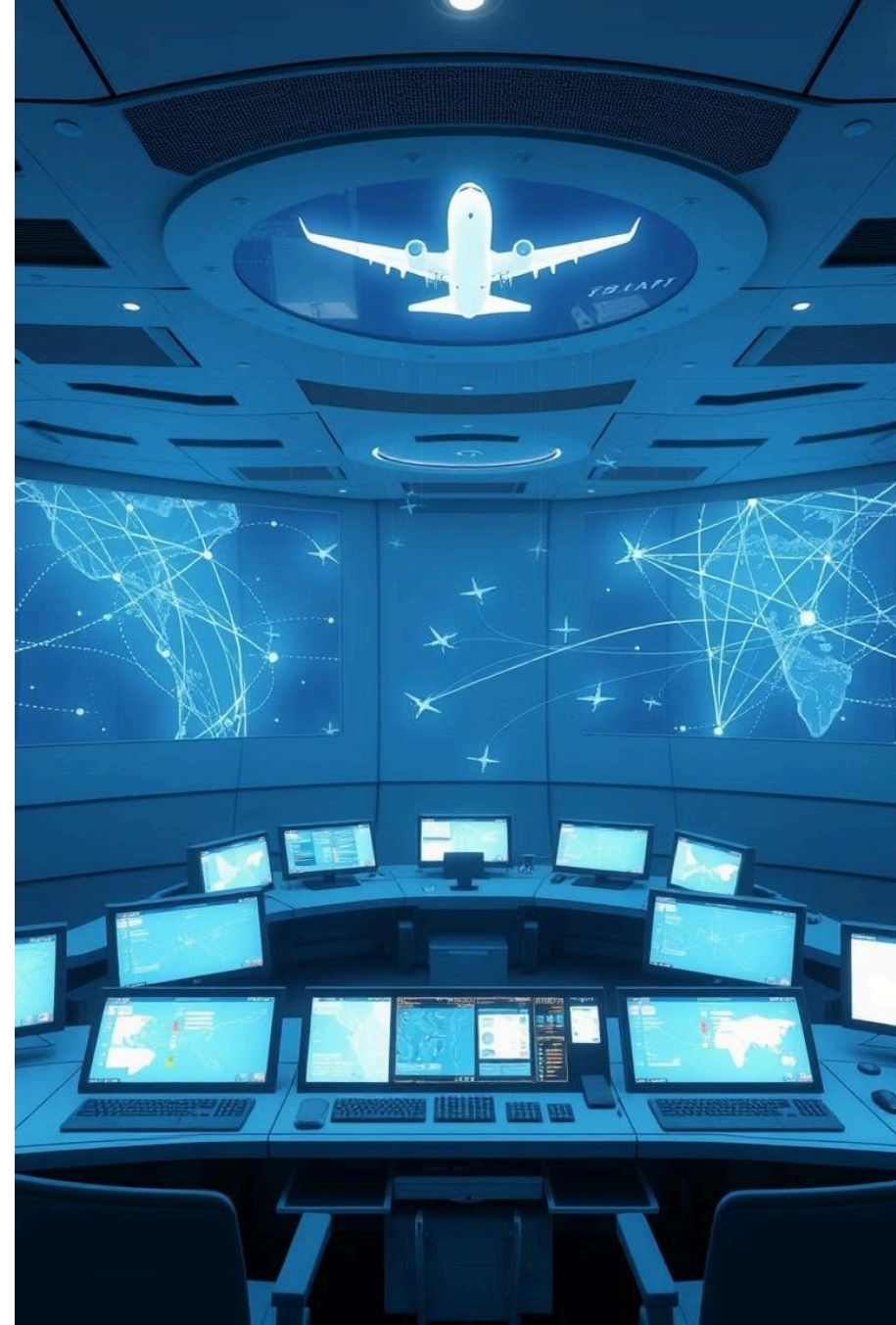


# Smart Mobility: AI-Powered Solutions for Carbon-Efficient Aviation

We're developing AI technology to automate small flight plan approvals. This will improve airspace efficiency and sustainability for drones and air taxis.



by Adam Broniewski



# The Challenge



## Surging ATC Workload

Currently, ATC manages ~30,000 flights daily across Europe. But by 2035, drones are projected to account for 250,000 flights per day - over 8x the current workload.



## Inefficient Manual Approvals

The manual flight approval process is resource-intensive. Automated systems could reduce approval times by up to 70%, allowing ATC to handle more requests.



## Emissions Reduction

Drones emit 60% less CO<sub>2</sub> per km than small delivery vehicles, representing a significant opportunity to reduce the carbon footprint of last-mile logistics.



# Our Solution

## **AI and Analytics Engine**

Built on Moving Data Insights' proprietary mobility engine (MobilityDB) to automate flight plan approvals.

## **Novel AI Algorithms**

Combined with proven optimization techniques for real-time insights to ATC operators.

## **Pilot Project**

1-year partnership with CSSI Inc. to test and implement the solution with ATC clients.



# Key Objectives

1

## Automation

Reduce ATC workload by automating flight plan review, with human supervision for complex cases.

2

## Optimization

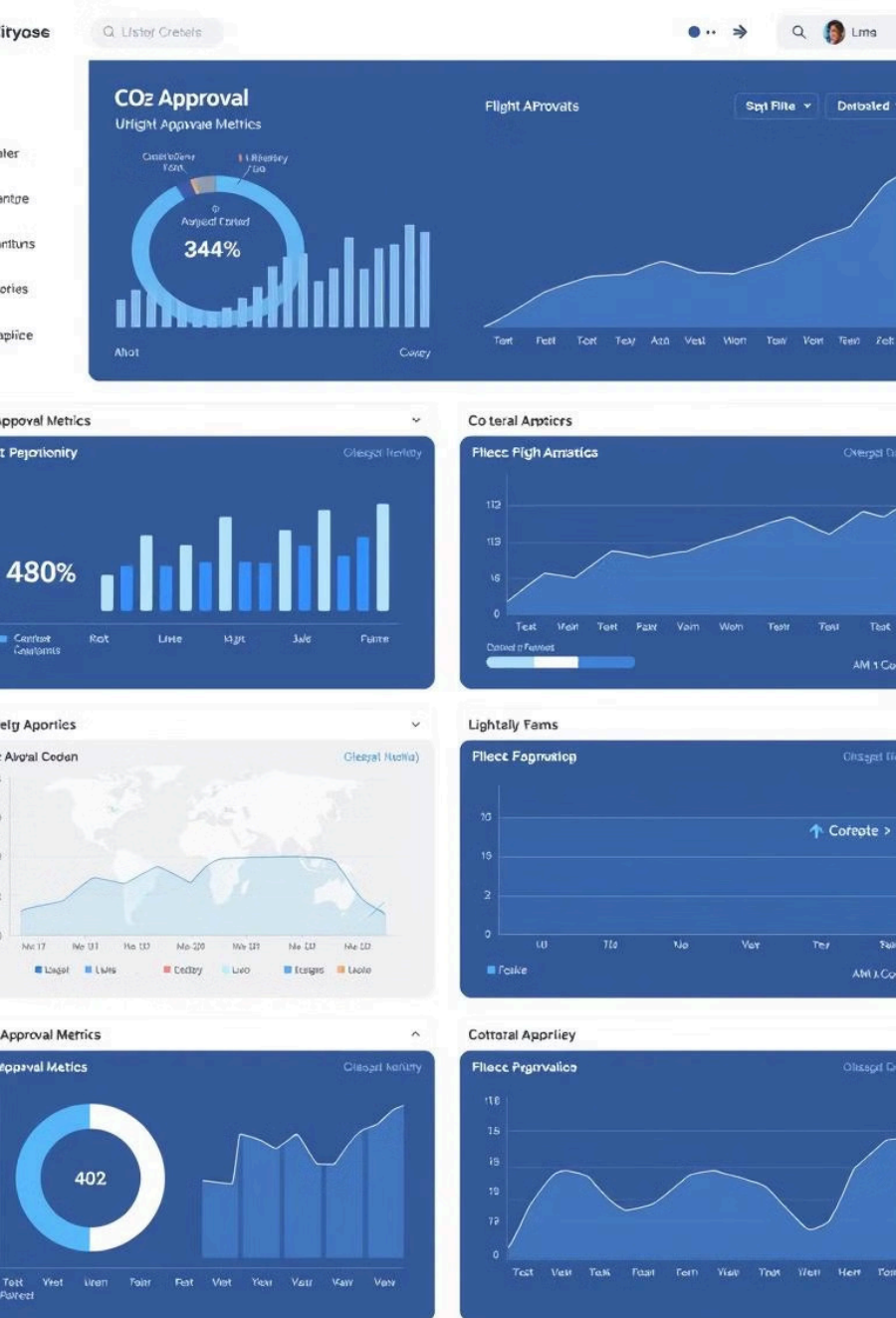
Improve flight operations and enable safe integration of drones into controlled airspace.

3

## Carbon Reduction

Cut down on fuel consumption and CO<sub>2</sub> emissions by optimizing flight paths.





# Metrics of Success

Primary Metric

60% reduction in ATC review time through automation

Secondary Metrics

Reduction in operational costs for ATC

Estimated reduction in CO2 emissions

Adoption rate among pilot participants

# Partnerships and Expertise

## Project Lead



Moving Data Insights is the lead developer and technology provider, expertise in spatio-temporal data analytics.

## Industry Partners



Subject matter expert and industry partner, providing use cases and ATC client access.

## Academic Partner



Academic partners supporting algorithm development through dedicated research projects.



# Brainport Agenda Alignment

1

## **Innovation**

Introducing cutting-edge AI solutions for aviation and drone traffic management.

2

## **Job Creation**

Direct hires, internships, and collaborations with local academic institutions.

3

## **Sustainability**

Reducing carbon emissions by optimizing flight operations, aligned with Brainport's goals.

# Budget and Funding

## 1 Total Budget: €133,200

Includes developer, UI/UX designer, data analyst, project manager, and master's student.

## 2 Co-Financing

CSSI Inc. contribution: €25,000. MDI contribution: €58,200.

## 3 Grant Request: €50,000

Seeking funding to complete the project and maximize regional impact.

