Electric and Autonomous Vehicle for waste collection at Mercamadrid

prezero

Capital Digital

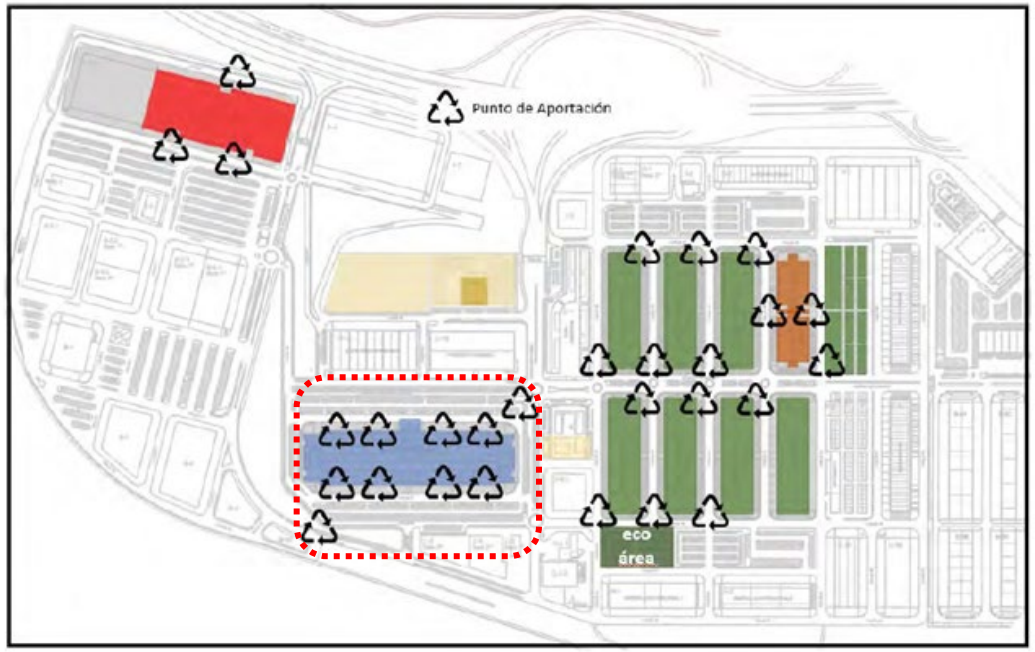
PreZero's Service at Mercamadrid

Street cleaning services

Central markets cleaning services

Selective waste collection and integrated management of the Eco-Area

Scope of MOBILITIES for EU project



Current service

Location:

Mercamadrid Central Fish Market.

Current situation:

At the **Central Fish Market**, boxes of EPS are generated and deposited at collection points outside the market (♺).

There are 20 cages distributed in 12 points.

When these cages are full, an operator who is continuously driving around the area monitoring the filling status of the cages, collects and transfers them to the recycling area. This service is performed with a diesel vehicle towing 2 cages in every trip.

Proposed solution in the MOBILITIES for EU project

Pilot project

Demonstration of the operation of an **electric and autonomous vehicle** for the collection of empty EPS boxes (waste) at the Central Fish Market of Mercamadrid.

Main goal

To achieve a more **efficient** and **sustainable** waste collection service that will contribute to minimize market traffic at Mercamadrid.

Main challenges

- ✓ AGV connectivity
- ✓ Identification of the cages filling status
- ✓ Connectivity between sensors and AGV
- ✓ Interaction of the AGV with traffic
- ✓ Interaction of the AGV with people
- ✓ AGV coupling with cages
- ✓ Movement of the cages

Project development

Implementation planning

Due to the high circulation of people and vehicles around the working zone at the Fish Market, a dedicated pathway will be delimited in the parking area to reduce the interactions with traffic and people.

Therefore, the implementation of the project will be carried out in 3 phases:

Phase 1: Cages collection in the two aportation areas (AP1 and AP2).

Phase 2: Cages collection in one collecting point along the building (CP9 and CP10).

Phase 3: Technical and economic analysis of the feasibility of collecting cages in all the existing points (CP1-CP10 and AP1-AP2.

Main advantages of the solution

- ✓ Reduction of emissions and noise through electrification of the diesel vehicle
- ✓ Optimization of vehicle circulation, and therefore reduction of service's energy demand as well as reduction of traffic in the area, through the design of an on-demand collection solution
- ✓ Optimization of human resources and accident risk reduction by avoiding the need for operators to constantly circulate the area to identify the filling status of the cages

MOBILITIES FOR EU

https://mobilities-for.eu/

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