

ORGANIZATION / INITIATIVE LEAD

Citylogin — Urban logistics operator developing low-emission distribution models through microhubs, electric vehicles, cargo bikes and collaborative digital tools.

TECHNICAL SOLUTION NAME

Madrid Citylogin — Microhub-based Urban Logistics and Digital Twin Optimisation

HIGHLIGHT TITLE

Rethinking urban deliveries through a network of microhubs, electric vehicles and digital tools that reduce travel distances and pressure on city streets.

SHORT DESCRIPTION

Citylogin combines urban microhubs, electric vehicles, cargo bikes and digital optimisation to improve last-mile distribution. Goods are consolidated close to delivery areas before completing their journey using smaller, low-emission vehicles. In Madrid, an underground microhub developed through the European LEAD project demonstrates how existing urban spaces can support more efficient logistics.

EXTENDED DESCRIPTION

Growing demand for urban deliveries increases traffic, emissions, noise and competition for public space. Conventional distribution often relies on vehicles travelling from peripheral warehouses into neighbourhoods, with different operators serving overlapping routes. Citylogin addresses this challenge by reorganising the distribution network rather than simply replacing combustion vehicles.

Its approach uses urban microhubs to consolidate and redistribute goods close to their destinations. Electric vans and cargo bikes complete the final delivery stage, matching vehicle size and transport mode to local conditions. This model aims to reduce unnecessary journeys and improve the use of logistics infrastructure.

Through the European LEAD project, Citylogin participated in developing an underground microhub beneath Madrid's Plaza de España, repurposing underused space. A digital twin models logistics operations, allowing routes and distribution scenarios to be assessed before implementation. According to the supplied project information, this optimisation achieved a 21% reduction in kilometres travelled per route.

Complementary initiatives, including Microhubs 4.0, STANDTRACK, LUCID and DISCO, explore interoperable hubs, shared parcel identification, collaborative routing and the integration of municipal and operator data. Together, they support a model in which businesses can share selected infrastructure and tools while continuing to compete commercially.



DEMONSTRATED METRICS

- 21% reduction in kilometres travelled per route, reported for digital twin optimisation in the Madrid LEAD case
- Underground microhub using fully electric delivery vehicles
- Urban Logistic Pioneer Award — ALICE, 2025
- Innovation Collaboration Excellence Award — CITET, 2025
- National Sustainable Mobility Award — 2021

REAL IMPACT

Madrid Citylogin demonstrates how existing urban infrastructure can accommodate logistics functions without requiring additional land. Consolidating goods closer to delivery destinations supports electric distribution and can reduce the need for conventional vehicles to enter dense urban areas.

The reported reduction in route distance shows how operational planning can contribute to decarbonisation alongside vehicle electrification. Shared infrastructure and interoperable digital tools also offer opportunities to reduce duplicated journeys and improve coordination between operators.

Its broader contribution is to position freight distribution as part of urban planning. Benefits depend on suitable hub locations, operational coordination and delivery requirements, but the model provides a practical approach to connecting logistics efficiency with public-space management and environmental goals.

IMPLEMENTATION LOCATION & DATE

Madrid, Spain, including the underground microhub beneath Plaza de España, developed through the European LEAD project. Further collaborative logistics initiatives include Microhubs 4.0, STANDTRACK, LUCID and DISCO. Initial implementation date not specified in the supplied information.

TECH LEVEL

Medium Tech

MAIN CATEGORY

Primary: Mobility & Transport**Secondary:** Governance & Economy

COST OF THE SOLUTION

Not specified. Costs depend on premises, hub adaptation, vehicle fleets, digital systems and coordination requirements. Reusing existing spaces can limit the need for new construction.

BASE INFORMATION SOURCES

- [CITYlogin — Urban logistics and innovation projects](#)
- [European Commission — Madrid develops logistics microhub to boost low-emissions delivery](#)
- [LEAD Project — CITYlogin's role in the Madrid Living Lab](#)

MITIGATION / ADAPTATION

Mitigation