Project Fact Sheet

Stargate within EU Green Deal

EV Insights

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement GA101037053

01 BASIC PROJECT INFORMATION

Project name	EV Insights
Partners involved	Brussels Airport Company, JetPack.ai, Skytanking
Implementing airport / site	Brussels Airport
Period tested	2025 - 2026
Project lead / contact	Project lead: Brussels Airport Company

02 OBJECTIVE

What are we trying to solve or tackle with this project?

Help the airport community plan electrification by understanding how different electric vehicles charge and how their combined loads affect the local electricity network. The project covers airport fleet vehicles, electric buses, an electric fuel dispenser and ground support equipment, aiming to detect peak power periods, control energy costs and inform infrastructure investment.

Success criteria

Collect detailed charging data across multiple vehicle types. Identify user patterns and load profiles. Quantify peak and cost-saving potential. Share insights and support a coordinated airport electrification roadmap.

03 APPROACH (HOW WE TESTED)

Test set-up & method

Jetpack.ai analysed available charging and fleet data from Brussels Airport Company and airport partners. The scope included fleet electric vehicles, buses, Skytanking's electric fuel dispenser and ground support equipment.

Profiles were layered to assess combined demand, peak power and load-shifting opportunities. In depth analysis provides insights on vehicle usage and charging behaviour.

Data & measurement



KPIs:

- Peak power
- Daily consumtion and load volume
- Patterns and charging behaviour
- Potential peak reduction cost-per-MWh
- Optimisations of load procedures and infrastructure

Risks & mitigations

Risks include insufficient data or insufficient data quality. This can be caused by several factors not limited to: inconsistent charging records, data-sharing constraints and challenges translating data into user behaviour.

Parallel to the data issue, the presence of legacy systems can present difficulty connecting backend of different OEM's.

Mitigation requires defining common standards holistic approach to data management and adequate data ownership.

Limitations

Data quality and data granularity are key limiting factors for the insights potential.

Durable and reliable partnerships in data sharing is key.

04 RESULTS & IMPACT

Key results

EV Insights created a cross-company view of how airport electrification may affect the local grid. Analysis covered Brussels Airport fleet vehicles, electric buses, Skytanking's fuel dispenser and ground support equipment.

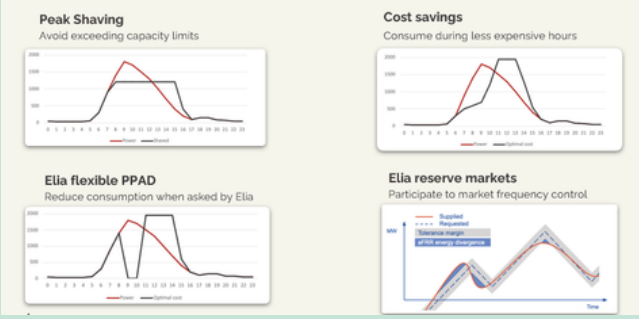
Brussels Airport Company fleet data indicated potential to reduce peak power by 3–4% and electricity cost per MWh by 20% through load shifting.

Electric bus fleet data indicated that the current usage and charging behaviour are centered around off-peak hours. Optimisations of this fleet would result in only marginal gains.

The project clarified vehicle-specific charging profiles and infrastructure needs.

Its main limitation is data readiness: detailed, consistent information and connected backends are needed to validate and scale results.





05 RATINGS (QUICK ASSESSMENT)

Deployment Approach

How standardised is the solution: can it be deployed off the shelf, or does it require extensive customization?

Off The Shelf — Custom-Built

Investment Magnitude

From low-cost deployment to major investment.

Low Investment (less than €10k) — High Investment (more than €15mio)

OPEX ■ □ CAPEX

Sector Readiness

From non-existing or emerging standards, regulations, and certification pathways to fully established industry practices.

Emerging Framework — Established Framework

Innovation Maturity

How does the solution score in terms of maturity, from low TRL experimental/pilot-stage to high TRL market-ready.

Experimental — Market-Ready

Operational Impact

Does the innovation deliver targeted improvements or rather drastically transform processes and/or operations.

Incremental Improvement — Transformational Change

Notes

For other airports, the method is highly relevant where electrification spans multiple companies and vehicle types.

he key prerequisite is a shared data framework covering charger sessions, vehicle use, timestamps, power and costs. Analysis should be followed by measured optimisation pilots.

06 NEXT STEPS / RECOMMENDATION

Recommendation

- Continue and scale the analysis.
- Validate savings with higher-quality data.
- Establish common data-sharing standards to facilitate future behaviour and pattern analysis.

Next steps:

1) Define standard charging-data fields, intervals and quality rules.

2) Connect partner backends using common interfaces.

3) Validate peak/cost potential with measured pilots.

4) Expand to more vehicle types and companies.

5) Use results in the airport electrification and grid-capacity roadmap.