



**Interreg
North Sea**



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COPPER

Car sharing meets V2G

COPPER · V2G pilot, Gent

Guillaume Vanstraelen · 23 Oct 2026



WE DRIVE  LAR

MOBILIZE
SHARE
24/7 CAR SHARING

fluvius.



Agenda

Break-out session · COPPER Ghent

1. Why Ghent is testing this
2. The pilot: a live urban laboratory
3. What the City wants to investigate
4. The carsharing business case
5. Evidence and KPIs
6. Implementation, trade-offs and roadmap

What creates value for the local grid

COPPER compares charging islands, V2G and predictable shared-car usage in a live urban setting.

Public charging – demand can cluster at the same place and time.

Grid connection – peak power drives constraints and cost exposure.

Carsharing – vehicles create value when rented, but sit idle between bookings.

Research scope: test whether, how and when a V2G charging island adds value to the local low-voltage network.



A live urban laboratory

4 charging posts · 8 charging points

One local low-voltage connection at Spaanskasteelplein.

6 points open to public EVs

Public charging is observed alongside the V2G assets.

2 V2G points for shared cars

Shared, V2G-capable vehicles operated as everyday mobility.

Live monitoring through June 2027

City, university, DSO, CPO and carsharing partners share one data set.

1. Charging island vs individual chargers

Does grouping chargers reduce pressure on the local grid?

2. Additional value of V2G

What does bidirectional charging add on top of that effect?

3. Shared cars as predictable assets

Do booking-based patterns create more network value?

4. Business-model implications

What value and barriers does V2G create for the provider?

The research questions

Three linked research questions move from charging-island effects to V2G and then to shared mobility.

The fourth is included, but is not the City's primary research question.

The business case

Provider lens: value and barriers

Asset productivity

Generate a second service during predictable idle periods.

Service resilience

Coordinate charging so vehicles are ready when reservations begin.

City lens: measurable network relevance

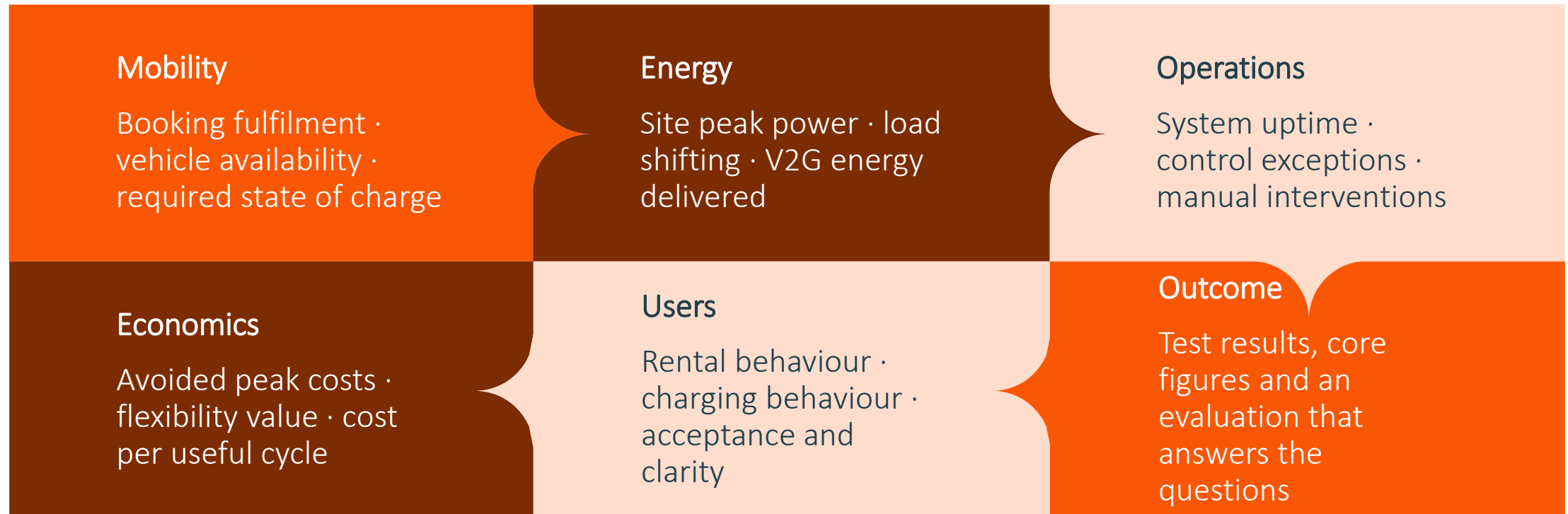
Site economics

Reduce peak-demand exposure and use the connection more efficiently.

Public value

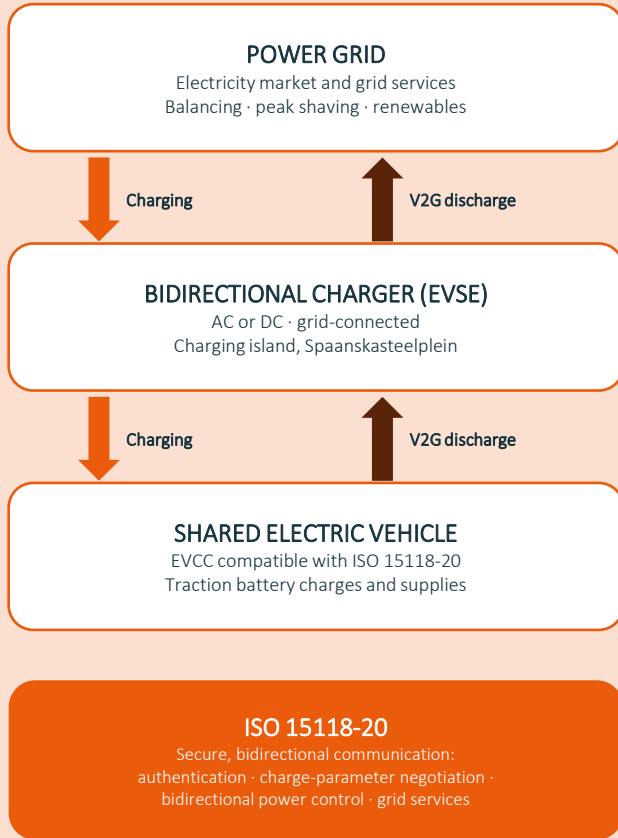
Increase useful charging capacity without treating grid reinforcement as the first answer.

Evidence the City expects from the pilot



BIDIRECTIONAL CHARGING

How energy moves between grid, charger and shared car



WHY IT MATTERS

- A more flexible grid
- Lower energy costs
- Higher renewable integration
- A cleaner, more resilient system

26-10-2026

Implementation is the project

Physical

Civil works · electrical connection
· inspection

Digital

Charger backend · V2G controller
· data flows

Mobility

Vehicle onboarding ·
reservations · readiness rules

Governance

Permits · HSEQ · partner
contracts · communication

The trade-offs we need to make explicit

A credible V2G proposition must manage constraints, not hide them.

Vehicle readiness ↔ energy flexibility

Reserve sufficient state of charge and stop V2G before the next booking.

Automation ↔ operational control

Define safe fallbacks, monitoring and clear ownership of exceptions.

Peak reduction ↔ battery throughput

Discharge only against valuable peaks; avoid cycling for its own sake.

Local optimisation ↔ market value

Start with site benefits; test whether external flexibility revenues add value later.

NOW · Operate

Stabilise the live service and collect trustworthy data.

NEXT · Evaluate

Compare mobility performance, peak reduction and full operating cost.

THEN · Replicate

Identify sites where predictable idle fleets and local peaks overlap.

LATER · Scale

Standardise interfaces, contracts, control rules and city-grid collaboration.

From tests to evidence

Tests span seasons and operating moments, so the project can identify when the concept is relevant.

Final ambition: clarify whether, how and when V2G charging islands and shared cars add value to the local grid.

Public charging services and carsharing go hand in hand

Guillaume Vanstraelen

Public Account Manager e-Mobility

TotalEnergies Charging Solutions Belgium

guillaume.vanstraelen@totalenergies.com

+32 492 4847 66