Stargate
within EU Green Deal

Project Fact Sheet

Liquid disposal bins

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	**Liquid disposal bins**
Partners involved	**Athens International Airport Environmental Services; waste-management, wastewater, and grounds-maintenance partners.**
Implementing airport / site	**Athens International Airport**
Period tested	**2025, covering one full year of implementation.**
Project lead / contact	**Athens International Airport**

02 OBJECTIVE

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

The project separates liquids from the waste stream at passenger screening areas before disposal. This reduces the quantity and weight of waste collected, enables the liquids to be treated through the airport's sewage network, and supports potential cost savings and reductions in plastic-bottle waste.

Success criteria (optional):

- Quantify the volume of liquids separated from the waste stream.
- Establish the associated potential cost saving.
- Track changes in the plastic-bottle waste stream.
- Confirm that separated liquids are safely treated and reused where appropriate.

03 APPROACH (HOW WE TESTED)

Test set-up & method

The intervention was implemented in passenger screening areas at Athens International Airport.

Passengers were provided with a means of emptying liquids before disposal. The separated liquids were directed to the airport sewage treatment plant, treated on-site, and ultimately used to irrigate non-public green areas.

The process relied on passenger participation, correct waste separation, and coordination between waste-management and airport operational teams.



Data & measurement

The primary KPI was the quantity of liquids separated, measured by weighing the collection bins. A secondary KPI was the potential cost saving associated with reducing the amount of waste requiring collection and management.

The reduction in the plastic-bottle waste stream was monitored as a supplementary outcome. The reporting period covers the full 2025 implementation year.

Risks & mitigations

Key risks include incorrect use of the separation facilities, contamination of collected liquids, weighing or recording errors, wastewater-treatment constraints, and over-attribution of wider waste reductions to the project.

These risks can be managed through clear passenger signage, routine weighing and data checks, operational monitoring of the wastewater route, and conservative attribution of secondary outcomes.

04 RESULTS & IMPACT

Key results

After one full year of implementation in 2025:

- Approximately **136.8 tonnes of liquids** were separated and not managed as waste.
- The separated liquids were discharged into the airport sewage treatment plant, treated on-site, and ultimately used to irrigate non-public green areas.
- The project generated a potential **cost saving of approximately €46,914**.
- The plastic-bottle waste stream **decreased by approximately 107 tonnes**; this reduction may be partly attributable to the separation of liquids before disposal.

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:

The results demonstrate the potential for liquid disposal bins to reduce waste volumes, lower waste-management costs and support circular water-management practices at airports.

This outcome supports the continued use and maintenance of liquid disposal facilities at passenger screening areas, ensuring clear signage, convenient placement and regular maintenance to encourage correct passenger use.

Next steps:

- Strengthen performance monitoring: Establish a consistent baseline and continue measuring liquid volumes, waste reductions and operational costs to validate the long-term environmental and financial benefits.
- Verify cost savings: Work with waste-management partners to confirm actual cost reductions and distinguish realised savings from estimated benefits.
- Assess opportunities for expansion: Investigate deployment at additional terminal locations and evaluate the feasibility of replication at other airports, considering passenger volumes, waste-management arrangements and wastewater-treatment infrastructure.