

PEACOCK

PREDICTABLE AND ENVIRONMENTALLY FRIENDLY OPERATIONS OF REGIONAL AIRPORTS WITH **CONNECTIVITY** AND **CLIMATE** AS KEYWORD

Why is predictability important?

Punctual and predictable operations are the essence of precise and integrated planning. The ability to provide the Network Manager with accurate departure time predictions is key to estimating the traffic loads at the network level and therefore ensuring that any determined Air Traffic Flow Management measures are optimised according to the real sector loads.

PEACOCK: what and where

The PEACOCK project is an initiative aimed at enhancing the connectivity and environmental performance of regional airports across Europe. Over a span of 36 months, PEACOCK will ensure that several regional airports are providing the Network Manager with accurate departure estimates and including during challenging winter operations. In addition, PEACOCK will demonstrate a dashboard to analyse and quantify the environmental impact - both noise and emissions - of landing, taxiing, and take-off operations at several airports. This focus on environmental metrics aligns with the broader vision of creating a Digital European Sky, promoting sustainable and efficient aviation practices.

PEACOCK partners comprise airports from Belgium, Czechia, France, Greece, the Netherlands, Poland, Romania and Sweden.

PEACOCK Technical Solutions

The connectivity solution being demonstrated in PEACOCK is encapsulated as a centralised Network Manager service leading to a deployment cost for the airports of close to zero. A semi-automatic process is introduced to monitor key flight events (landing, in-block, off-block, take-off) and to accurately predict flight departure estimates thereby ensuring that sector load predictions at the level of the ATM Network are as accurate as possible. During winter operations, the impact of the de-icing operation on the departure time will be captured through algorithms based on CNS monitoring using ADS-B technology as well as machine learning.



The project will also demonstrate the use of artificial intelligence based on cameras to detect key processes during the aircraft turnaround (fuelling, catering etc) as a means of further improving the quality of the departure time prediction.

Conclusion and key Innovations

In summary, the PEACOCK project plays a crucial role in fostering connectivity by integrating regional airports into the broader European aviation network and promoting environmentally friendly operations.

AI & Machine Learning	Winter Optimization	Operations	Environmental Dashboard	Impact
Using AI and camera-based detection to improve turnaround predictability.	Algorithms assess de-icing and other winter impacts on departure times.		Real-time monitoring of emissions and noise during aircraft ground operations	

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PEACOCK Partners



Key Benefits

- Improved flight predictability & efficiency
- Enhanced regional economic opportunities
- Sustainable, eco-friendly aviation practices
- Advanced digital integration for better operations

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