



Facts and figures

**How we engage  
and innovate  
for a sustainable  
MRO industry**

## Lufthansa Technik pursues sustainability along three distinct pillars:

- 1** We operate one of the most efficient production networks in the aviation industry and constantly reduce our own environmental footprint.
- 2** With innovative products, we moreover help our airline customers to reach their ambitious sustainability goals.
- 3** Our employees actively engage in social and environmental activities around the world.

### Highlights

Reduced global energy consumption and focus on renewable sources

MRO leadership in parts recycling

AeroSHARK and Cyclean® help to reduce an aircraft's fuel burn and emissions

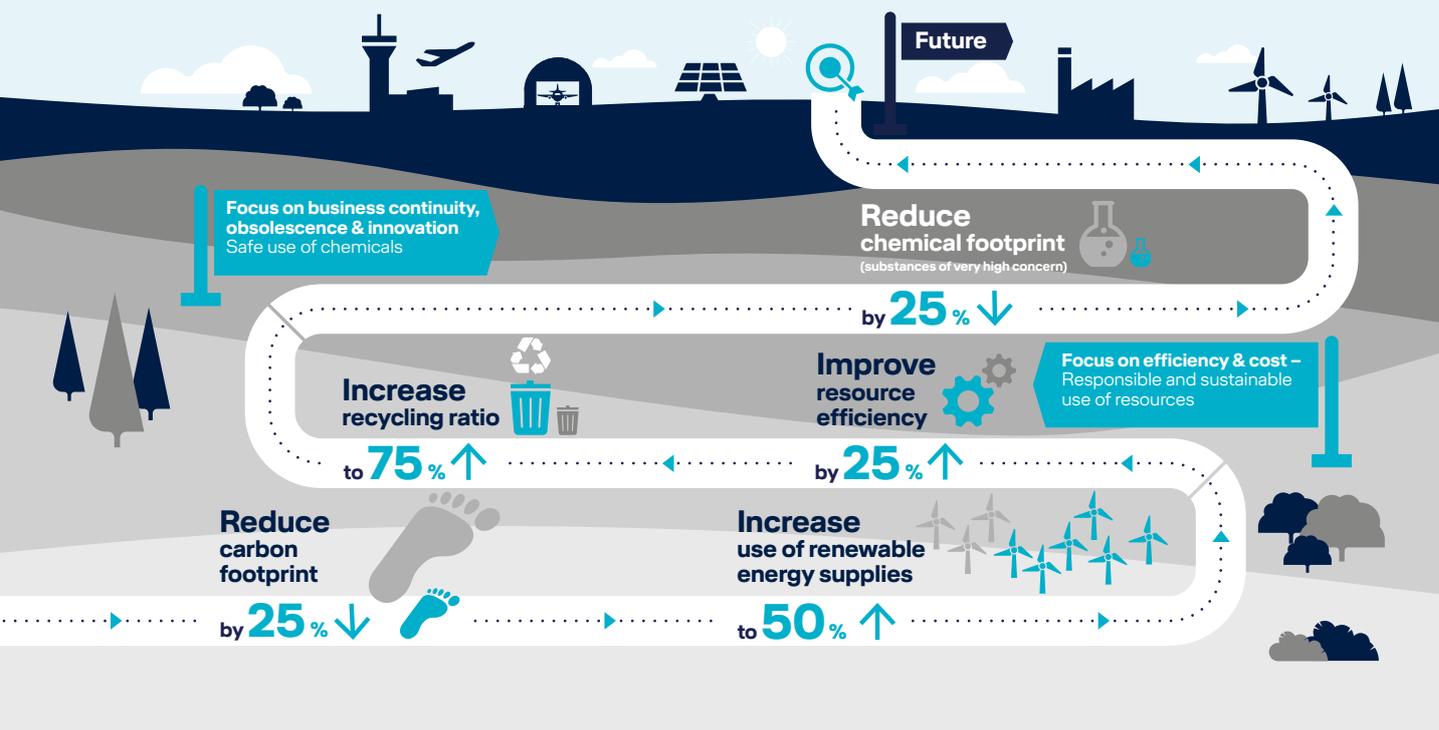
AVIATAR Fuel Analytics and other digital services improve airline operations

Hydrogen Aviation Lab provides impulses for carbon-neutral future

## We operate one of the most efficient production networks in the aviation industry and constantly reduce our own environmental footprint.

### Lufthansa Technik Group Environmental Target 2025

Safety and efficiency remain in focus for all sites



In the aim to operate the safest and most efficient production network in the MRO industry, the responsible use of resources has always enjoyed a high priority across Lufthansa Technik's global production network. With that in mind and supported by an ISO 14001 certified global management system, the company has committed to ambitious targets, strongly aligned to support the UN's Sustainable Development Goals (SDG) and other significant aspects. Consequently, the targets not only encompass common metrics like the CO<sub>2</sub> footprint or the percentage of renewable energy, they moreover include targets for the recycling ratio, the resource efficiency and the company's chemical footprint.

#### **Reduced global energy consumption and focus on renewable sources**

The reduction of Lufthansa Technik's global energy consumption and its advancement towards more energy efficiency are progressing well, with the revenue-based carbon footprint reduced from 35 tons per million € in 2013 to 20 tons per million € in 2020.

Moreover, the energy mix is leaning heavily towards renewable sources: Meanwhile, all company sites in Germany as well as the subsidiaries Component Services in the US, Turbine Shannon in Ireland, and Landing Gear Services UK are obtaining 100 % of their electrical energy from renewable sources. Many other subsidiaries and sites are continuously working towards a higher percentage of renewable sources in their energy mix. Lufthansa Technik Philippines, for example, decided to install photovoltaic panels on the main hangar in order to reduce their carbon footprint by another 15% per year.

#### **MRO leadership in parts recycling**

Another important factor is Lufthansa Technik's industry-leading repair capabilities for aircraft parts. Without compromising safety, it is able to repair and reuse more components than any other MRO. In doing so, the company not only spares many customers from the expensive purchase of new parts, it also avoids their energy- and resource-intensive production – repair instead of scrap.

## **With innovative products, we moreover help our airline customers to reach their ambitious sustainability goals.**



#### **Sharkskin Technology**

The lower the frictional resistance of an aircraft in the air, the lower its fuel consumption. Using nature as a role model, Lufthansa Technik and BASF have jointly developed AeroSHARK, a bionic surface film that can easily be applied to large portions of commercial aircraft's surfaces. Its structure consisting of so-called "riblets" imitates the properties of sharkskin and therefore optimizes the aerodynamics on flow-related parts. The result are significant reductions in fuel consumption and emissions. For the current product applied on Boeing 777s, Lufthansa Technik estimates the fuel consumption to be reduced by more than one percent. For the eleven aircraft strong fleet of launch customer Lufthansa Cargo, this translates to annual savings of more than 4,000 tons of kerosene and over 12,800 tons of CO<sub>2</sub> emissions, which is the equivalent of more than 50 individual freight flights from Frankfurt to Shanghai. Initial model calculations show that AeroSHARK at its highest expansion level could even achieve savings of as much as three percent.

→ [lufthansa-technik.com/aeroshark](https://lufthansa-technik.com/aeroshark)



### Cyclean® Engine Wash

A clean engine works better and needs less fuel and less maintenance – hence, it helps protect the environment. Lufthansa Technik’s Cyclean® Engine Wash system injects vaporized hot water directly into the core engine to remove combustion residues and other contamination. Regular washes reduce fuel consumption and thus save up to 80 tons of CO<sub>2</sub> emissions per aircraft per year. In addition, Lufthansa Technik’s customers benefit from their engines’ increased on-wing time and lower maintenance costs. Cyclean® moreover guarantees a clean and safe collection of all wastewater without any negative impact on the environment.

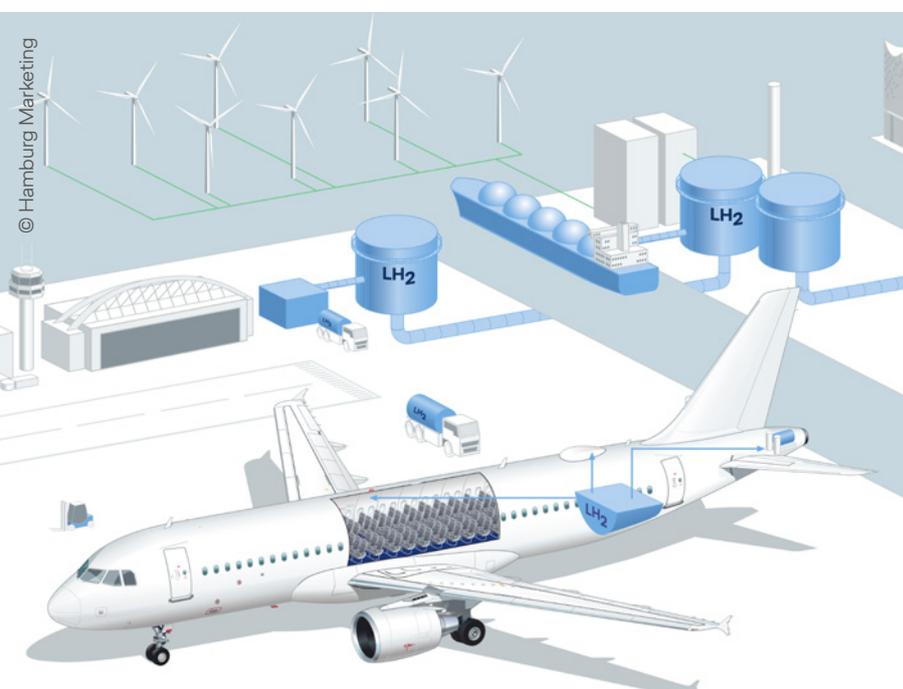
→ [lufthansa-technik.com/cyclean](https://lufthansa-technik.com/cyclean)

### AVIATAR Fuel Analytics and other digital services

Lufthansa Technik’s digital operations tool suite AVIATAR features a number of dedicated digital services that directly help aircraft operators to improve their technical operations performance with a focus on significantly reducing their fuel bills and the associated carbon emissions. Predictive maintenance, for example, uses big data analyses to practically foresee parts failures before they occur in flight, thereby avoiding the fuel burn associated with technical diversions or unscheduled maintenance events interrupting regular flight operations. AVIATAR’s Fuel Analytics tool moreover uses comprehensive operational data to give valuable advice for general fuel saving opportunities. Moreover, it can be used to exactly validate the fuel burn advantages associated with technical aircraft modifications such as an engine wash or a sharkskin modification.

→ [lufthansa-technik.com/aviatar](https://lufthansa-technik.com/aviatar)

→ [aviatar.com](https://aviatar.com)



### Hydrogen Aviation Lab: Preparing for a carbon-neutral future today

Liquid hydrogen (LH<sub>2</sub>) is increasingly being envisaged in the development departments of aircraft manufacturers as a key to future carbon-neutral aircraft generations. In order to investigate the effects of the use of LH<sub>2</sub> on maintenance and ground processes already at an early stage, and to provide valuable impulses for the designers of future aircraft, Lufthansa Technik is partnering with renown research and industry institutions and will jointly operate a comprehensive LH<sub>2</sub> field laboratory based on an Airbus A320.

# Our employees actively engage in social and environmental activities around the world.

Lufthansa Technik’s social engagement is an integral part of the company’s sustainability strategy and an important pillar of Corporate Citizenship.

The opportunity to volunteer in non-profit organizations and to engage in social projects as well as local volunteering communities is taken up by many employees worldwide. With their creative activities and impactful initiatives serving both environment and society, they contribute to making sustainability a topic that all Lufthansa Technik employees can help shape.

For years, help alliance, the Lufthansa Group’s non-profit organization, has been actively supporting the build-up and empowerment of local volunteering communities around the world. Doing-good together locally as a team is the vision and the main purpose of their activities focusing on the local needs of their region and contributing to the Sustainable Development Goals of the United Nations.



### How employees volunteer:

- Patron for help alliance projects
- Skills-based volunteering in social NGOs
- Organization of team activities, e.g. joint sorting of donated clothing
- Participation in global community events, e.g. CleanUps
- Organization of fundraising and donation campaigns
- Engagement in Lufthansa Young Network activities



### Memberships & Networks:

Lufthansa Technik is actively partnering in a number of sustainability programs and initiatives on industrial, regional, national and international levels.

Since December 2021, Lufthansa Technik is a founding member of the European Union Clean Aviation Initiative. The Joint Undertaking is the European Union's leading research and innovation programme for transforming aviation towards a sustainable and climate neutral future. → [clean-aviation.eu](https://clean-aviation.eu)

Moreover, Lufthansa Technik actively engages in the Lufthansa Group's CleanTech Hub, the group-wide pooling of projects, programs, and initiatives aiming at promoting technologies that propel not only the group but the entire aviation industry into a more sustainable future.

→ [cleantechhub.lufthansagroup.com](https://cleantechhub.lufthansagroup.com)



**LUFTHANSA GROUP**  
CLEANTECH HUB



## Lufthansa Technik

### Contact

Lufthansa Technik AG  
Weg beim Jaeger 193  
22335 Hamburg  
Germany

[lufthansa-technik.com](https://lufthansa-technik.com)

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