



MOBILITIES for EU MercaMadrid

Jordi Bigorra

5G AND ADVANCED CONNECTIVITY SPECIALIST

SMARTCITY
EXPO WORLD CONGRESS



Empresas

1

5G NETWORK ROADMAP

Nodes deployed to ensure main coverage, as well as the main elements of the 5G architecture and configured Private 5G Network

2025

Deployment of private 5G SA network in Mercamadrid. Advanced infrastructure ready for automated and connected mobility PoCs.

Impact Evaluation Preparation.

Preparation for impact assessment.
Capacity to collect technical, social, and environmental KPIs in real time

Visibility and Positioning

Participation in key events and dissemination in sectoral congresses, reinforcing Madrid's leadership in sustainable mobility.

Provision of 5G SA IoT SIMs

Provision of 5G SA IoT SIMs for installation in traffic lights, signage, streetlights, and vehicles.

2026

Functional Validation of PoCs

Start of real operation and validation under real conditions.

KPI Collection and Analysis

Collection and analysis of KPIs
Measurement of the technical and environmental impact of the deployed solutions.

Boosting Exploitation and Scalability

Transfer of results and adoption in other European cities.

Strengthening Collaboration and Dissemination

Continuity in European initiatives and sectoral events to promote smart mobility.





Capital
Digital



MADRID

5G+

Connecting the future

MOST INNOVATIVE PRIVATE 5G+ HYBRID NETWORK

It provides the best performance in
connecting autonomous vehicles
and devices in the project



SAFETY AND RELIABILITY

HIGH CAPACITY AND ULTRA-
LOW LATENCY

MAXIMUM EFFICIENCY FOR
CONNECTING IOT DEVICES



2 USE CASES

Main Use Cases in MercaMadrid Private 5G Network

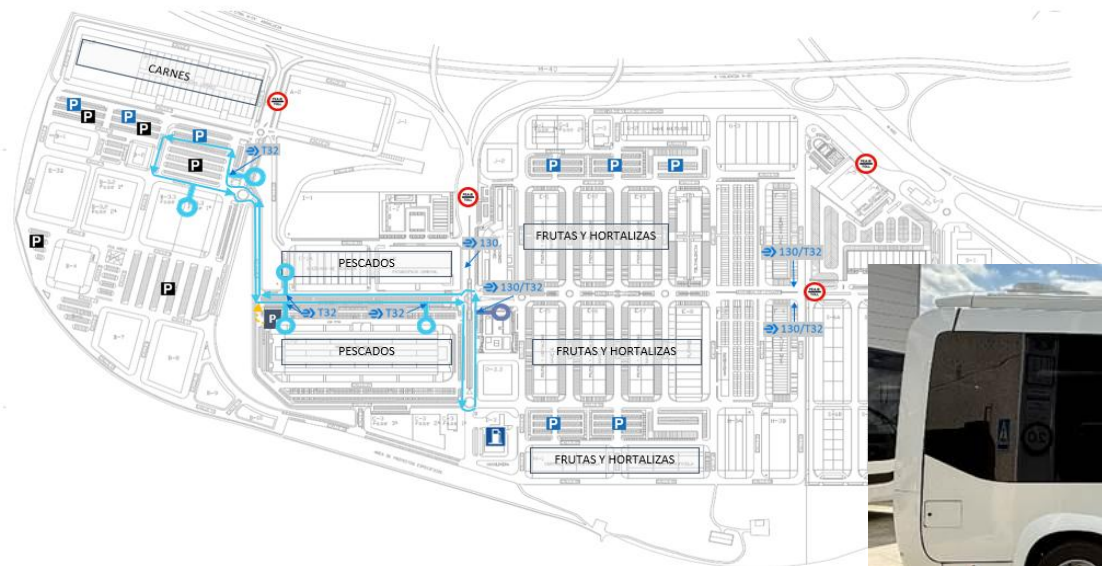
Autonomous Vehicles. Network Slicing, V2X

Self-driving bus





Self-driving waste collection truck

IoT Devices

Traffic lights, signage, streetlights, and vehicles.

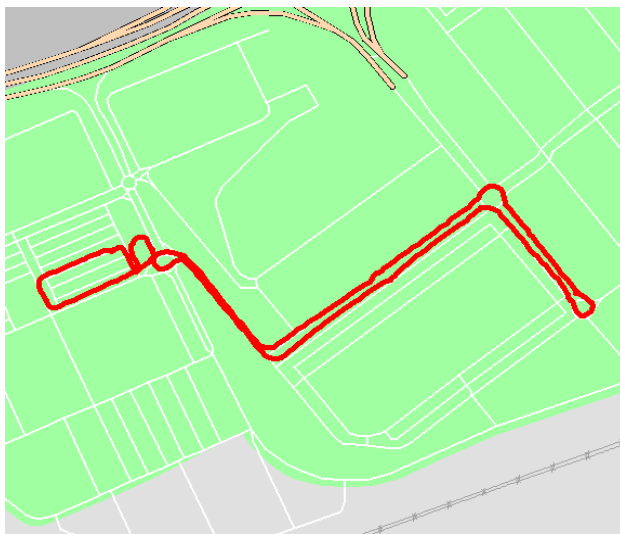


Leyenda:

-  Peaje/control acceso
-  Parking turismos
-  Parking camiones
-  Parada EMT (L130 y/o T32)



5G+ Network Analysis



▲ Color Legends

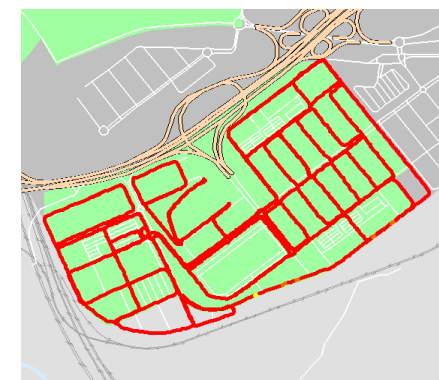
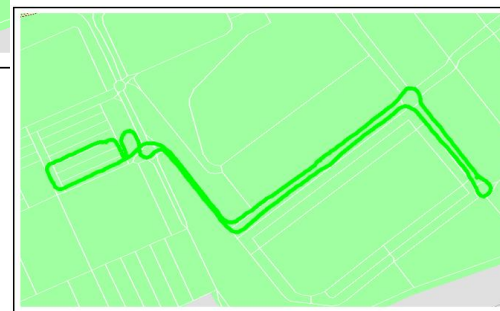
SS-RSRP Quality [Samples]	Count	Percentage
>= -100	574	100.00%
< -100 and >= -104	0	0.00%
< -104 and >= -108	0	0.00%
< -108 and >= -112	0	0.00%
< -112 and >= -116	0	0.00%
< -116 and >= -120	0	0.00%
< -120	0	0.00%



Serving 5G PCI



Serving ARFCN



▲ Color Legends

SS-RSRP Quality [Samples]	Count	Percentage
>= -100	3961	99.70%
< -100 and >= -104	10	0.25%
< -104 and >= -108	2	0.05%
< -108 and >= -112	0	0.00%
< -112 and >= -116	0	0.00%
< -116 and >= -120	0	0.00%
< -120	0	0.00%



Thank you

