

gridSession

Vehicle-to-Grid from buzzword to business case



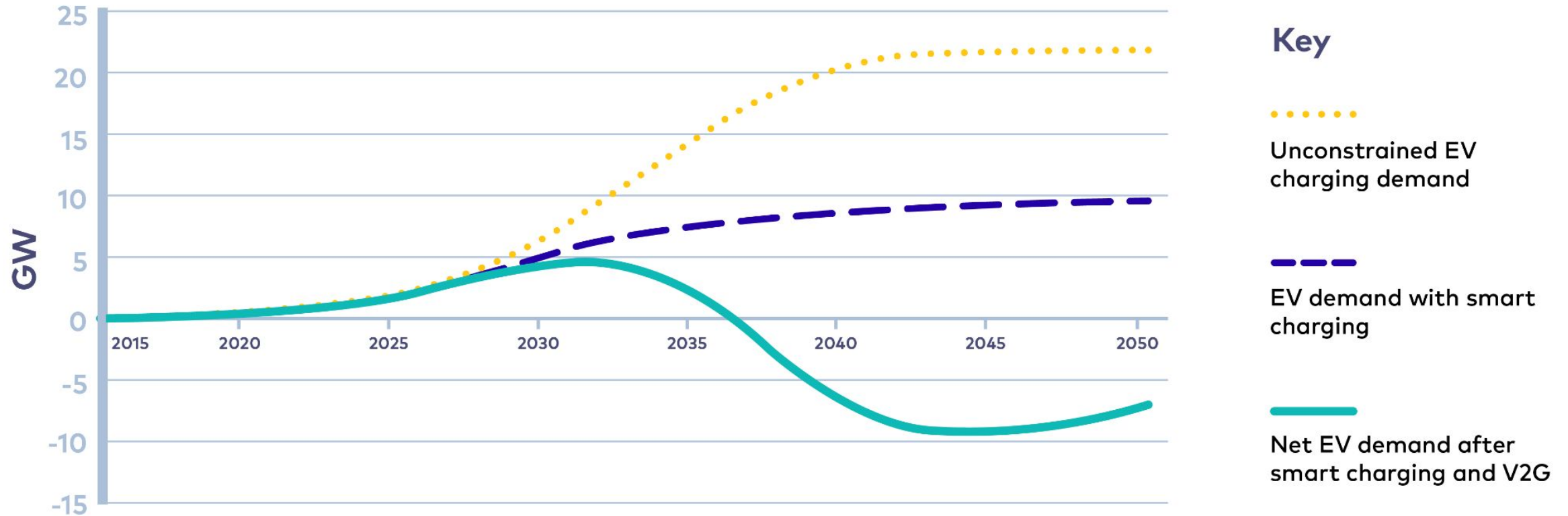
Nicolas Lerch

Senior Account Executive



The importance of V2G

In a single graph





Vehicle-to-Grid

Offer flexibility to the grid



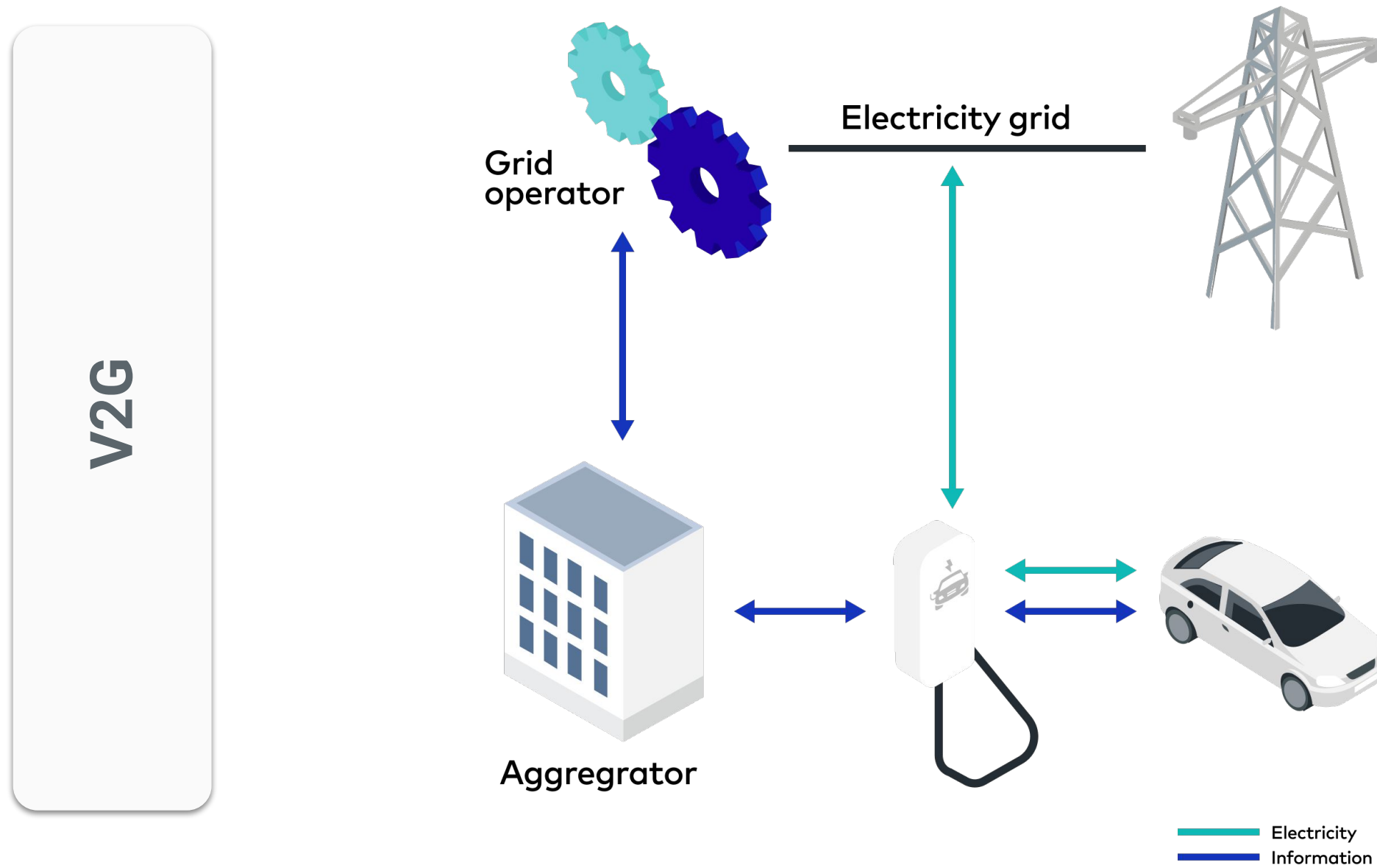
ISO 15118

Making it happen

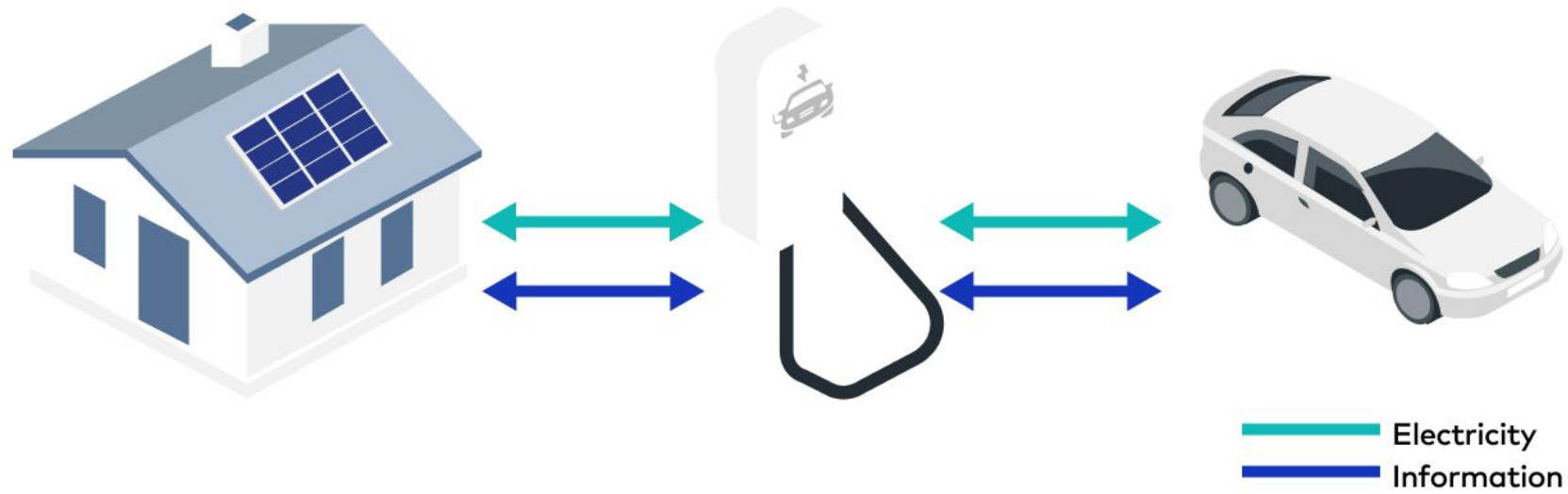


Vehicle-to-Home/ Vehicle-to-Building

Electricity storage at home



V2H / V2B



Benefits from V2G vary by stakeholder



Power Companies

Time arbitrage

PPA



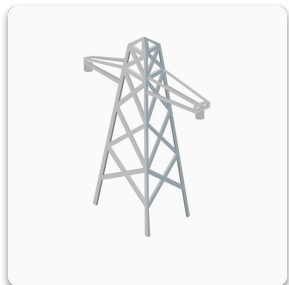
Households & Businesses

Peak shaving

Max. self-consumption

Fleet mgmt

Tariff optimized EMS



Grid Operators

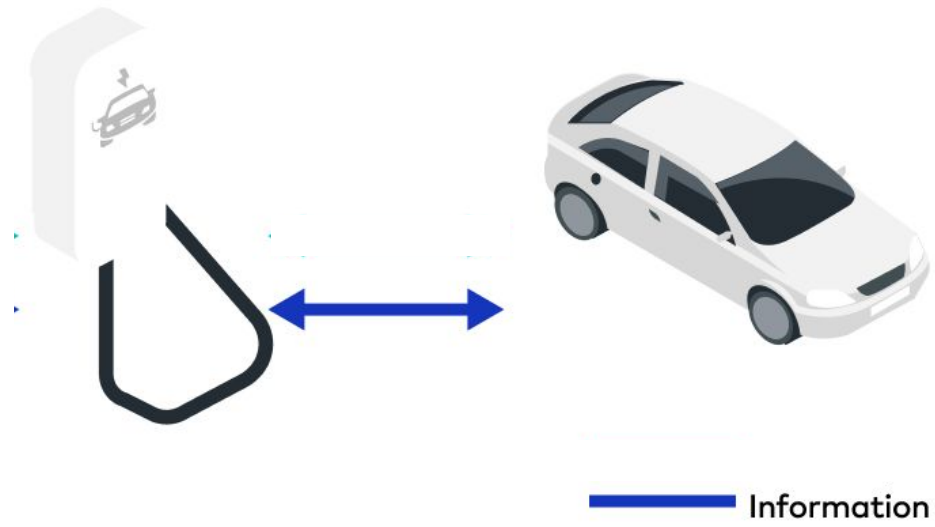
Primary balancing pwr

Local network service

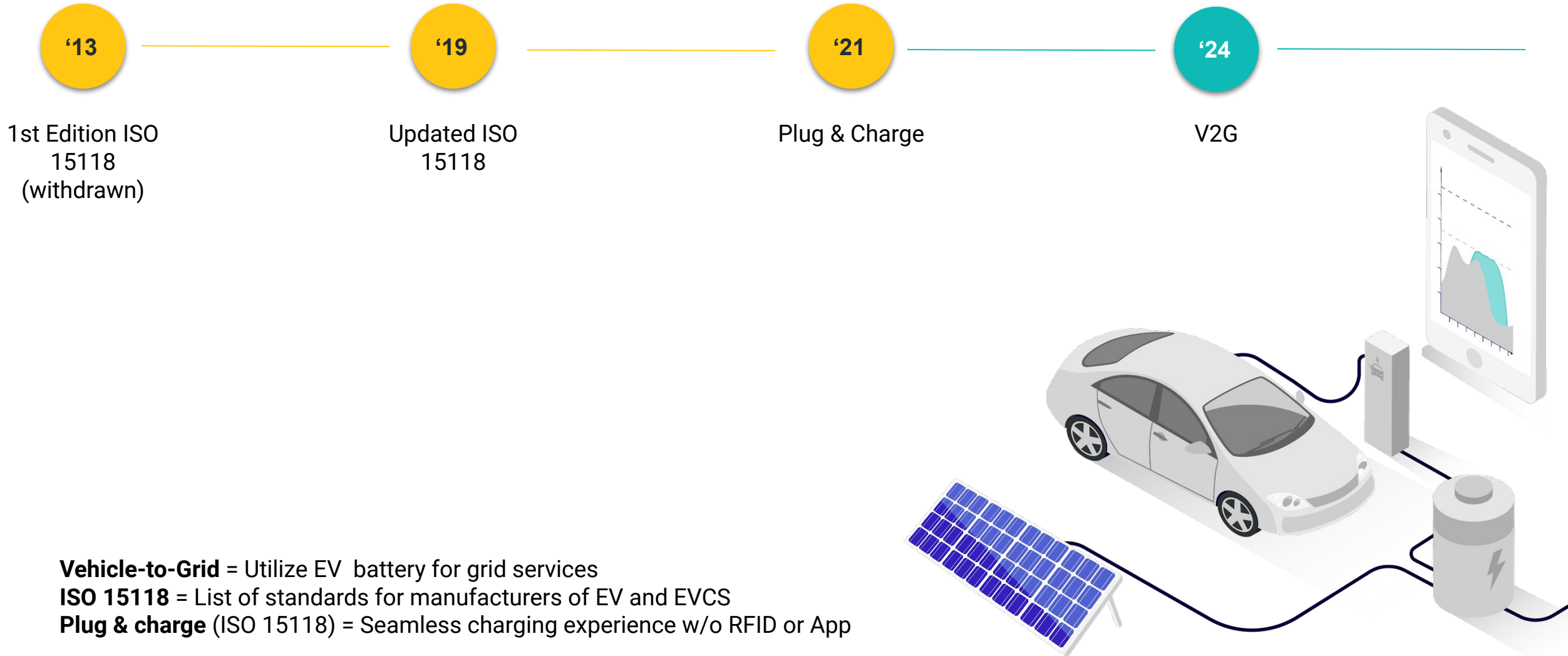
Redispatch

Provision of reactive power

ISO 15118



ISO 15118: bidirectional communication between EV and EVCS



Three factors are holding back V2G adoption

And what we need to solve them



Standards

ISO 15118

ADOPT



Grid Operators

Lack of support

ALIGN



Economics

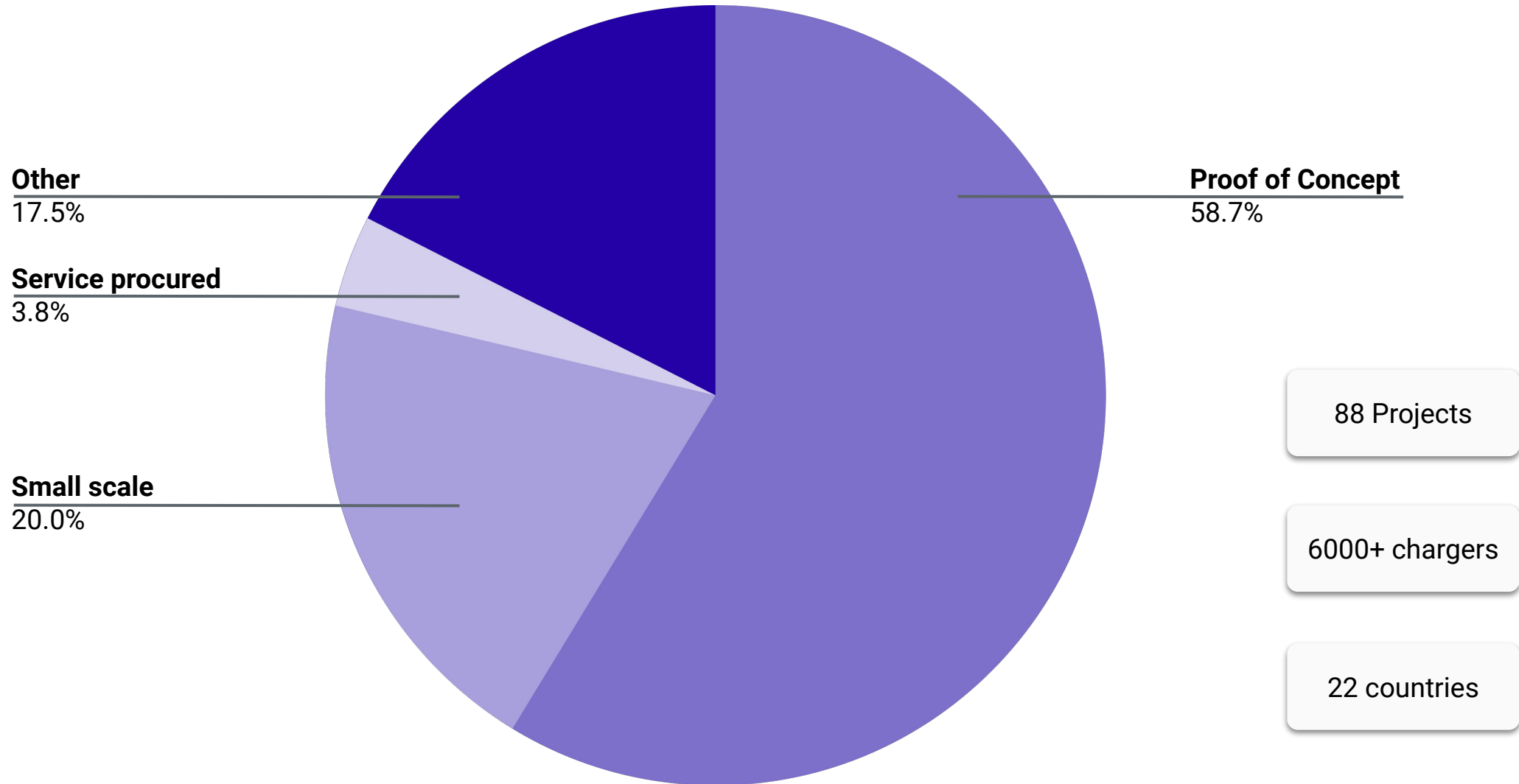
Cost of R&D and hardware

SCALE

Status quo worldwide

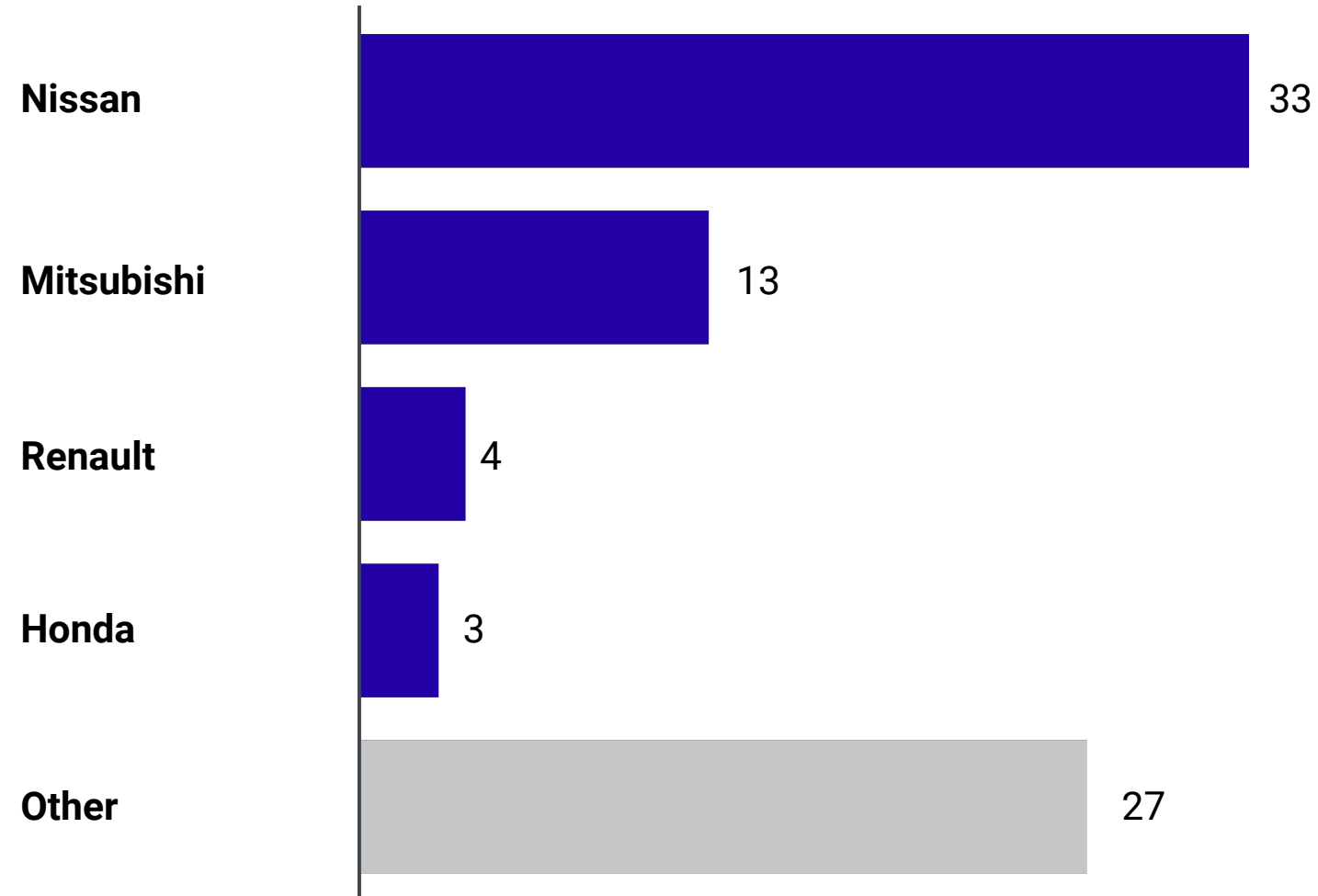
Only few commercial projects have been realized thus far

V2G projects around the world since 2009



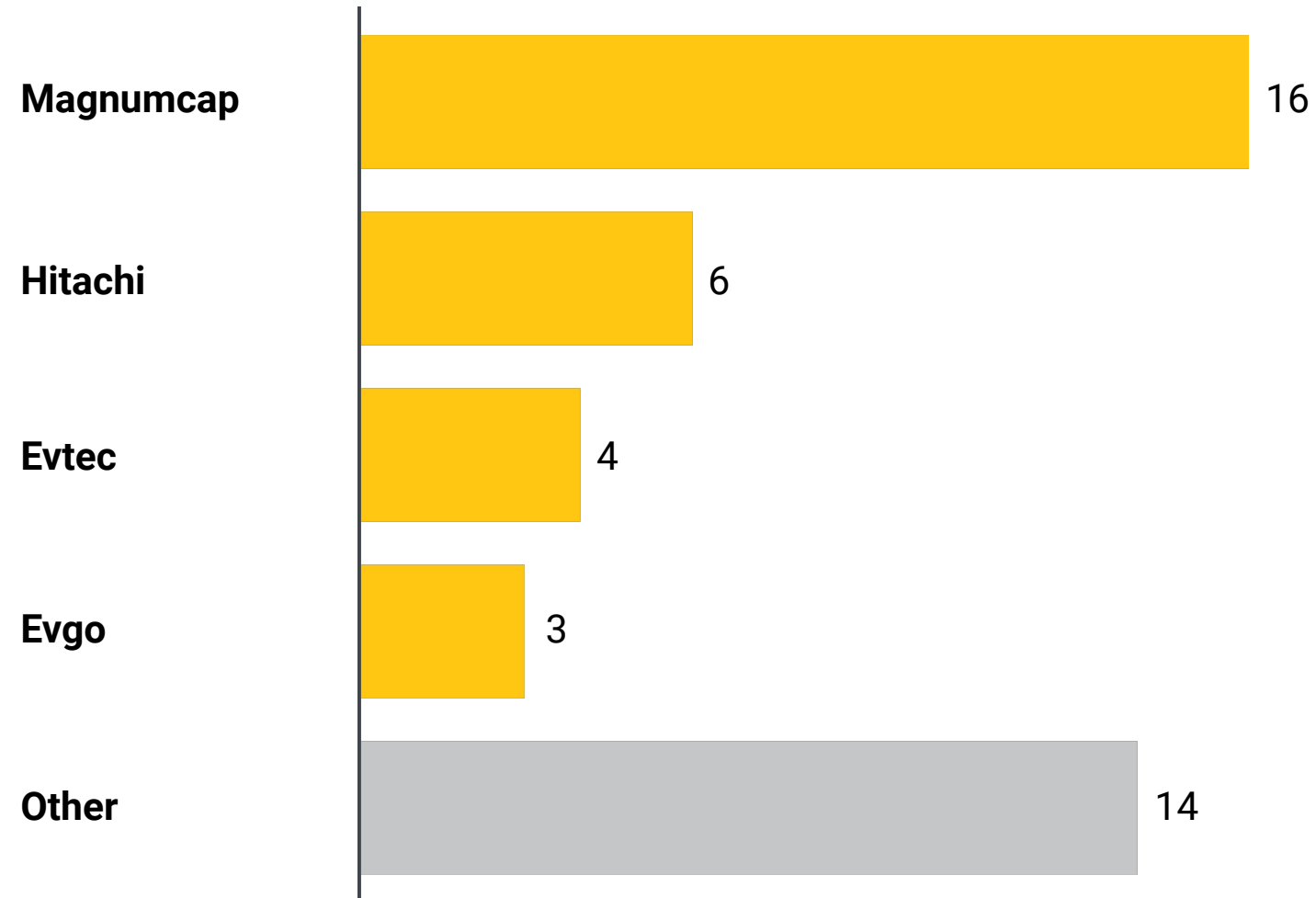
Asian car manufacturers lead the way

V2G projects by car manufacturers around the world since 2009



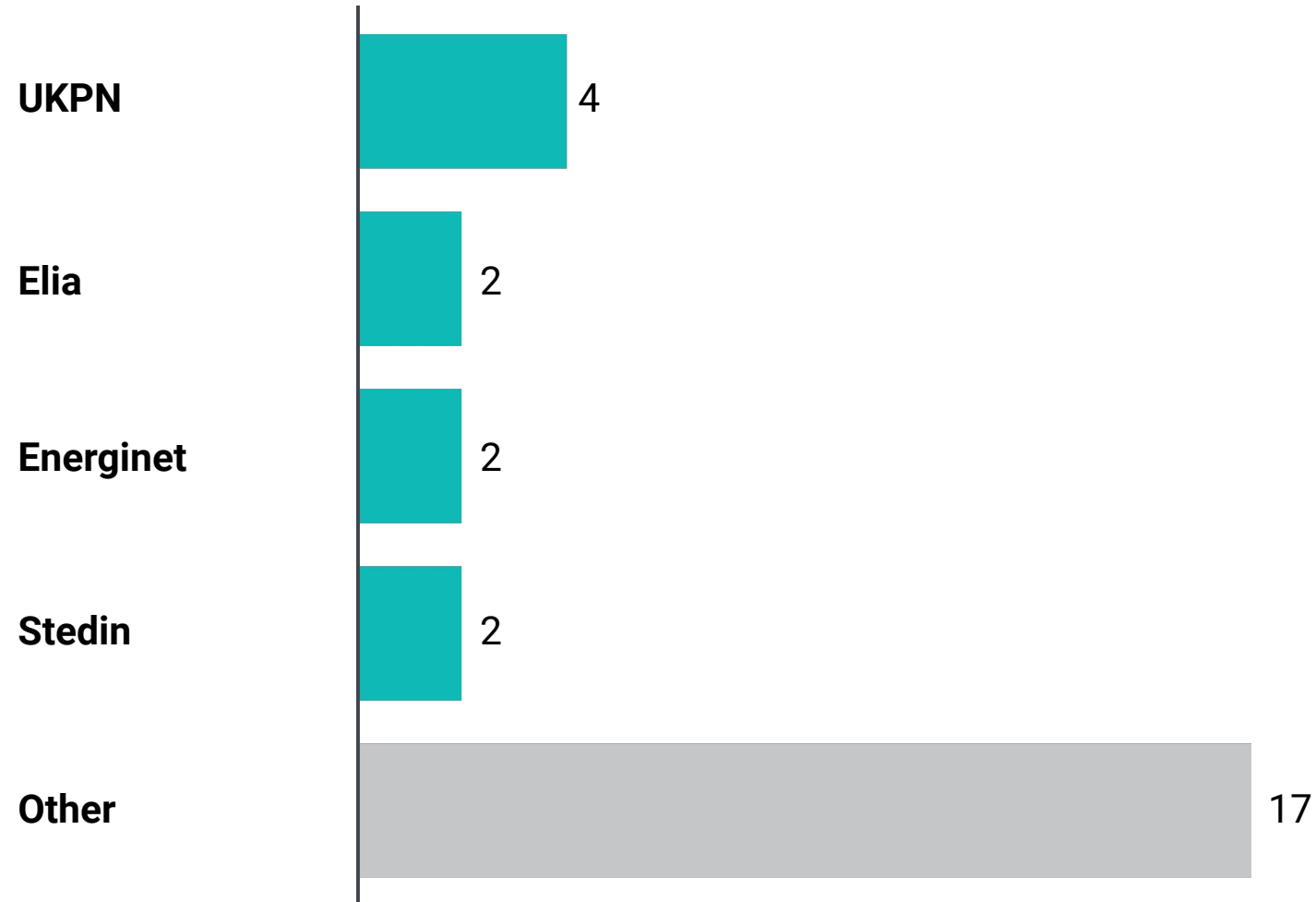
OEM from Portugal with a headstart

V2G projects by EVCS manufacturers around the world since 2009



DSOs and TSOs have been hesitant so far

V2G projects by system operators around the world since 2009





An end to pilots?

Fiat Chrysler x Engie

Capacity: **25MW**

Start of project: **2023**

Location: **Turin, Italy**

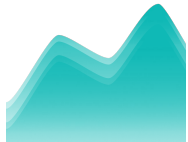
gridX's role in a V2G concept

Work with us to make it happen!



Local real-time control

Advanced EMS algorithms for local optimization



Forecasting

A step ahead of the grid



Fleet management & aggregation

Remote location management, API for aggregators



New use cases

Futureproof with XENON platform for new use cases



xHouse



e-on x gridX



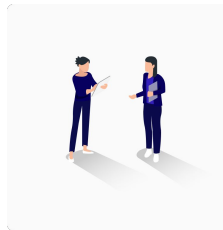
Nissan Leaf

~40 kWh



Household battery

27.6 kWh



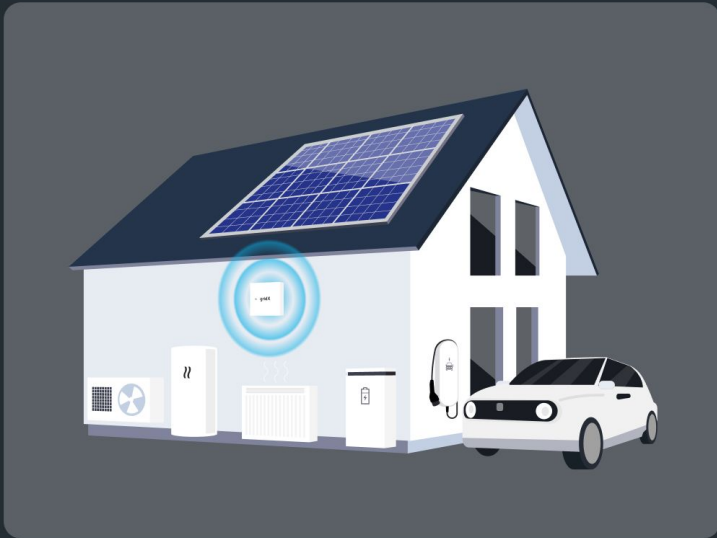
6 person household



PV System

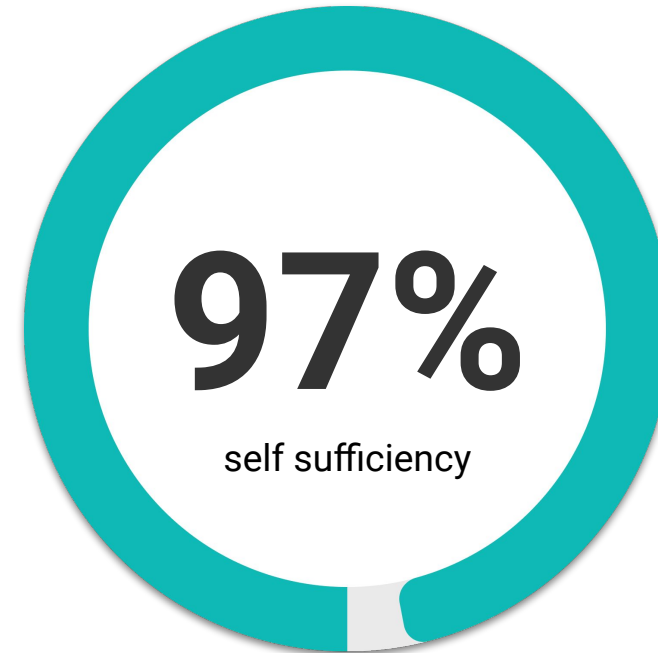
5.6 kWp

xHouse



e-on x gridX

After one year of operation



So what about the business case?

From buzzword to business case



More choice for customers

of EV and EVCS



More support needed

from grid operators



Commercialisation has begun

as we move from pilot to rollout



EV manufacturers slowly adapt

while new models will have bidirectional capabilities



Thank you!



bit.ly/3xqwgA0

Scan the QR code and book a meeting with me!

Nicolas Lerch
Senior Account Executive

n.lerch@gridx.de

