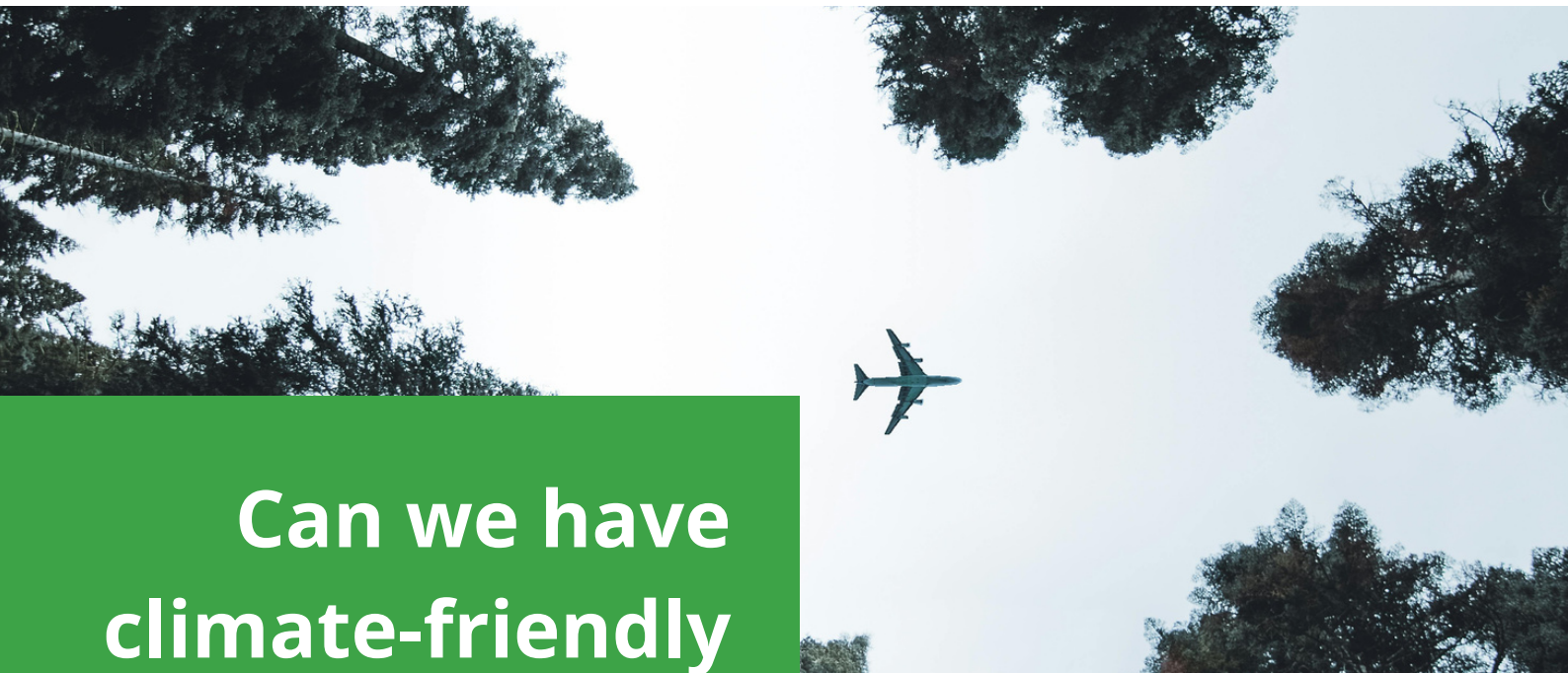


# 1ST PRESS RELEASE

01 MARCH 2024



## Can we have climate-friendly aviation?

*RefMap EU project proposes solutions for reducing the environmental footprint of aviation*

Can we envision airliners that will operate in an **environment-neutral** manner? Can we picture **electrically powered smaller air vehicles (drones)** sharing the skies with classic aircraft? Can we help airlines make more eco-friendly decisions such as using optimal flight trajectories that **minimise climate impact**, air pollution and using **sustainable aviation fuels (SAF)**? The answer is **YES**.



*Same with planes, the world was too excited about reaching every corner of our planet, but no one had calculated how aviation would contribute to the climate crisis we are experiencing.*

*Anna Palaiologk, Future Needs Management Consulting, RefMap Innovation Expert*

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Within the **RefMap** EU-funded project, the vision for sustainable aviation comes into being with tangible goals and specific proposals. In this 3- year project, experts from the broader aviation sector team up to marry the two worlds of **Air Traffic Management (ATM)** and **Unmanned Aircraft System Traffic Management (UTM)**, focusing their research mostly on the future business models in aviation.



*My main hope would be to implement a holistic view in the assessment and minimisation of the environmental impact of aviation, while also achieving higher degrees of accuracy in the environmental impact modelling.*

*Evelyn Otero, KTH Royal Institute of Technology, RefMap Researcher*

The RefMap multidisciplinary consortium consists of **11 partners**, including universities, SMEs and ATM/UAS experts from **8 European countries** and aims to reduce the environmental impact of air travel for airlines and Unmanned Aerial Systems (UAS) by creating a **digital service** that optimises flight trajectories on both **micro and macro levels**. By using environmental data, such as **wind, noise, CO2, and non-CO2 emissions**, RefMap's analytics platform will help airlines, airports, and regulators make more eco-friendly decisions. This will lead to stricter evidence-based green policymaking in the aviation sector and the development of new aviation business models in line with the **EU's Green Agenda**.



*...the project deals with the timing topic of the environmental performance of aviation and it is imperative to develop tools that will turn aviation into a sustainable means for Europe again, overcoming the barriers of emissions and noise.*

*Sofia Kalakou, Instituto Universitário de Lisboa, RefMap researcher*

## The first results of our technical work

RefMap's UK partner, the University of Salford has completed the first of a series of experiments aimed at understanding the **human response to drone noise**. The ultimate goal is to develop a model to predict drone noise annoyance and aid the trajectory optimisation of drones to reduce the impact on communities.

Additionally, RefMap is now able to predict the wind around realistic urban areas which can be used to explore and optimise Urban Air Vehicles (UAV) trajectories, by using a low-fidelity Computational Fluid Dynamics model.

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Delft University of Technology together with AgentFly Technologies have been working on it and their teams are already planning the next experimental campaign in Czechia to measure the noise emitted by a wide range of Unmanned Air Vehicles' operations.

What's more, the Boeing fuel flow method 2 which computes the emissions along a given trajectory, has been adapted by RefMap's partner coordinator, KTH Royal Institute of Technology, to consider sustainable aviation fuels at different blending ratios. You can read more about all our work in our dedicated article [here](#).

## The RefMap project partners



University of  
**Salford**  
MANCHESTER



future  
needs



Aircraft  
OPERATIONS Lab  
uc3m



UNIVERSITY OF  
BIRMINGHAM

iscte  
UNIVERSITY INSTITUTE OF LISBON



s[&]t  
Space for a safer life



- **KTH - Kungliga Tekniska Högskolan**
- **USAL- University of Salford**
- **TUD- Delft University of Technology**
- **AFT- AgentFly Technologies s.r.o.**
- **FN- FUTURE NEEDS MANAGEMENT CONSULTING LTD**
- **UC3M - Universidad Carlos III de Madrid**
- **University of Birmingham**
- **ISCTE- University Institute of Lisbon**
- **DronePrep**
- **S [&] T**
- **ICCS- Institute of communication and computer systems**

The RefMap project started on **February 1st, 2023, and is planned to end on January 31st, 2026**, with KTH Royal Institute of Technology coordinating the project.

The project has received funding from the European Union's HORIZON Research and Innovation Programme, and more specifically the European Commission's CINEA - European Climate, Infrastructure, and Environment Executive Agency, under Grant Agreement number 101096698.

Over the following months project news, publications, and outputs will be available on the official project [webpage](#) and distributed via the project's social media channels on [LinkedIn](#) and [X](#) (Twitter). Stay tuned with us!

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