

Into a sustainable future with a clear strategy and innovative technology

The Lufthansa Group takes its responsibility for effective climate protection seriously - with a clearly path toward CO₂ neutrality. With CleanTech Hub, Lufthansa Group has launched a new Competence Center for climate protection technologies. The goal: Flying more sustainably.

Future Lab

The CleanTech Hub combines Lufthansa Group airline know-how with input from worldwide start-ups and scientific advancements. Experts are already working on more than 80 projects ranging from Sustainable Aviation Fuels (SAF), digital and technical solutions, waste reduction and the future of mobility. Five highlights of this work are:



Next generation SAF

Lufthansa Group is involved in several projects to accelerate the development and industrialization of the next generation of SAF. With Power-to-Liquid technology (PtL), sustainable fuel can be produced from green electricity, water and CO₂. Another promising innovation: flying with sunlight. Sun-to-Liquid technology (StL) uses solar heat to convert CO₂ into fuel.



Learning from nature: New aerodynamic aircraft skin

Lufthansa Technik and BASF have jointly developed the surface film AeroSHARK for commercial aircraft. Based on the structure of shark skin, it reduces aircraft drag, thus reducing fuel consumption on every flight. Lufthansa Group will already use the technology on its aircraft in 2022.



Circular economy replaces in-flight waste

By 2025, Lufthansa Group plans using only sustainable materials instead of single-use plastic. Already the company has initiated various cooperations to achieve this goal. For example, with the German start-up "traceless materials": they develop biodegradable plastic alternatives from agricultural waste products that can be used to package food for use on board. After being used it decomposes under natural composting conditions without leaving a trace.



Real-time optimisation for flight routes

Optimal flight planning and routing are crucial for flying sustainably. To achieve this goal Google Cloud and Lufthansa Group are working together to develop holistic control options for flight operations using artificial intelligence. Lufthansa Systems' state of the art navigation tool, "Lido Flight 4D," also works with real-time data. Pilots are provided with the best possible flight route that enables fuel savings of up to five percent.



Aircraft becomes a hydrogen laboratory

Innovation and research are always a glimpse into the future. Funded by the City of Hamburg, Lufthansa Technik, together with the German Aerospace Center, the Center for Applied Aviation Research and Hamburg Airport, will design and test over the next two years comprehensive maintenance and ground processes in dealing with hydrogen technology. This will require that an aircraft of the Airbus A320 aircraft family be converted into a stationary laboratory at Lufthansa Technik.

CREATE A SUSTAINABLE AVIATION FUTURE WITH US!

In addition to regular conferences, hackathons and labs, the CleanTech Hub invites thought leaders and start-ups four times a year to present technology projects and concepts for climate-friendly flight operations to a jury of experts. The Competence Center connects you with the relevant players, sets up a partnership with you or turns into your first customer. Be part of it!



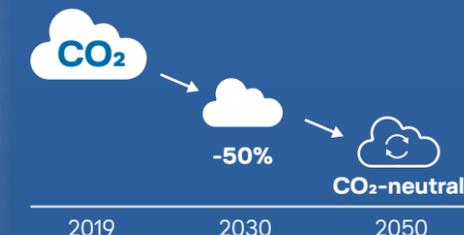
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NICE TO KNOW

Goals based on science

Reducing Lufthansa Group's net carbon emissions



The Lufthansa Group has joined the Science Based Targets initiative (SBTi) in 2021 so that its CO₂ reduction path is in line with the Paris Climate Agreement of the United Nations and is based on scientific data.

Efficient aircraft



An annual 2 billion Euro investment Fuel consumption

The Lufthansa Group is constantly modernizing its fleet and will put about 180 highly efficient aircraft into service by 2030.

Sustainable Aviation Fuel

The Lufthansa Group has acquired Sustainable Aviation Fuel (SAF) for \$250 million to meet projected demand.



The Lufthansa Group has been involved in research on Sustainable Aviation Fuels for many years and is now one of the world's largest users. Passengers can already fly carbon-neutral.