

HEALTH – New health safety measures in aircraft



Contractor

Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)

Consortium Members

None

Contract period

02/09/2024 – 01/09/2027

Budget

1.099.709,18€

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Main objectives:

The main objective of the project is to investigate the possibilities to further reduce the spread of a series of infectious agents (viruses, bacteria, fungi) within the aircraft environment. Those agents are spread through contact with contaminated surfaces of cabin interior components (cockpit, lavatories, galleys, seats, etc.) or by inhalation.

In addition, risks associated with contact with contaminated surfaces will be addressed, including the impact that various disinfection and cleaning methods that are implemented by operators may have not only on initial-airworthiness aspects but also on continued-airworthiness aspects.

This research project will analyse scientifically proven measures to reduce the spread of infectious agents within the aircraft environment.

To adequately recommend regulatory changes, the project will report on the assessed effectiveness of several measures to prevent the spread of pathogens within the aircraft cabin, on the potential constraints for their permanent use, as well as on the potential negative impact on materials and/or crew with focus on:

- assessment of the potential of spread of microorganisms from a contaminated passenger onboard;
- improvement of air filtration systems, recirculation systems and cabin airflow, including distribution of individual air supply nozzles;
- introduction of surface treatments (e.g. microbe-repellent materials) that could be used in aircraft interior design;
- review of the efficacy of chemical and non-chemical cleaning and disinfection methods, and of the associated impact on airworthiness of cabin interior materials; and demonstration of possibilities to ensure an adequate/sufficient hygiene level for the prevention of public-health risk.

Impacts & benefits

The anticipated outcome of the project is to provide scientific evidence to support regulatory decision-making, as well as an implementation roadmap for the Agency and industry.

This project will also contribute to the preparedness of the air transport system to achieve a strong resilience to infectious disease outbreak or high-threat pathogen events, which is an essential enabler for the passenger and crew safety as well as for the sustainability of the air transport sector.

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Further reading

Led by DLR, the research project will be carried out in five tasks:

- In a first phase, the project team will perform a **literature review and gap analysis**. This work will provide a thorough understanding of the current state of knowledge and measures related to preventing the spread of pathogens within the aircraft cabin, and identify areas where additional research or measures are needed to better protect public health during air travel.
- An **identification and assessment of spread of contagious diseases** will then be carried out. This task will focus on identifying the specific areas and procedures that may contribute to the spread of contagious diseases onboard an aircraft.
- Based on these results, as well as on the measures identified in the first task, at least three (3) measures will be tested and evaluated. The overall aim of this **testing phase** is to achieve effective, safe and durable measures that can be implemented in aircraft cabins to enhance the health safety of passengers and crew.
- In task four (4), the project team will study the **implementation of the identified measures** related to preventing the spread of pathogens within the aircraft cabin, described in the previous work packages, in new aircraft design as well as retrofit measures for existing aircraft. The specific objective is to identify the most effective measures that can prevent the spread of infectious agents (viruses, bacteria, fungi) within the aircraft environment, while considering factors such as certifiability, costs, feasibility, and passenger safety.
- Lastly, the project team will develop a **final report and recommendations** for implementing the proposed measures related to preventing the spread of pathogens within the aircraft cabin, in aircraft design, based on the results of the previous tasks.

Relevant stakeholders will be consulted throughout the project, and project reports will be made available through the EASA website.

This project is part of the portfolio of EASA managed research projects funded under the European Research Programmes. Projects under this portfolio address research needs of civil aviation authorities and are geared to generate mid-term benefits after the successful completion of the project to enhance safety, security and sustainability.

