Stargate
within EU Green Deal

Project Fact Sheet

Special airside e-vehicles

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	Special airside e-vehicles
Partners involved	AIA Environmental Department; Airfield Services; Wildlife Control and Airside Monitoring teams.
Implementing airport / site	Athens International Airport
Period tested	April 2024 to March 2026, covering approximately 23 months of real-world use.
Project lead / contact	Athens International Airport

02 OBJECTIVE

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

The project tested whether two fully electric Skoda Enyaq vehicles could support safety-critical wildlife-control patrols and airfield inspections. It assessed range, reliability, charging, terrain access, cost and environmental performance under continuous, shift-based airside operations.

Success criteria

- Maintain service availability across routine and peak-duty cycles
- Achieve sufficient range for standard patrol patterns
- Verify reliable charging and vehicle performance
- Quantify distance, fuel avoided, emissions and operating-cost effects
- Identify terrain, resilience and fleet requirements for future scale-up

03 APPROACH (HOW WE TESTED)

Test set-up & method

Two Skoda Enyaq vehicles were embedded in daily wildlife patrols and airside monitoring from April 2024 to March 2026. They operated in real conditions, including summer heat and peak flight schedules, supported by dedicated fast charging and backup arrangements for 24/7 service resilience.



Risks & mitigations

Key risks included insufficient range, charger downtime, low ground clearance on rough terrain, operator range anxiety and loss of service continuity. Mitigations included a dedicated fast charger, opportunistic charging, a backup vehicle and early checks of terrain, torque, ground clearance and grid capacity.

Limitations

Findings reflect two vehicles and specific airside routes, so they cannot be generalised to all airport fleets. The Skoda Enyaq was unsuitable for some unpaved areas, while the reported emissions and cost benefits are operational estimates rather than controlled counterfactual results. Detailed maintenance-cost data is not reported.

04 RESULTS & IMPACT

Key results

Across the 23-month deployment, the two fully electric Skoda Enyaq vehicles covered approximately 107,000 km during wildlife-control patrols and airfield-services inspections, avoiding around 16,000 litres of diesel and achieving a reported 100% reduction in tailpipe emissions.

Battery endurance reached 1.5 operational shifts per full charge, adequate for standard patrol patterns with dedicated fast charging. Operators reported quieter, smoother driving, while low ground clearance restricted access to rough or unpaved areas and limited suitability for some wildlife-control routes.



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

06 NEXT STEPS / RECOMMENDATION

Recommendation

Continue EV deployment for paved or clearly defined airside routes, while matching vehicle specification to terrain and duty cycle. For wildlife-control roles, consider a specialised 4x4 EV or higher-clearance model. Maintain backup capacity during the transition and locate fast chargers near operational hotspots.

Next steps

Complete fleet and duty-cycle mapping; audit off-road terrain, torque, ground clearance and airside grid capacity before procurement; confirm maintenance and total-cost data; retain backup vehicles for safety-critical coverage; and define where standard EVs, specialised EVs or hybrid solutions are appropriate.