa Cargo) and Rudi Frick (Aktion Deutschland Hilft) at the contract signing ceremony on 13 February 2013 in Frankfurt.

Special flights operated by Lufthansa Cargo primarily carry food supplies, medications, blankets, tents, sleeping bags and technical equipment.

Cooperation with Germany's relief coalition

Lufthansa Cargo signed a cooperation agreement in February 2013 with the relief coalition "Aktion Deutschland Hilft" and its partner "World Vision Deutschland." The goal is to create a highly professional network of logistics companies and respected German aid organizations, whose support is available at any time and according to defined processes.

This new cooperation allows the 22 aid organizations that make up the relief aid alliance to put Lufthansa Cargo's competence and performance in logistics to use for their missions outside of Germany. "World Vision Deutschland" gave significant support to reaching this agreement and entered into an agreement of its own with Lufthansa Cargo. The patron of this initiative is Germany's Federal Minister of Transport Dr. Peter Ramsauer.

"Time is the crucial factor in helping the victims of natural disasters. The swift transport of relief supplies is essential in such cases. Our cooperation with 'Aktion Deutschland Hilft' will allow us to be even faster and more effective in getting aid where it's needed most urgently," says Karl Ulrich Garnadt, Chairman of the Executive Board and CEO of Lufthansa Cargo.

HelpAlliance: Employees set examples of solidarity



Collecting donations and helping people who lack the bare necessities – this is the guiding principle of the HelpAlliance, a registered charitable aid organization founded in 1999. Its members come from all parts of the Lufthansa Group and as volunteers look after the projects of the HelpAlliance personally – during their time off.

The focus of this politically and denominationally independent charitable work is on business startups, street-children projects, nutritional and healthcare programs, educational and training facilities, as well as orphanages in Africa, Asia and Latin America.

The HelpAlliance's activities are divided into long-term projects and temporary, results-oriented supported projects; in addition, the HelpAlliance provides emergency aid when natural disasters strike. In 2012, the HelpAlliance financed 42 projects with a total aid volume of 936,000 euros. All projects aim to provide "help for self-help" that is adapted to the living conditions of those concerned. On 31 December 2012, the association counted 15 full members and about

1,600 supporting members, who provide a reliable base for the planning process. The volume of donations reached 1,004,000 euros in the reporting year.

The HelpAlliance has been firmly anchored within the Lufthansa Group since its foundation. In this way, the employee organization enjoys benefits such as four part-time and full-time employees released from their normal duties as well as office space and communications infrastructure at Frankfurt Airport provided free of charge. In addition, it receives communications and logistics support from Lufthansa. The HelpAlliance's Annual Report informs about the charitable organization's work and its use of funds.



Children at a special needs school run by the Prana Project in India.

Für Ihre Spende | For your donation | Pour vos dons

**Kleines Geld für große Hilfe
Small change - it's a big help**

HelpAlliance
Mitarbeiter engagieren sich

This donation bag is sponsored by one of the world's leading travel payment solutions. **AirPlus**

On-board collection program

In 2001, the HelpAlliance launched the cash collection program "Small change – It's a big help" aboard aircraft to give Lufthansa passengers the opportunity to help build bridges toward better lives for people in need. This allows passengers to donate coins and banknotes in any currency that they might be carrying on long-haul flights on their way home. Small sealable envelopes are provided for this purpose in the seat pockets aboard the aircraft. These donations are collected by flight attendants and forwarded to the HelpAlliance. Valuable "leftover cash" can also be deposited in the donation pillars that are placed in airport employee areas, the Lufthansa Lounges at all German and selected international airports, and the public areas of the Frankfurt and Munich hubs.

Following Condor and Brussels Airlines, Austrian Airlines joined the on-board collection program on 1 July 2012. In addition, HelpAlliance donation envelopes have also been provided on all Germanwings aircraft since 15 March 2013.

On-board collection program	
Development of donations ¹	
2012	€ 318,380
2011	€ 205,362
2010	€ 286,184
2009	€ 224,053
2008	€ 230,433
2007	€ 260,939
2006	€ 279,575
2005	€ 294,870
2004	€ 238,023
2003	€ 216,539
2002	€ 232,692
2001	€ 207,175

October 2002: Start of Condor's participation
September 2011: Start of Brussels Airlines' participation
July 2012: Start of Austrian Airlines' participation

1 As the final figures were not yet available at the close of copy, all figures mentioned for 2012 in this article are preliminary.

Donations take numerous paths towards a single goal

Customers who wish to support the HelpAlliance actively may do so in different ways. They can make a direct donation, become a supporting member, or donate cash amounts to the on-board collection program "Small change – It's a big help" (see also box). Since November 2006, participants of the Lufthansa frequent flyer program Miles & More have had the further option of donating award miles in the context of "Miles to Help" to the HelpAlliance and other organizations. Finally, the HelpAlliance has offered child sponsorship programs in India, Thailand and Vietnam since 2008. With monthly amounts that are modest by western standards, these sponsorships give children the opportunity to receive an education and thus to lead a self-determined life.

"eFly Campaign":

How boarding passes turned into exercise books

Making a small gesture to obtain a big effect – this is what Lufthansa passengers could choose to do from 12 December 2012 to 31 January 2013. For each paperless check-in that passengers completed on a mobile device or online, the Lufthansa Group donated one sheet of paper to benefit educational projects run by the HelpAlliance in developing nations. On average, every 52 boarding passes saved added up to one exercise book. To support local economies, these books were purchased locally. Overall, the customers' choice to do without conventional boarding passes generated a total of about 50,000 exercise books, corresponding to 2.5 million check-in procedures.



HelpAlliance campaign day in Munich

On 10 May 2012, committed Lufthansa flying and ground employees organized a campaign day for the HelpAlliance at Munich Airport. Their goal was to reach out to passengers in the gate area of Terminal 2 by informing them about the HelpAlliance's work and to generate donations. The Lufthansa catering subsidiary, LSG Sky Chefs, also participated in the campaign by providing on-board trolleys on which donation boxes were placed. Furthermore, the volunteers had hands-on support from HelpAlliance patroness Bettina Lauer.

The employees of Lufthansa Systems also demonstrated their solidarity with the HelpAlliance by organizing various donation campaigns in the course of the reporting year to beat the publicity drum for a good cause. In addition, the employees of the IT specialist underscored that not only their own social commitment but also that of their employer is important to them in the context of an employee survey. For each completed and returned questionnaire, Lufthansa Systems donated one euro to the HelpAlliance's women's project in India.

The screenshot shows a project page for 'Ausbildungsprojekt Abèni in Benin'. At the top, it says 'betterplace.org Deine Heile Stiftung' and 'Dein Spenderprojekt für Kinder und Jugendliche in Benin'. Below that, there's a banner with three children in white shirts. The main title is 'Ausbildungsprojekt Abèni in Benin' and it says 'An das Projekt hat: HelpAlliance e.V. (H. Dray)'.

The project details include:

- Project Overview:** Shows a progress bar at 8% funded.
- News:** Shows 1 news item.
- Donations and Outcomes:** Shows 15 donors, 8% funded, and a total of €9,332 still needed.
- Donate now:** A green button with the text 'Your donation is tax deductible in Germany'.
- Needs:** A section where users can contribute to the project in general or for the realization of one of the following specific needs. It includes:
 - Besserer Ausbildungschancen für Kinder und Jugendliche sind das Ziel des Projekts. Es soll in Dongoua, im Norden von Benin, seit 1999 vor allem Mädchen und junge Frauen, ins unterprivilegierten Norden Benins sind es besonders benachteiligt. Das unterschreitet die sozialen Unterschiede und Ausgrenzung ihrer Bevölkerung.
 - Brillen für 8 Mädchen für jeweils ein Jahr: 30 x €30 = still needed: €4,800. 11 % funded. Details for this need | See details
 - Brillen für 8 Mädchen für jeweils ein Jahr: 30 x €30 = still needed: €4,800. 11 % funded. Details for this need | See details
- Project owner:** HelpAlliance e.V.

The HelpAlliance's fund-raising platform on www.betterplace.org

Fund-raising via Web 2.0

The rise of the social media in the framework of Web 2.0 has opened up new channels of fund-raising for the HelpAlliance. In this way, the association put the social networks' potential to good use to inform users on Facebook, YouTube and the HelpAlliance blog about the progress of its aid projects and to generate donations in the reporting year.

The best example in this context is betterplace.org. Since summer 2012, the HelpAlliance has cooperated with this charitable donations platform, which allows users to give direct support to specific social projects. This cooperation is the result of a broadly-designed potentials analysis carried out previously by "explorers," the Lufthansa Group's platform for young managers.



Thanks to donations for the HelpAlliance's aid project in Vietnam, bicycles could be bought for children from the poorest of backgrounds.

Vietnam: Education for abandoned children

In 2012, the HelpAlliance placed the emphasis of its fund-raising activities on a project in Vietnam's Ho Chi Minh City, where it has supported the organization Saigon Children's Charity for many years. The focus of the aid initiative launched by a Munich-based pilot is on educational programs for children who are especially affected by ostracism because they have a disability or belong to an ethnic minority.

During the Advent season 2012, betterplace.org turned out to be an effective instrument to connect the aid project in Vietnam with people who were willing to translate their charitable impulses into cash. Under the motto "Donations instead of gifts," users could donate money for the purchase of items such as bicycles, to enable boys and girls from the poorest of backgrounds to attend school.

- 🌐 www.help-alliance.com
- 🌐 www.facebook.com/helpalliance
- 🌐 www.youtube.com/helpalliance
- 🌐 www.betterplace.org/en/organisations/helpalliance

Cargo Human Care: Concrete help for people in Kenya



Cargo Human Care (CHC), a registered charity, is a humanitarian and medical aid project. It was set up in 2007 by employees of Lufthansa Cargo AG in cooperation with physicians across Germany. The impetus came from Fokko Doyen, MD-11F Captain and Lufthansa Cargo Fleet Chief.

One day, Fokko Doyen decided to take action in the face of the misery he observed on the outskirts of Kenya's capital, Nairobi, during his repeated layovers and to launch an aid initiative. In 2011, the first chairman of Cargo Human Care was awarded the Order of Merit of the Federal Republic of German for his charitable work.

Long-term projects

Cargo Human Care has set itself the goal to make direct medical aid available to poor, sick and needy people in Kenya and to provide a home and a future for impoverished and neglected orphans. At the center of its activities are the Mothers' Mercy Home (MMH), a small orphanage near Nairobi, and the Cargo Human Care Medical Center, which is associated with the orphanage. The Medical Center provides medical care for the boys and girls living at the MMH, as well as for sick and needy people in the surrounding area. Every

month, more than 2,000 patients receive treatments. For three years, another area of emphasis has been the orphanage The Nest. It offers a safe refuge away from the streets to children whose mothers have been arrested. The pediatricians of Cargo Human Care look after the medical needs of these boys and girls. Furthermore, Cargo Human Care is concerned with the fate of 224 families who live in two villages in the drought-stricken area around Marsabit. Since September 2011, the CHC has ensured that they are supplied with food. Beyond this, it also set up a small school for children between the ages of four and six years.

Lufthansa Cargo has supported this charitable initiative from its inception by providing capacity aboard its MD-11F freight aircraft free of charge. In addition, the logistics specialist finances the cost of air tickets for German pediatricians, ophthalmologists, ENT specialists, dentists, general



Every month, more than 2,000 patients are treated at the Cargo Human Care Medical Center.



A dentist volunteers her services at the Mothers' Mercy Home in September 2012.



Cargo Human Care aims at giving impoverished and neglected orphans both a home and a future.



Yukon Arctic Ultra Marathon in Canada: Extreme athletes collected donations for the aid project Cargo Human Care.

practitioners and gynecologists. Three times a month, these committed physicians fly to Kenya to provide three days of treatment to destitute patients on a volunteer basis.

To support the work of Cargo Human Care, the association has offered the option of assuming medical and educational sponsorships for sick, handicapped and neglected children living in the proximity of the Mothers' Mercy Home since 2011. Monthly amounts between 25 and 75 euros are enough to relieve the existential needs of sponsored children effectively (see *Balance 2012*, page 96).

Charity run in the extreme cold: Yukon Arctic Ultra 2013
In February 2013, members of Cargo Human Care spared neither expense nor exposure to the freezing cold to collect funds for their aid organization. Under the motto "Crossing snow and ice for Africa," they participated in northern Canada's Yukon Arctic Ultra, the world's toughest marathon. They aimed to cover a distance of 700 kilometers in a mere 13 days on cross-country skies – a challenge including temperatures as low as minus 50 degrees Celsius and nights in a tent. Although weather conditions eventually forced them to abandon the race, they were able to sign up another athlete participating in the run as a CHC ambassador, who completed the run for them. To ensure that their supreme effort would translate into cash, Lufthansa Cargo employees and other interested supporters were asked to donate 100 euros for any one of the 430 miles covered. In return, they received a certificate signed by the extreme athletes for that particular mile. The fund-raising generated more than 40,000 euros for the humanitarian work of the CHC in Kenya.

www.cargohumancare.com

www.facebook.com/CargoHumanCare

Environmental sponsorship

Focus on crane protection

Since the beginning of 2013, the Lufthansa Group has concentrated its commitment in the area of environmental sponsorship entirely on crane protection – and thus on a project close to the heart of the company, which carries the “bird of luck” in its logo.



The crane in a circle – One of the world's best-known logos.

At least ten of the 15 crane species worldwide face an uncertain future, as their breeding, resting and gathering areas are increasingly threatened by destruction. To ensure the survival of these impressive large birds against all adversity, Lufthansa founded the Crane Protection Germany Working Group in 1991, together with Naturschutzbund Deutschland (NABU) and the environmental foundation WWF Deutschland. Support focuses on the Crane Information Center (CIC) in Gross Mohrdorf, located in the Rügen-Bock region of Mecklenburg-Western Pomerania.

Crane watching draws crowds

Up to 70,000 of these impressive large birds stop over in the Rügen-Bock area every year, making it one of the most important resting areas for cranes in Europe. As a result, the Crane Information Center's attraction for visitors remains at continuously high levels. In 2012 it counted about 15,000



Lufthansa has been committed to protecting the bird in its company logo for more than 30 years.

visitors. The CIC offers not only an informative permanent display, which provides comprehensive insights into the lives of these “cosmopolitans of the air” year-round. But it also allows visitors to observe the cranes in nature every spring and fall, when these long-distance avian migrants take a several-week break in the coastal waters of the Western Pomeranian Lagoon Area National Park before flying on to their breeding grounds in Scandinavia or their wintering areas in the south.

Environmental education becoming ever-more important

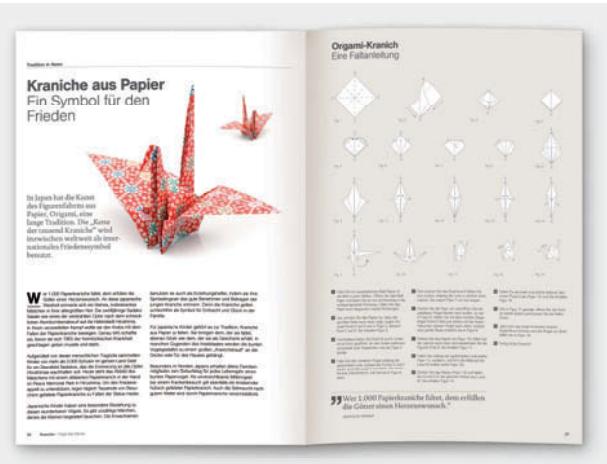
The annual “Week of The Crane” – which took place from 23 to 30 September 2012 for the 14th time – is an important date in the institution's calendar. As usual, the program included lectures and slide shows as well as excursions to the resting and sleeping areas of cranes around the CIC. Given the rising demand for environmental education, the

Working Group has expanded and adapted its offers in this area. In this way, a range of activities including project days for school classes and kindergarten groups took place in the reporting year. Moreover, the Lufthansa Group supported the production of the new brochure "Cranes – Birds of Luck." This 29-page publication features many breathtaking photographs and provides interesting facts about the world of cranes (available in German).

The 22nd Annual Conference of the Crane Protection Working Group was a magnet for 95 crane experts from all parts of Germany. It took place from 7 to 9 September in the Brandenburg town of Lauchhammer and was dedicated to the topic "Cranes in Post-mining Landscapes."

Projects to band, radio-tag and map cranes

Furthermore, several internationally-attended workshops dedicated to banding and radio-tagging cranes took place in June 2012. The goal was to equip several dozen cranes in Lower-Saxony and Mecklenburg-Western Pomerania with a three-color code – in accordance with the rules of the European Crane Banding Group – and in part with radio transmitters. A further area of emphasis involved the monitoring project in Ethiopia, which the Crane Protection Germany Working Group launched in 2007 with support from Lufthansa. In January 2013, the ornithologists travelled to that region for the fourth time to map the locations of cranes wintering there. They also documented the types and extent of hazards to which the migratory birds are exposed in this African country.



A new information brochure "Cranes – Birds of Luck"

"Crane information mobile" inaugurated

Since 10 October 2012, the Crane Information Center has been equipped with a mobile information and observation stand: the multipurpose "crane info mobile." This custom-fitted construction trailer permits the CIC to inform its visitors even more comprehensively than before. This task is accomplished by display panels inside the trailer and by the volunteer rangers who man the crane info mobile. In addition, the trailer improves the working conditions of these hardworking helpers, especially in bad weather.

www.kraniche.de



Cranes are impressive migratory birds. In 2012, about 15,000 visitors came to the Crane Information Center in Gross Mohrdorf to see for themselves.

Cultural commitment

Understanding even without words

The universal language of music can help create links between people – just like the Lufthansa Group, whose flying companies connect people, countries and cultures every day of the year. In the spirit of its social responsibility, the globally-active aviation group has supported outstanding cultural events and institutions for many years.

Cologne's Gürzenich Orchestra

Cologne is home to both the renowned Gürzenich Orchestra and Deutsche Lufthansa AG's headquarters. In its role as First Global Partner, the company has supported the orchestra, which experts consider one of the top ensembles in Germany, since 2010. This is the first time that Lufthansa has made a long-term commitment to supporting a German symphony orchestra. In the reporting year, the Gürzenich Orchestra launched the new concert format "Experiments in Classics" in cooperation with the science journalist Ranga

Yogeshwar. Its premiere on 23 February 2012 at the sold-out Philharmonie in Cologne was also the opportunity for both to pursue the question of what constitutes the magic in Igor Stravinsky's "Le sacre du printemps" – and what happens in listeners' minds when they listen to the sounds of one of the 20th century's key works.

 www.guerzenich-orchester.de



New concert format "Experiment in Classical Music" in cooperation with the science journalist Ranga Yogeshwar.



Successful opening of the 28th Lufthansa Festival of Baroque Music before a sold-out house.

Lufthansa Festival of Baroque Music

Some very special concert experiences were offered to the public of the Lufthansa Festival of Baroque Music in London. From 18 to 26 May 2012, lovers of historic performance practice were enthralled by the festival's magic for the 28th time. In the year of the Summer Olympic Games 2012, this musical event steeped in its own tradition left no doubt that in the world of music too the highest levels of performance and the competition between the best of the best have always determined success. Under the motto "Contests, Competition and the Harmony of Nations," top-flight ensembles from across Europe offered rare treats from the baroque repertoire, such as Vivaldi's opera "L'Olimpiade." St John's Smith Square and Westminster Abbey were the two acoustically excellent venues providing stellar settings for such musical flights of fancy.

Not only the numerous festival visitors in London but also the two million plus listeners of the radio programs "Live in Concert" and "Early Music Show" were able to enjoy the concerts, as BBC Radio 3 broadcast six of the 12 concerts. In addition to its media cooperation with the BBC, Lufthansa has worked with its system partner Rolls-Royce plc for many years in putting on the festival.

The 29th edition of the Lufthansa Festival of Baroque Music took place from 10 to 18 May 2013. This time, the festival adopted the leitmotiv of "Tis Nature's Voice" and thus enabled internationally renowned artists, choirs and orchestras to trace the signs of renewal in nature at the highest musical level.

www.lufthansafestival.org.uk



Lufthansa New Year's concert in Berlin

Lufthansa New Year's Concert

Another occasion for musical delight was the 16th annual Lufthansa New Year's Concert at Berlin's Konzerthaus am Gendarmenmarkt, which took place on 16 January 2013. Under the baton of Aurélien Bello, the highly-talented young musicians of the Junge Philharmonie Brandenburg offered virtuoso interpretations of a number of works by Grieg, Gershwin and Tchaikovsky, which were rewarded by the enthusiastic applause of the audience of about 1,100. The concert is targeted at Lufthansa's key customers and contact partners from politics, business and the media. Among the concertgoers was Christoph Franz, Chairman of the Executive Board and CEO of Deutsche Lufthansa AG. He announced that the company plans to maintain the New Year's Concert as a musical institution, despite the overall need for changes.

SWISS supports important festivals and art fairs

Support for leading international cultural events is also important for SWISS. This includes above all the Montreux Jazz Festival, which the wholly-owned Lufthansa subsidiary supports as a partner. This event draws about 200,000 jazz lovers to the shores of Lake Geneva each year in July. SWISS is also a partner of the renowned Festival del film Locarno and the Lucerne Festival, a first-class classical music event. Moreover, the airline supports the world's largest and most important fair for modern and contemporary art, Art Basel, which takes place every year in early summer. It also supports of the fair's U.S. branch, Art Basel Miami Beach.

 www.swiss.com

Sports sponsorship

A perfect match

Fairness, team spirit, precision, top performance: These values, which apply to every top athlete, are also the driving force for the Lufthansa Group and its employees. For this reason, sports sponsorship has long been an integral part of the social commitment of the aviation company, which supports numerous renowned institutions, associations and clubs as a reliable partner.



German Sports Aid Foundation

Lufthansa has been a National Sponsor of the German Sports Aid Foundation since 2007. This successful linkup was extended by another four years in February 2012. Currently, the German Sports Aid Foundation supports 3,800 athletes representing all Olympic disciplines, traditional non-Olympic disciplines, as well as disabled and deaf sports. The Lufthansa Group provides financial and logistical support in the framework of this cooperation. This also includes ten sponsorships for outstanding sportsmen and sportswomen with and without disabilities from the foundation's elite program for talented young athletes.

Furthermore, the Lufthansa Group is set to provide intensive communications support for the campaign "Your Name for Germany" until 2015. The goal of this fund drive is to motivate as many people as possible to become a sponsor of a top German athlete by donating as little as 3 euros per month. The Group targets customers and employees with publicity for this campaign.

In addition, the aviation company has given its support to a number of events organized by the German Sports Aid Foundation for many years. This includes its annual Sports Ball, a fund-raising event that took place on 2 February 2013 in Wiesbaden for the 43rd time.

www.sporthilfe.de



National Paralympic Committee Germany

Lufthansa has been a co-sponsor of the National Paralympic Committee Germany for many years. In February 2013, this partnership was extended by another four years to 2016. Moreover, the company supports the disabled sports organization as a co-partner.

In its role as a partner of athletes with disabilities, the Group also sponsored the film project "GOLD – You can do more than you think." The documentary tells the story of three world-class athletes, on their way to and at the London Paralympics, who surpass their physical disabilities and celebrate remarkable athletic triumphs: the paraplegic German swimmer Kirsten Bruhn, the blind Kenyan marathon runner Henry Wanyoike and the Australian wheelchair racer Kurt Fearnley. The film portrait had its premiere on 26 February 2013 at a hangar of Lufthansa Technik AG in Hamburg before about 1,300 guests – including about 100 wheelchair users – and in the presence of Germany's Federal Minister of the Interior Dr. Hans-Peter Friedrich. The Lufthansa Group accompanied the filming continuously with communications work in internal and external media as well as at events.

www.dbs-npc.de
 www.facebook.de/dubistgold



To promote the Germany-wide release of the film "GOLD – You can do more than you think" on 28 February 2013, the Lufthansa Group launched the internal campaign "Hands up for GOLD." Its goal was to get employees excited about the motivating message of the film's title and to gain them as multiplicators.



Together for Germany's Olympic team – Thomas Bach, President of the German Olympic Sports Confederation (DOSB), Christoph Franz, CEO of Deutsche Lufthansa AG, and Michael Vesper, Director General of DOSB, (from left) look forward to another four years of close cooperation.



Continuation of a successful cooperation: Lufthansa extends its cooperation agreement with FC Bayern München until 2018 – Carsten Spohr, member of the Executive Board of Deutsche Lufthansa AG (right) and Dr. Reinhold Huber, Senior Vice President Product and Service at Lufthansa (left), with Andreas Jung, FC Bayern Marketing Director, and Karl-Heinz Rummenigge, Chairman of FC Bayern München AG, at the Allianz Arena in Munich.

German Olympic Sports Confederation

Lufthansa has been an official co-partner of the German Olympic Sports Confederation since 2006. At the beginning of 2013, this contract was extended by another four years. As the "Airline of Sports," Lufthansa is also the Official Carrier and flies the medal hopefuls of the German Olympic Sports Federation and the National Paralympic Committee Germany to the Olympic and Paralympic Games. So Lufthansa will also be flying Germany's athletes to the Winter Games 2014 in Sochi in its capacity as Official Airline of the German Olympic Team. And finally, Lufthansa acts as National Sponsor whenever German cities apply to become a venue for the Olympic and Paralympic Games.

www.dosb.de

German Soccer Association

A close partnership has linked Lufthansa to the German Soccer Association since 2005. This cooperation provides that the airline – as the association's Official Partner – will transport the German national soccer teams and members of the association's management to all games, at home and abroad, until the World Championship 2014 in Brazil.

www.dfb.de

FC Bayern München and Eintracht Frankfurt

Furthermore, Lufthansa has been the Official Carrier of FC Bayern München since 2004. In the framework of this partnership, the airline ensures that the professional players of the German record champion stride onto the playing field punctually at all First Division games and cup matches in Germany and all UEFA Champions League games in Europe. In February 2013, Lufthansa extended its contract as Official Carrier and Platinum Partner for another five years, until 2018. As the airline is firmly rooted in the Rhine-Main area, Lufthansa has also supported the soccer club Eintracht Frankfurt since 2008.

www.lufthansagroup.com/sports



SWISS supports the international Lauberhorn Downhill ski race as partner and official airline.

SWISS

As the largest employer in the region surrounding Zurich Airport and a wholly-owned subsidiary of Deutsche Lufthansa AG, SWISS sponsors such sports groups as the youth ice hockey team of the Kloten Flyers and is committed to promoting new athletic talent. A further emphasis of its sponsoring activities is on the internationally renowned sports and cultural events organized by the association Top Events of Switzerland. In this way, SWISS is a partner and official airline of the Lauberhorn Downhill ski race and the Omega European Masters Golf Tournament, a partner and official race sponsor of the White Turf St. Moritz horse races, as well as the Official Airline of the track-and-field meeting "Weltklasse Zürich." The high quality of these events and their attractive hospitality platforms optimally support SWISS' corporate values.

Austrian Airlines

An affinity for sports is also evident at Austrian Airlines. On the occasion of the Paralympics 2012 in London, this flag carrier and Lufthansa Group airline supported the Austrian Paralympic Committee as a sponsor. In addition, Austrian Airlines was the Official Carrier of the Alpine Ski World Championship 2013 in Schladming.

Glossary

AEA – Association of European Airlines

 wwwaea.be

Aerosols

Aerosols are solid and/or liquid particles that are suspended in the air. They reach the atmosphere by means of natural processes (wind, desert storms, volcanic eruptions) or human activities (combustion of biomass and fossil fuels). The most important aerosols are mineral dust, sea salt, cellular (biological) particles, soot, organic compounds and sulfate. From a climatic perspective, aerosols are the opponents of greenhouse gases, as they can reflect incident light and thus have a cooling effect.

aireg e.V. – Aviation Initiative for Renewable Energy in Germany

aireg is a registered association of leading German research institutions, Lufthansa and other companies in the aviation industry, and bioenergy producers. The goal of this initiative, which was founded in 2011, is to advance the development and introduction of regenerative aviation fuels in Germany and to inform the public at large about this topic.

 wwwairegde

ATM – Air Traffic Management

Air Traffic Management ensures both the safe and efficient movement of aircraft in all phases of operations.

Atmosphere

The whole mass of air surrounding the Earth. It is divided into various layers, distinguished from one another by distinct differences in vertical bands of temperature. Important for air traffic are the two lower layers: the troposphere and, above it, the stratosphere. The troposphere's upper boundaries vary depending on season and latitude. They lie at altitudes of 16 to 18 kilometers above sea level at the equator, and at 8 to 12 kilometers above sea level at the poles. The temperature in the tropopause, the transition layer between troposphere and stratosphere, drops to only about minus 60 degrees Celsius. It rises again in the stratosphere. The so-called ozone layer is also located in the stratosphere at altitudes of about 25 to 30 kilometers. Today's commercial aircraft fly at cruising altitudes of between 8 and 13 kilometers. According to the latest research, air traffic emissions do not contribute to the reduction of the ozone layer.

B.A.U.M. – Bundesdeutscher Arbeitskreis für Umweltbewusstes Management e.V. – Federal Working Group for Environmentally-Aware Management

B.A.U.M. was founded in 1984 as the first independent environmental initiative of German business. At currently 450 members, it is the largest of its kind in Europe. Lufthansa has been a member of the Working Group since 1997.

 wwwbaumevde

BDL – Bundesverband der Deutschen Luftverkehrswirtschaft

– Federal Association of the German Air Transport Industry Lufthansa is a founding member of the Federal Association of the German Air Transport Industry (BDL), which has represented the interests of the German aviation industry with a single voice since December 2010. Its main goals are to make politicians and journalists more aware of aviation's economic and employment-related importance and to strengthen Germany as a business location for aviation in general.

 wwwbdl.aero

Carbon dioxide (CO₂)

Gas resulting in nature from the burning or decomposition of organic masses (e.g. plant material) and from the breathing process of humans and animals. The greenhouse gas CO₂ remains for about 100 years in the atmosphere. Scientists attribute the increase of 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, about 2.5 percent of the CO₂ emissions due to human activities are caused by global air traffic. (Source: International Energy Agency (IEA) 2011, 2009 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.

CDA – Continuous Descent Approach

Procedure for a flight's approach phase that requires less engine thrust and is therefore quieter and more fuel efficient. However, this type of approach is only possible if there are no constraints due to heavy air traffic in the airspace concerned.

Chapter 4 aircraft

Aircraft that meet the regulations of the strictest noise protection standard currently in force – the Chapter 4 noise standard. The Environmental Committee (CAEP) of the ICAO agreed on this standard in September 2001. As a result, all aircraft newly certified since 2006 must remain cumulatively below the Chapter 3 noise levels by 10 decibels or more. The maximum noise emission values for aircraft were introduced by the ICAO under Annex 16 to the convention on international civil aviation. Noise levels depend on the aircraft's maximum takeoff weight and number of engines.

CDP – Carbon Disclosure Project

The CDP is an independent organization working for the public welfare, whose members are more than 550 large-scale investors worldwide. The goal of this initiative, which was founded in 2002, is to motivate the world's largest publicly quoted companies to make their greenhouse gas emissions transparent and to reduce them lastingly. For this purpose, CDP and its partners developed two indexes: "Carbon Disclosure Leadership Index," which lists companies that have made their emissions particularly transparent, and the "Carbon Performance Leadership Index," which takes into account concrete climate protection performance.

CO see "Carbon monoxide"

CO₂ see "Carbon dioxide"

Codeshare

A codeshare is a flight segment that is sold under the flight number of one airline, while being operated either partly or entirely by another airline. Both companies maintain their independent profiles in the market.

Compliance

Compliance describes the entirety of all measures that ensure the lawful conduct of companies, their management bodies and their employees with regard to legal directives and interdictions.

Corporate responsibility (CR)

Corporate responsibility expresses the degree to which a company assumes accountability for the effects its business activities have on employees, customers, society and the environment.

Corporate university

Corporate education institution for professionals and managers. See also Lufthansa School of Business (LHSB).

CPI – Customer Profile Index

Lufthansa German Airlines, in cooperation with renowned institutes, continuously conducts worldwide surveys and thus assesses the level of customer satisfaction. These data are compiled in the Customer Profile Index, which informs

the entire company in the form of a single figure about the current status of customer satisfaction.

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 the sound's 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.

Deutsches Netzwerk Wirtschaftsethik (DNWE) – German Network for Business Ethics

DNWE is a nonprofit organization, in which Lufthansa has been a member since January 1998. DNWE has about 600 current members, including many from German business, politics, religion and science. At the same time, DNWE is a national association of the European Business Ethics Network (EBEN).

 www.dnwe.de

Diversity

In a corporate context, diversity refers to all characteristics that distinguish employees from one another. Diversity management offers approaches for handling human differences for the benefit of company and employees alike.

DLR – German Aerospace Center

The DLR serves scientific, economic and social purposes. It maintains 30 institutes, testing facilities and operational sites. Its goal is to help – using the means of aviation and space flight – to secure and shape the future. In its work, the DLR also seeks cooperation and allocation of research tasks among European partners.

 www.dlr.de

Dow Jones Sustainability World Index

The sustainability index lists the top 10 percent of companies in each industry, whose sustainable approach to corporate management is exemplary.

econsense – Forum for Sustainable Development of German Businesses

An association of globally active corporations and organizations in German industry that have integrated the guiding principle of sustainable development into their corporate strategies. Lufthansa is a founding member of this cross-industry network, which was set up in 2000.

 www.econsense.de

EMAS – Environmental Management and Audit Scheme

Colloquially referred to as EU eco-audit regulations. European regulations concerning environmental management and certification.

Equivalent continuous noise level (Leq)

The Leq is a measure for the energetic average of all sound pressure levels over a defined period of time. All sound events that differ in intensity and duration are summarized according to mathematical rules. The resulting average value is an accepted and proven measurement of the "noise quantity" occurring over an observed time interval.

Ethibel – Ethibel Sustainability Index

The independent Belgian agency Ethibel has listed Lufthansa in its Ethibel Investment Register and the Ethibel Sustainability Index (ESI). The ESI offers institutional investors, asset managers, banks and private investors a comprehensive overview of the financial results of companies that distinguish themselves by pursuing sustainable business practices. Since the merger with Vigeo and Stock at Stake in 2005, this index has been part of Vigeo. However, Forum Ethibel continues to be responsible for the ethical criteria and the composition of the ESI. Updates of and calculations for the index are performed by the internationally renowned index provider Standard & Poor's.

 www.ethibel.org

Freight performance (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.

FTSE4Good

The index was introduced in 2001 by FTSE, a wholly-owned subsidiary of the London Stock Exchange. It lists only those companies that meet the internationally accepted standards of corporate responsibility in the following dimensions: environmental management, climate change, human and labor rights along the supply chain, corporate governance and anti-corruption efforts. Lufthansa has been listed since 2001.

 www.ftse4good.com

Fuel Dump

Dumping of fuel in flight due to emergency situations. A procedure used on long-haul aircraft before unscheduled landings (e.g. in the event of technical problems or serious passenger illness) to decrease the aircraft's weight to the maximum permissible landing weight. In the event of a fuel dump, special airspace is assigned to the aircraft, if possible above uninhabited or thinly populated areas. Fuel is usually dumped at altitudes of 4-8 kilometers. A minimum altitude of 1,500 meters and a minimum speed of 500 km/h are required. The aircraft may not fly a fully closed circle. The dumped kerosene forms a fine mist in the turbulence behind the aircraft. Despite the use of highly sensitive methods of analysis, no contamination has been determined so far in plant or soil samples after fuel dumps.

Global Compact see "UN Global Compact"

Great Circle Distance

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.

Greenhouse gases

Gaseous substances that contribute to the greenhouse effect and have both natural and human (anthropogenic) causes. The most important natural greenhouse gases are water vapor (H_2O), carbon dioxide (CO_2) and methane (CH_4); the most important anthropogenic greenhouse gas is carbon dioxide from the combustion of fossil fuels. It accounts for about 77 percent of the greenhouse effect attributable to human activities. Methane, primarily generated by agriculture and large-scale animal husbandry, contributes about 14 percent to the anthropogenic greenhouse effect. Other artificial greenhouse gases are nitrous oxide (N_2O), fluorocarbons (FCs and HFCs), sulfur hexafluoride (SF_6) and chlorofluorocarbons (CFCs). Source: World Resources Institute (WRI), 2005.

HON Circle Member

HON Circle Member is the highest status level that the frequent flyer program Miles & More awards to Lufthansa customers.

 www.miles-and-more.com

Hub

In air transport, a hub refers to a central traffic point or an airline's transfer airport. Passengers as well as freight are transported from their original starting point to one of the airline's "home airports" (hub). From there, they are carried to their destination by a second flight alongside passengers and freight from other departure points, but with the same destination.

IATA – International Air Transport Association

The umbrella organization of international commercial aviation.

 www.iata.org

ICAO – International Civil Aviation Organization

A United Nations agency that develops internationally binding norms for civil aviation.

 www.icao.int

ICC – International Chamber of Commerce

The ICC was founded in 1919 as the World Business Organization. More than 1,500 business organizations and over 5,000 corporations are organized in the worldwide framework of the ICC. Lufthansa has been a member since 1955.

 www.icc-deutschland.de

ILO standards

Work standards of the International Labor Organization, which include among others the bans on child labor, forced labor and discrimination as well as the fundamental right of freedom of association for employees.

ISO 14001 – International environmental management system

Companies hereby receive an effective instrument that allows them to take environmental aspects into consideration in decisions relating to corporate policies and to continuously improve the situation of environmental care in relation to all daily tasks.

 www.iso.org

Kerosene

Fuel for jet and propeller engines that is chemically similar to petroleum. Like diesel fuel or gasoline, kerosene is produced by distilling crude oil; unlike these fuels, kerosene does not contain halogenated additives.

Lufthansa School of Business (LHSB)

Germany's first corporate university. It has received multiple awards for the worldwide standards it establishes for the development and training of professionals and managers. The LHSB supports processes of change within the Group and promotes a shared management culture.

Low-cost segment

Airlines offering predominantly low fares, but featuring reduced or separately charged services on the ground and in the air. Flights are most often operated to/from airports outside of major population centers.

Mentoring

Instrument for targeted support of junior employees. Focuses on regular personal contacts between mentor and mentee.

MRO – Acronym standing for maintenance, repair and overhaul of aircraft**MTOW**

Acronym standing for maximum takeoff weight of an aircraft

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. Both of these parameters have been increased in modern aircraft engines to significantly reduce fuel consumption as well as emissions of carbon monoxide and unburned hydrocarbons. However, future combustion chambers of an advanced design could help reduce NO_x emissions by 85 percent. Depending on the type of aircraft and operational conditions, this value varies between 6 and 20 kilos per tonne of fuel burned. Air traffic has a share of 2-3 percent in 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.

NO_x see "Nitrogen oxides"**OHSAS 18001 – Occupational Health and Safety Assessment Series**

Job safety management system developed by the British Standards Institution in cooperation with international certification organizations.

Ozone

Molecule consisting of three oxygen atoms formed in the stratosphere. The ozone layer located in the stratosphere has an important protective function, as it absorbs harmful ultraviolet light. While ozone at higher altitudes is broken down massively by chlorofluorocarbons (CFCs), it develops close to the ground under the influence of sunlight from numerous precursor substances ("summer smog") and irritates the mucous membranes. At current levels, nitrogen oxide emissions from air traffic at cruising altitudes cause an increase in atmospheric ozone, analogous to the generation of summer smog, estimated by scientists at 3-4 percent on the heavily-flown North Atlantic routes.

Passenger kilometers (PKO/PKT)

Measure for transport performance in passenger carriage (number of passengers multiplied by distance flown). Here one distinguishes between available transport performance (PKO, passenger kilometers offered or synonymously SKO, seat kilometers offered) and actual transport performance (Pkt, passenger kilometers transported).

Pro Recycling Paper Initiative

Founded in 2000, the initiative unites various industries and aims at promoting an intensive usage and the acceptance of recycling paper. Lufthansa is one of the initiative's founding members.

 www.papiernetz.de

Raked wingtips

Raked wingtips are specially back-swept, elongated wingtips, which improve an aircraft's lift and its air resistance in flight – and thus fuel consumption as well.

RSB – Roundtable for Sustainable Biofuels

International initiative to develop a global standardization and certification system for agrofuels.

SAFUG – Sustainable Aviation Fuel Users Group

Initiative of airlines, aircraft manufacturers and providers of refinery technology whose goal is to accelerate the development and commercialization of sustainable fuels for the air transport industry.

Seat kilometer

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

Seat load factor (SLF)

Passenger-related measure of utilization of aircraft: The ratio of transport performance (Pkt, passenger kilometers transported) to capacity (PKO, passenger kilometers offered).

SES – Single European Sky

Describes the efforts of the European Commission undertaken since the late 1990s with the goal of restructuring the European airspace in terms of optimizing traffic flows and dissolving the airspace's fragmented structure, defined by national borders and interests, by creating a limited number of Functional Airspace Blocks (FABs).

Slot

Designated point in time at which an airline may use an airport's runway for takeoff or landing.

Stakeholder

Groups or individuals who formulate their demands on a company (e.g. attainment of corporate goals) and pursue these either personally or through representatives. This

includes shareholders, employees, customers, suppliers and others.

Sustainable development

According to the guiding principle of sustainable development formulated in 1987 by the World Commission for Development and the Environment (Brundtland Commission), "sustainable development is a form of development that meets the needs of today's generation without jeopardizing the abilities of future generations to satisfy their own." For businesses, this means acting responsibly not only in economic matters but also in environmental and social issues. All three aspects – economic, ecological and social – must be kept in balance.

Tonne kilometer (TKO/TKT)

Measure of transport performance (payload multiplied by distance). One distinguishes 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.

Town meeting

Information event for employees at different locations of a company.

Trace gases

Gases of which there are only very small amounts present in the atmosphere (e.g. ozone, methane, nitrous oxide, etc.) but which are of great significance for the Earth's climate and the chemical processes in the atmosphere.

Transparency International

Anti-corruption organization, of which Lufthansa has been a member since 1999.

 www.transparency.de

UHC – Unburned hydrocarbons

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

UNEP – The United Nations Environmental Program

 www.unep.org

UN Global Compact

Global network in whose context the United Nations cooperates with private-sector corporations and civil action organizations to advance human rights, labor standards, environmental protection and anti-corruption measures. Deutsche Lufthansa AG has been a member since 2002.

 www.unglobalcompact.org

VOC – Volatile Organic Compounds

Volatile organic substances that are characterized by high steam pressure and thus evaporate easily into the atmosphere at room temperature. VOCs are present in solvents, cleaning agents, fuels and other substances. In the presence of nitrogen oxides and intense sunlight, VOCs lead to the generation of ozone.

Water vapor

The most important greenhouse gas, even ahead of carbon dioxide. Without water vapor from natural sources, the Earth's surface would be around 22 degrees Celsius cooler. This makes water vapor responsible for two-thirds of the natural greenhouse effect (33 degrees Celsius). For each kilo of kerosene burned, 1.24 kilos of water vapor are released. Concerns that air traffic might increase the concentration of water vapor in the stratosphere and thus change the climate have been refuted by scientific research. The German Aerospace Center (DLR) concluded that even a one hundred-fold increase in the quantity of water vapor emitted by air traffic would not result in a detectable climatic signal.

Wet lease

Leasing of aircraft including complete crew, maintenance and insurance.

Work-life balance

Refers to a healthy equilibrium between work and private life.

Contact partners

You can find contact partners in the area of Corporate responsibility at

 www.lufthansagroup.com/responsibility

Please note that www.lufthansa.com is the central contact point for all inquiries concerning customer service.

 www.lufthansa.com

Under the header "Help & Contact" you will find full information on how to contact Lufthansa.

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