OBJECTIVES

Trajectory optimization

Development of a fuel-based air quality model for both fossil and sustainable aviation fuels to capture primary and secondary pollutants in both polluted and cleaner areas, combining climate impact and aircraft noise modules for trajectory optimisation.

Flow patterns prediction

Deep learning will be applied to predict flow patterns in a non-intrusive way in order to optimise drone trajectories with deep reinforcement learning, prioritising cyber security and decentralised data management.

Reduce air travel's environmental impact

Improved air traffic management through high-fidelity flight models, optimised commercial flight trajectories, an algorithm for airline trajectories in climatic uncertainty, and minimising drone noise in populated areas.

Minimise the noise impact on communities and wildlife

Development of noise models, conducting psychoacoustic testing, and providing guidelines to reduce the noise impact from drones.

New aviation business models

By taking a holistic approach to aviation business models, showing how green technologies can support green management and by aligning aviation needs with stakeholder needs, RefMap is able to extract the full business value of its green technology.

refmap

Reducing Environmental Footprint through Transformative Multi-scale Aviation Planning

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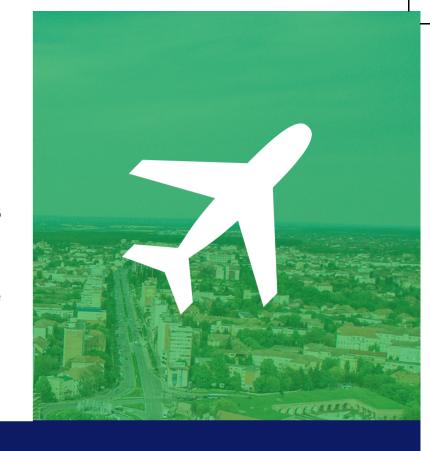s[&]t Space for a safer life

ICCS ΕΠΙΣΕΥ

Use Cases in Large Scale

- Help airlines support sustainable aviation practices complying with new regulations

- Minimise citizens environmental impacts, while ensuring airport capacity expansion

- Discover new airport locations with minimum environmental impact

- Empower EU regulators to oversee environmental footprints from the aviation industry

- Help airlines support sustainable aviation practices, while remaining competitive to other transport modes

Use Cases in Small Scale

- Limit urban air mobility impact on urban and peri-urban areas

- Demonstrate candidate locations in an inhabited areas where drones can operate

- Maximise services and civil protection under extreme weather events

- Enable the delivery of essential goods, complementing other forms of transportation