

# LUFTHANSA GROUP

## Pioneering the Future of Sustainable Aviation

Lufthansa Group is a leading aviation conglomerate with a global presence and is the largest airline group in Europe. In the fiscal year 2023, the Group, boasting 109,000 employees, achieved revenue of EUR 35.4 billion. Structurally, the Lufthansa Group encompasses two main segments: Passenger Airlines and Aviation Services. Aviation Services includes the logistics and MRO (maintenance, repair and operations) segments, alongside additional businesses units including Lufthansa Systems and Lufthansa Aviation Training.

### COMMITMENT TO ACHIEVING CO<sub>2</sub> NEUTRALITY

Lufthansa Group was the first European airline group to set a scientifically-based reduction target in alignment with the Paris Climate Agreement of 2015. Through fleet optimisation, operational efficiency, and the increased use of Sustainable Aviation Fuel (SAF), Lufthansa Group aims to halve net CO<sub>2</sub> emissions by 2030. This goal is certified by the independent and internationally recognised Science Based Targets initiative (SBTi), which aims to lead the way towards a zero-carbon future. Lufthansa Group also aspires to achieve CO<sub>2</sub> neutrality by 2050 and actively participates in initiatives to eliminate single-use plastics, reduce food waste, and increase waste recycling.

### SWISS, FRONTRUNNER IN ENVIRONMENTAL MANAGEMENT

SWISS, a Lufthansa subsidiary, has made significant strides in environmental management for the 2023 reporting year. The airline's environmental management system has received its first validation under Europe's Eco-Management and Audit Scheme (EMAS). This milestone has also garnered the prestigious international ISO 14001 certification for environmental management

systems. In light of these achievements, SWISS will start publishing an annual environmental report. This report aims to highlight the airline's commitment to sustainable and responsible business practices, ensuring transparency and accountability in their environmental efforts.

### The AeroSHARK Technology

AeroSHARK is a durable bionic film that mimics shark skin and optimises airflow, leading to significant fuel savings. Using sharkskin technology, global long-haul aircraft fleets can potentially save nearly five million tonnes of kerosene annually.

In collaboration with BASF, a leading global chemicals and coatings manufacturer, Lufthansa has developed this functional biomimetic technology. The film features a barely perceptible ribbed texture of small protrusions known as riblets. Sized in patches for easy and targeted application, the film contains millions of prism-shaped riblets, each 50 micrometres high. When applied to the aircraft in a specific manner and aligned with the airflow, the riblets reduce friction, achieving efficiency gains similar to those in nature, and can also improve lift if attached to the wings.

The riblet film is easy to apply (even on large commercial aircraft), is highly resilient, withstanding large temperature shifts, pressure differentials, and ultraviolet radiation at high flight levels.

### Sustainable Fleet Management

In collaboration with Airbus and Boeing, Lufthansa Group is pioneering sustainable fleet innovations for the future. By adopting practices such as flying more direct routes and implementing real-time calculations for optimal routings and altitudes, Lufthansa Group is minimising fuel consumption and CO<sub>2</sub> emissions. Additionally, when retiring an aircraft from its fleet, Lufthansa Group ensures it is either sold to another airline for continued operation or responsibly recycled. This collaboration aims to advance sustainable practices in aviation, enhancing operational efficiency during flight and ensuring responsible management of aircraft at the end of their service life.

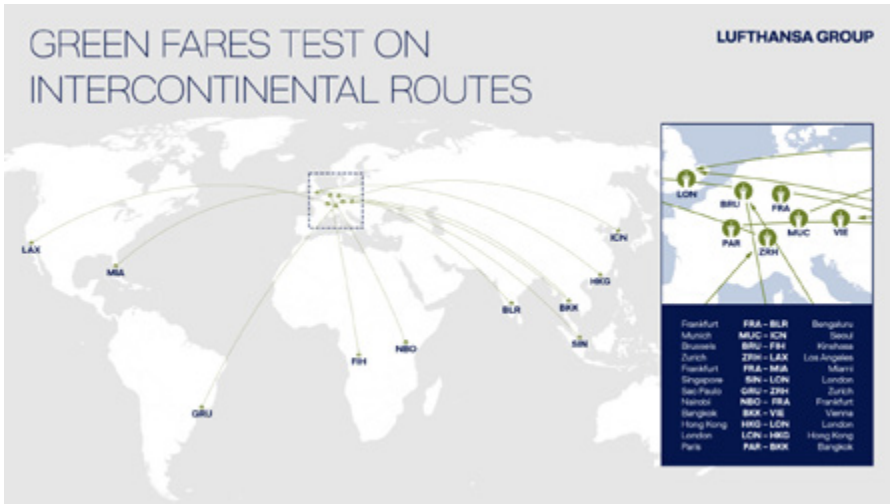
### Sustainable Aviation Fuel

Advancing the production of Sustainable Aviation Fuel (SAF) is a key priority for Lufthansa. In partnership with fuel providers and companies like Synhelion, Lufthansa is at the forefront of innovative solutions. Notably, Lufthansa was the first airline to produce SAF from solar energy and operate a flight using solar fuel, marking a significant breakthrough in eco-friendly aviation. Collaborating closely with travel agencies and corporations, the airline is actively promoting the adoption of SAF.

### REDUCING SINGLE-USE PLASTIC AND FOOD WASTE

In collaboration with its catering partners, Lufthansa Group is focussed on reducing single-use plastic and minimising food waste. Lufthansa Group is also committed





to reducing in-flight food waste through continual improvements in catering practices, ensuring a reduction in food waste and contributing to a more sustainable in-flight experience.

### GREEN FARE

Lufthansa Group has pioneered a groundbreaking initiative in the aviation industry with the launch of Green Fares. These fares are designed for environmentally conscious travellers by integrating sustainability into the ticket pricing structure. The Green Fares have proven particularly effective in boosting sales in regions with a strong focus on sustainability, such as the Nordic countries, Germany, and the Netherlands. This initiative not only appeals to eco-minded passengers but also stimulates domestic travel by providing a greener travel option.

Building on their success in Europe, Lufthansa has expanded the Green Fares to Asia, with Singapore as a key testing ground. This expansion aims to meet the growing demand for sustainable travel op-

tions among environmentally aware travellers in the region.

### TRANSPORTATION

Lufthansa Group is enhancing its intermodality efforts by integrating various modes of transportation. This approach combines air travel with local land transport options, expanding destination choices for travellers and improving overall travel efficiency and convenience.

Through these comprehensive efforts, the Lufthansa Group is setting a new standard in the aviation industry, offering innovative and sustainable travel solutions that cater to the growing demand for eco-friendly options.

### EMPOWERING YOUNG PEOPLE AND FOSTERING A CULTURE OF SUSTAINABILITY

Founded in 1999 by Lufthansa Group employees, help alliance has been a non-profit limited liability company under the Lufthansa Group umbrella since 2017. It is dedicat-

ed to providing young people worldwide with access to education and empowering them to lead self-determined lives. With the support of Lufthansa’s volunteer project coordinators and supporters, the airline remains committed to creating a self-determined future for disadvantaged individuals with personal conviction and passion.

Additionally, the company fosters a culture of sustainability among its workforce through various training programmes and initiatives, ensuring all employees are equipped to integrate sustainable practices into their work.

### COLLABORATION WITH SINGAPOREAN AND REGIONAL AUTHORITIES AND STAKEHOLDERS

In Singapore and the ASEAN region, Lufthansa Group is dedicated to promoting sustainability awareness, advocating for green aviation policies, and encouraging the use of Sustainable Aviation Fuel (SAF). The company actively collaborates with local partners, government authorities, and industry stakeholders to advance sustainability in aviation. This strategy aligns with initiatives like the Singapore Green Plan 2030, with Lufthansa Group actively participating in the design and implementation of regional sustainability objectives and plans.

