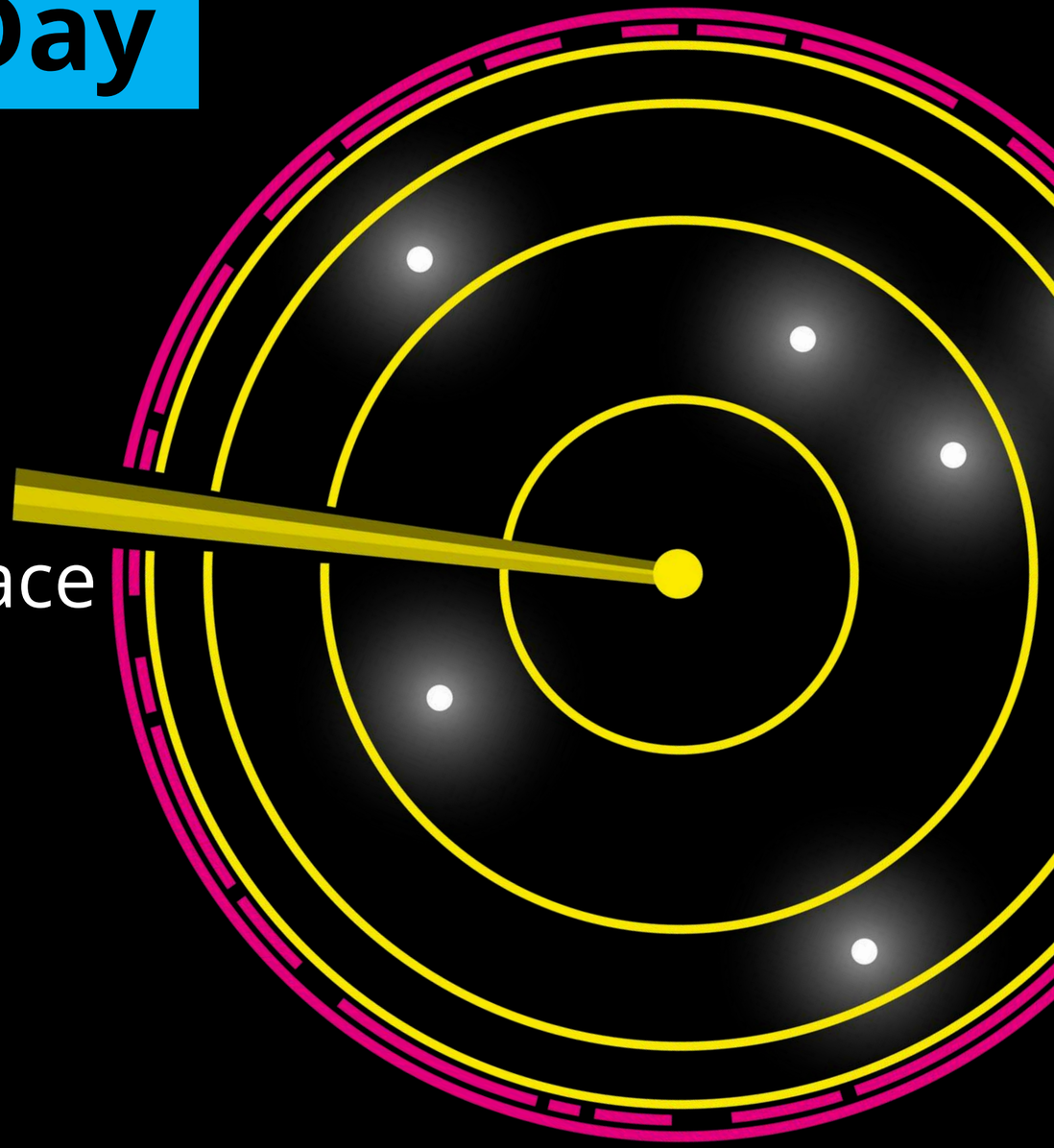
Data Spaces Discovery Day

October 19, 2023 | Vienna

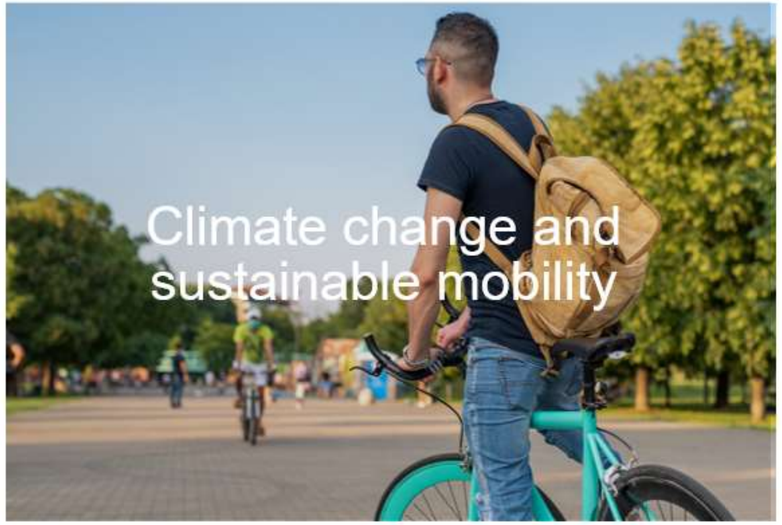


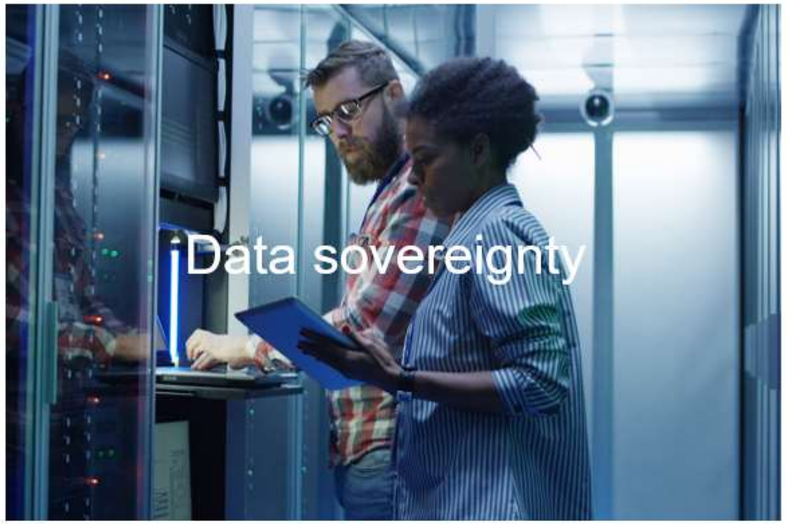
The Value of Data Spaces
Samples from the Mobility Data Space

Michael Schäfer
CEO / CTO Mobility Data Space

Challenges

Mobility Data Space
Data Sharing Community



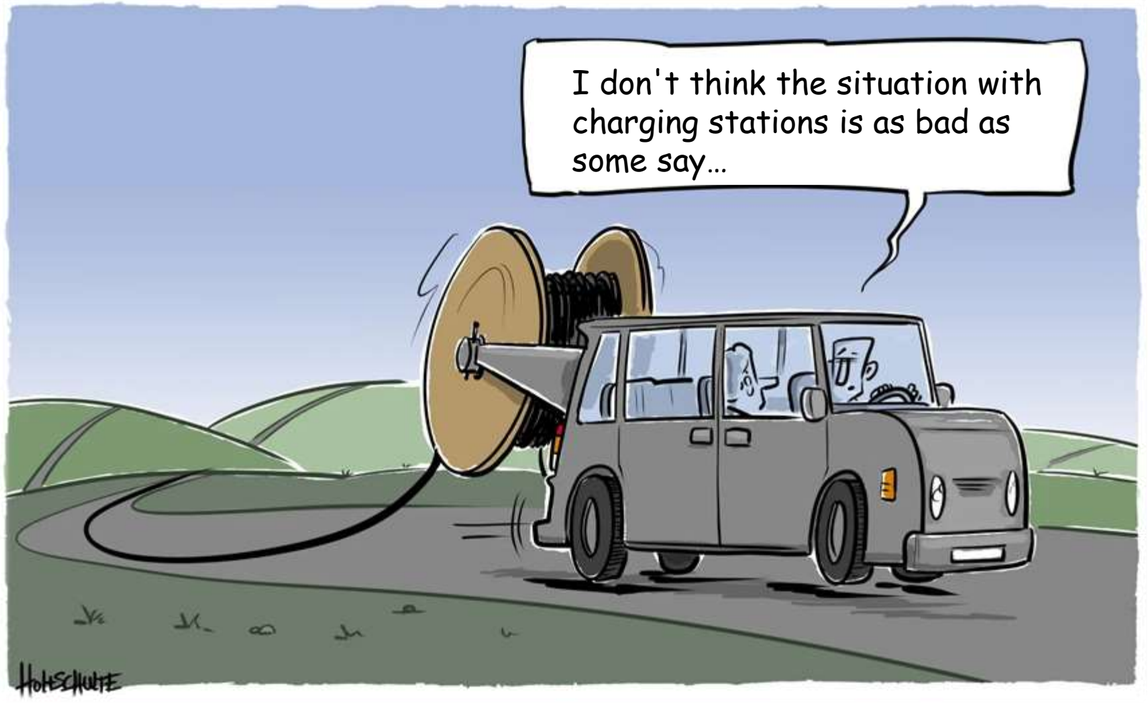


Opportunities resulting from e-Mobility

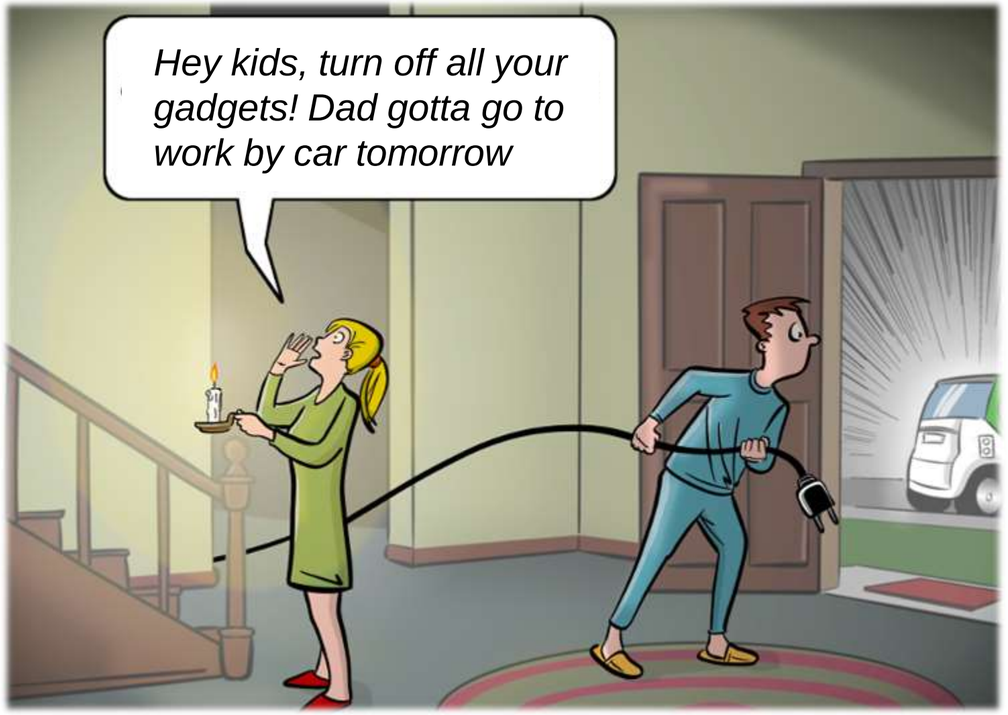
Mobility Data Space
Data Sharing Community

- Electromobility "saves" individual transport
- "Booster" for further development of battery technologies → also impact on other industries and domains.
- Embedding e-cars into smart grids (V2G) - "extending the home battery" –
- Enables the vision of greener transportation systems
- Particularly municipalities can manage traffic flows by "clever" placement of charging stations

- E-Mobility is a prerequisite for future autonomous driving
- And autonomous driving is (or will be) a key to social integration and participation



Impact on the switch to electromobility



Obstacles for …

Shift to e-mobility
sale of e-cars
Cleaner city centers
Environmental protection

Real life obstacles:

- Many trips to charging curtains are unsuccessful → charging station search traffic
- Longer trips must be planned very well
- Can the vehicle be charged at home or in the immediate vicinity? Especially also in rural areas

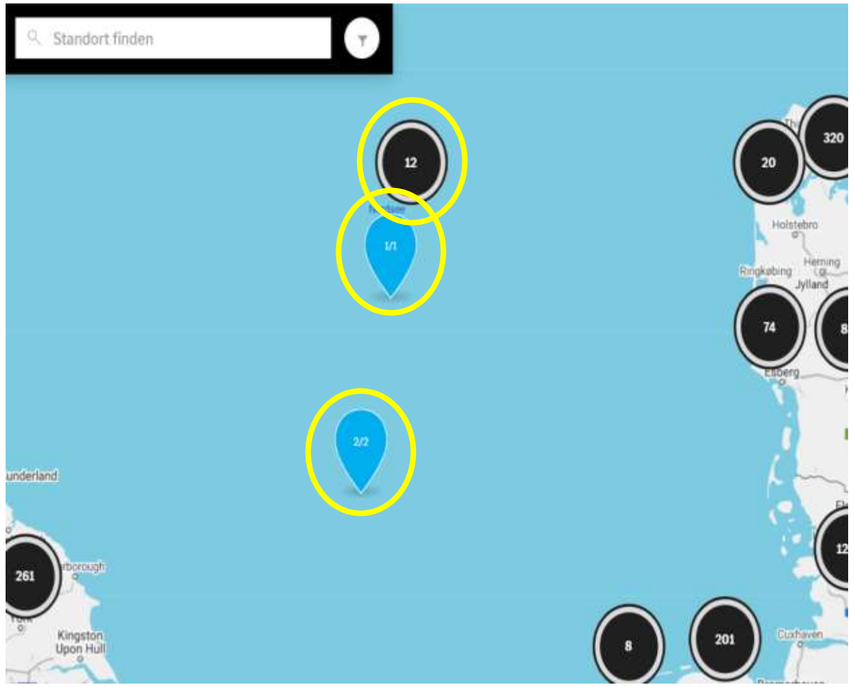
Further limitations:

- High initial cost
- Limited range and high charging times (“refueling”)
- Limitations of battery technology and supply chain
- Consumer perception and awareness: many consumers still have misconceptions or limited knowledge about electric vehicles

Where is the next charging station?

The GEO locations of more than 20% of the existing charging ocations are incorrect*

Mobility Data Space
Data Sharing Community



POOR QUALITY DATA

Challenge

Insufficient or incorrect data of the charging infrastructure information in the satnavs lead to "poor experience" of drivers of e-cars and prevent people from switching to e-mobility

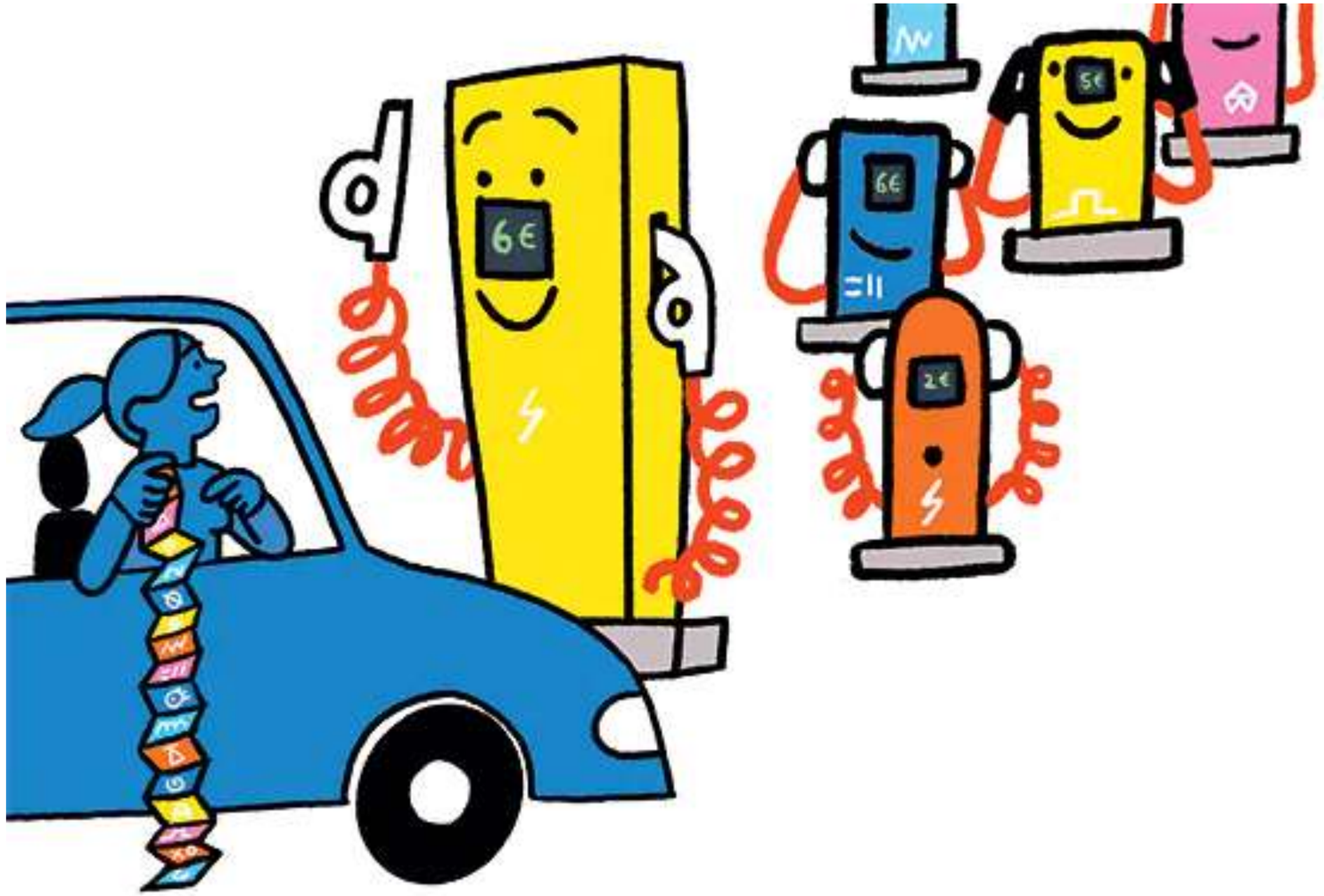
Note (*): Eco-Movement research on DC chargers in selected European countries, 2022

Can I access the charging station?

Mobility Data Space
Data Sharing Community

Suitable plug / socket, charging power, pricing?

Mobility Data Space
Data Sharing Community



Charging station infrastructure & reduction of inner-city search traffic

Case

- Correction of the charging stations' geo-positions provided by the satnavs and the fleet data of the OEMs

Benefits

- Increasing the social acceptance of e-mobility by greater convenience when searching for available charging stations
- Reduction of inner-city charging station search traffic

Participants

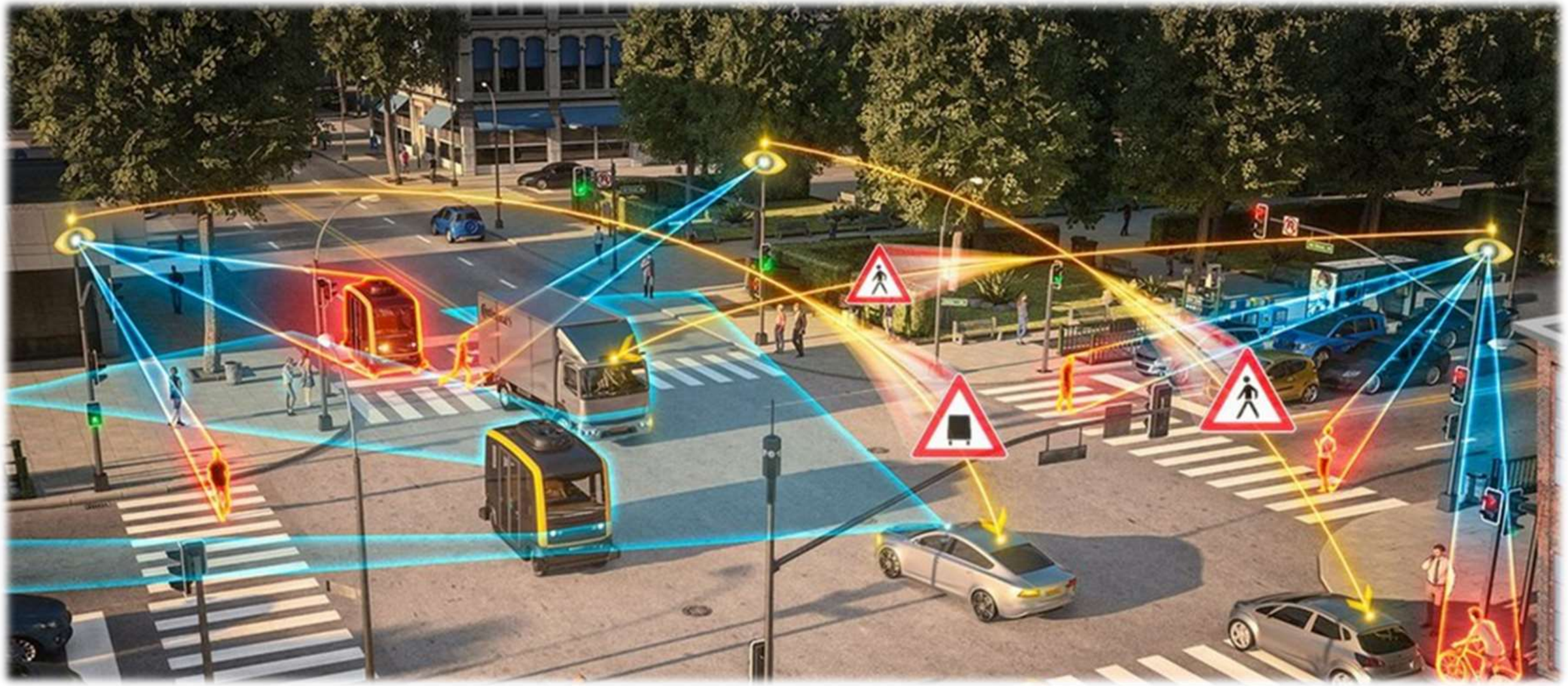
- BMW, Mercedes-Benz, Hubject, TomTom, HERE, Parkopedia, Eco-Movement, Digital Charging Solutions

MDS‘ role

- independant actor
- Manage M:N relationships with one interface
- Monetization of data
- Networking and additional sales channel

AI / Real time scenario sample: autonomous driving

Mobility Data Space
Data Sharing Community



AI / Real time scenario sample: autonomous driving

Mobility Data Space
Data Sharing Community

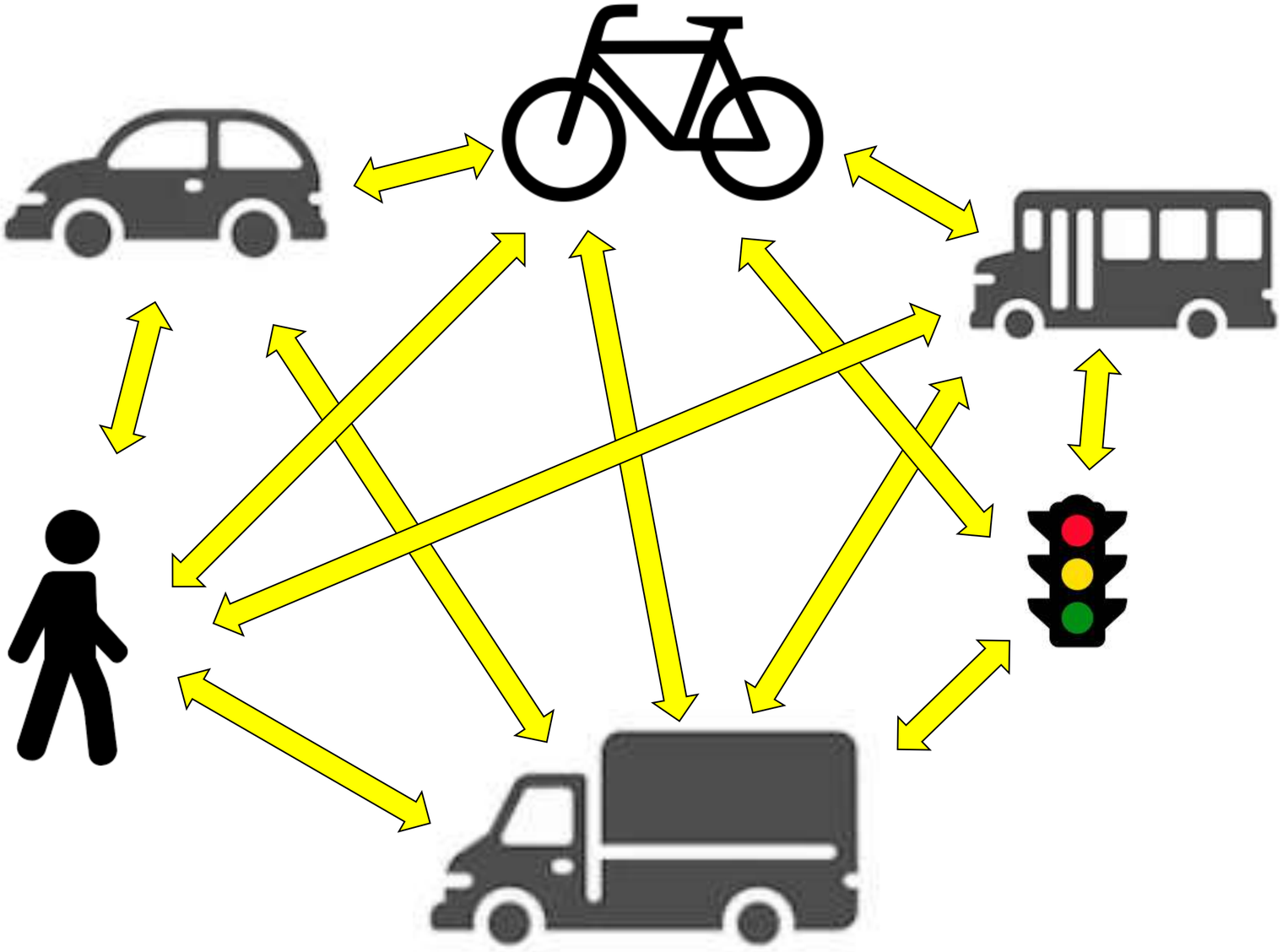
- Cars
- Bikes
- Lorries
- Buses
- Pedestrians

- Traffic lights
- Congestions
- Roadside
- Topology
- Crosswalks
- .
- .
- .

AI / Real time scenario sample: autonomous driving

Peer-2-peer data transmission with cooperative behavior

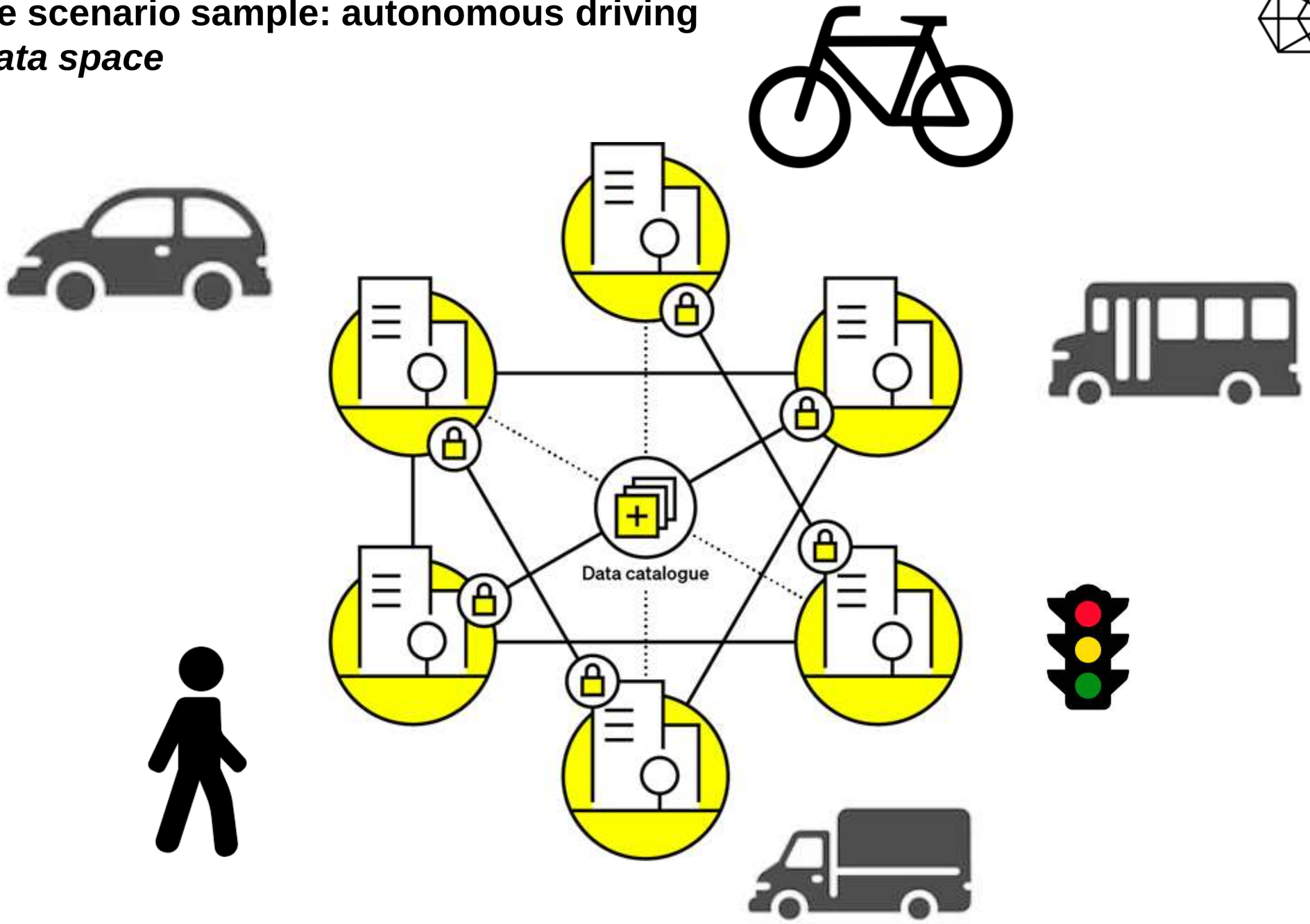
Mobility Data Space
Data Sharing Community



AI / Real time scenario sample: autonomous driving

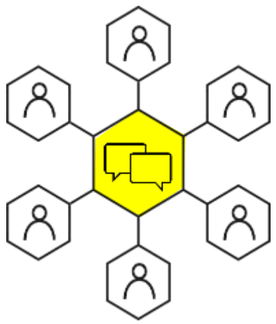
… using a data space

Mobility Data Space
Data Sharing Community



MDS - The Formula for Data Economics

Mobility Data Space
Data Sharing Community

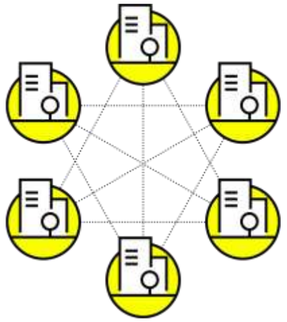


Partner & Community

+

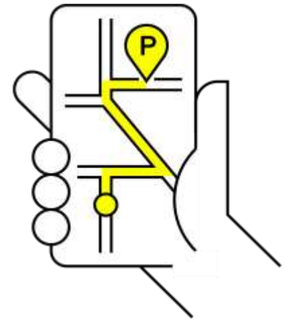
Data relevant for mobility

+



Trusted infrastructure

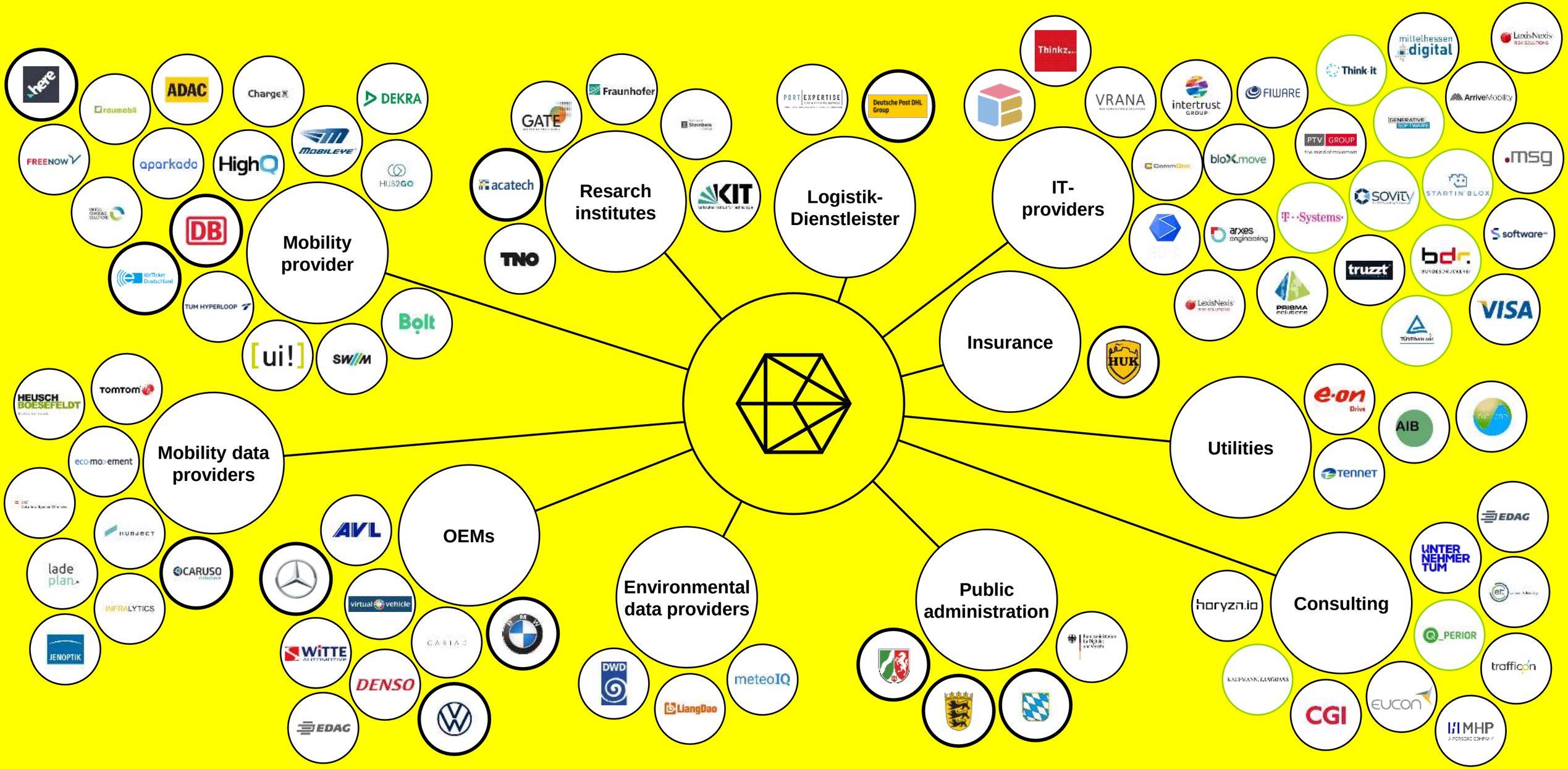
=



Innovative services, products, analysis, etc.

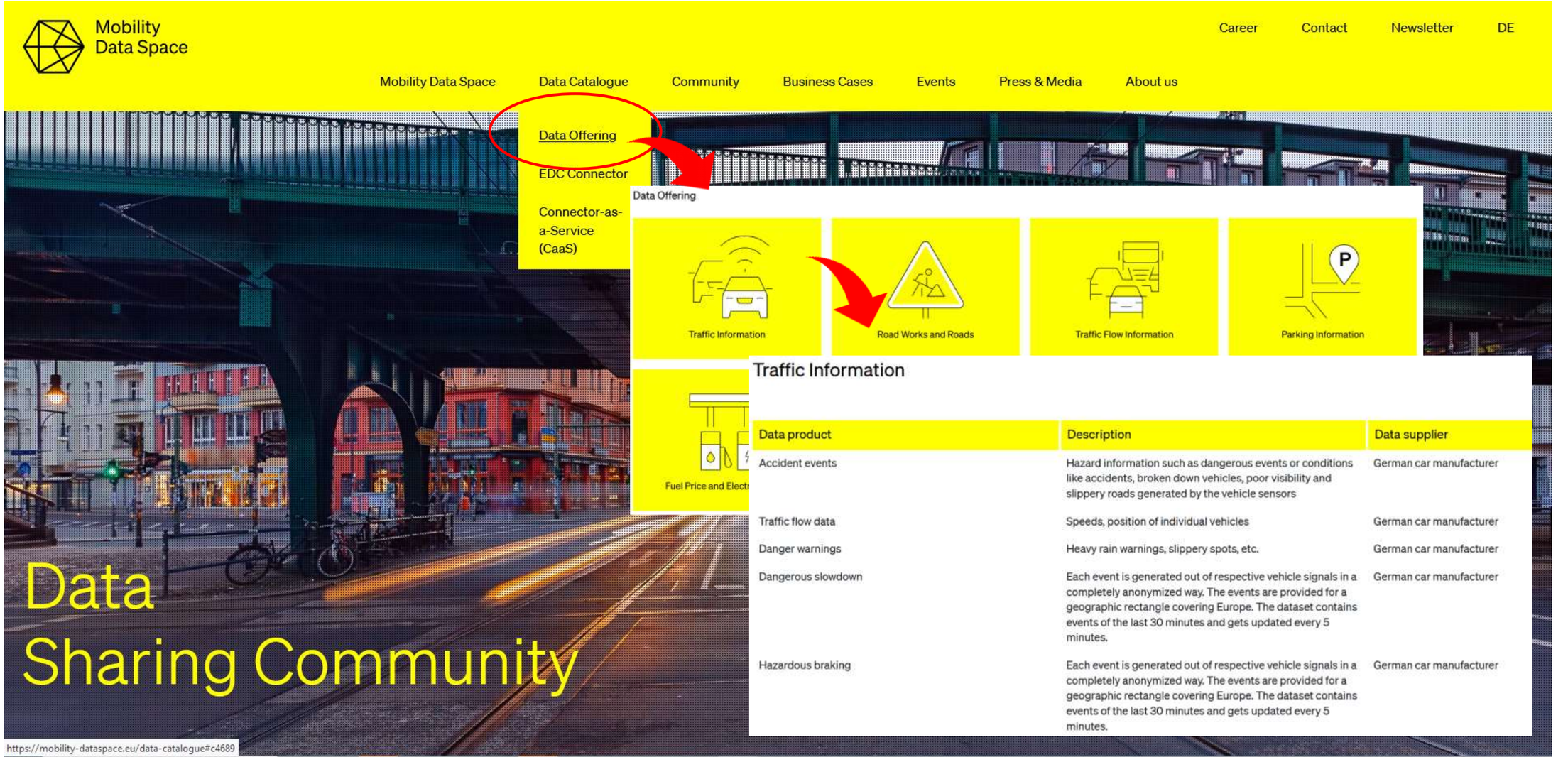
The ecosystem

Mobility Data Space
Data Sharing Community



Tons of data relevant for mobility

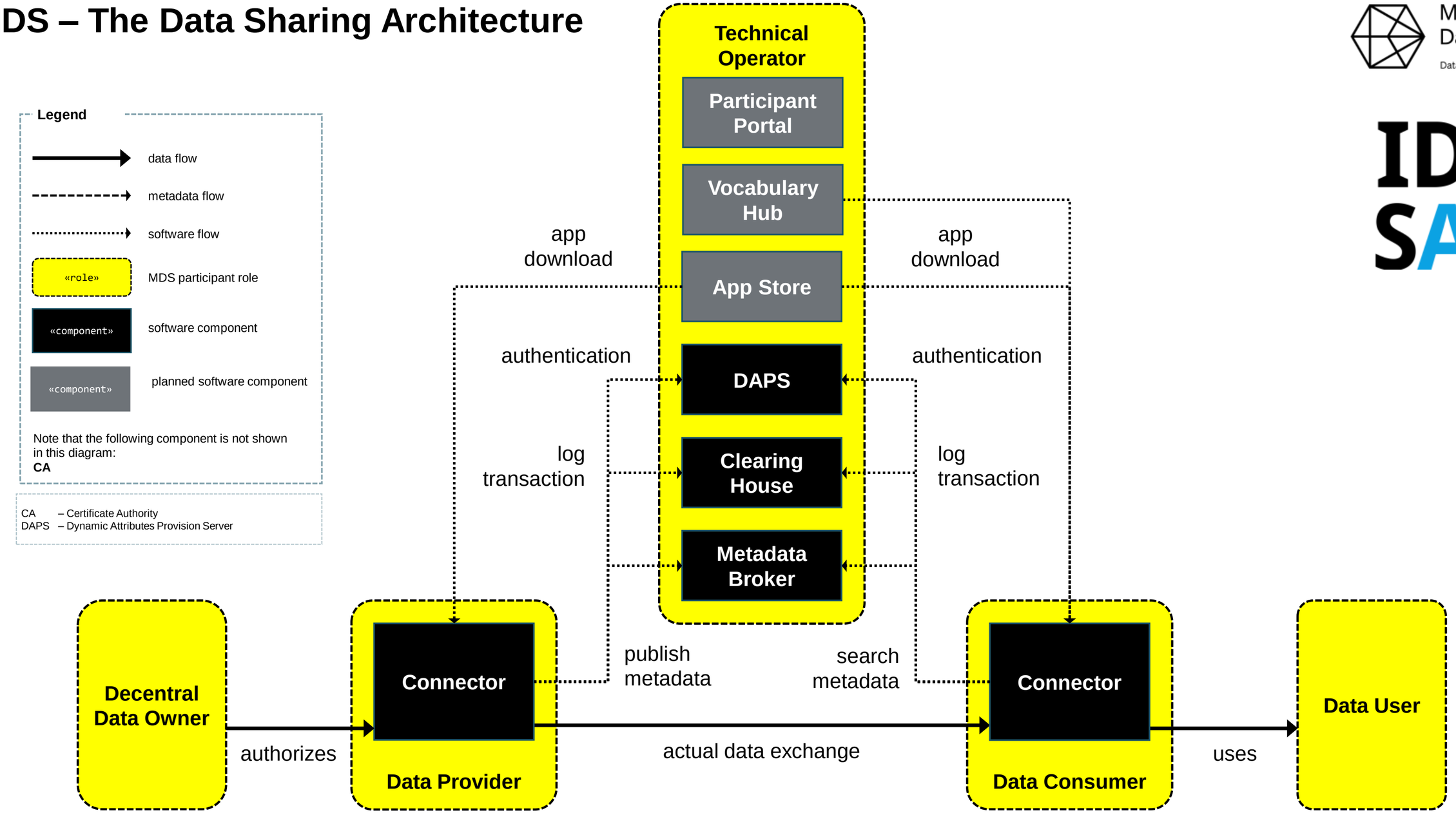
Mobility Data Space
Data Sharing Community



MDS – The Data Sharing Architecture

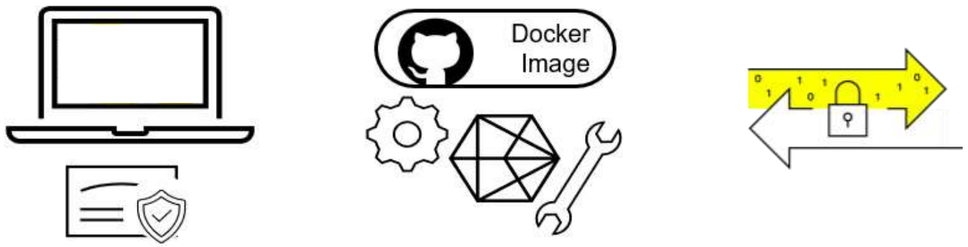
Mobility Data Space
Data Sharing Community

IDSA



Ease of use and operations

Download certificate → **install and configure EDC** → **Offer and consume data**



Adopt CaaS and profile → **Offer and consume data**

→ **EDC Connector (on premise)**

- Open source software component that enables secure, simple and efficient connection between partners/participants
- Usage is simple, reliable and highly scalableDecentralized architecture = guarantee of sovereignty

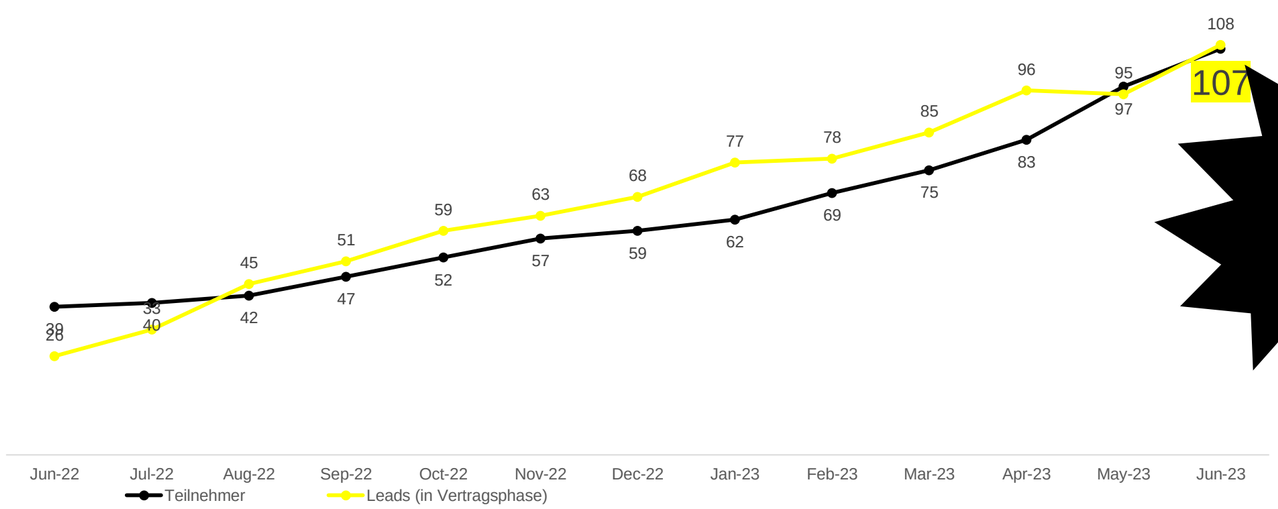
→ **Connector as a Service (cloud based)**

- Browser-based service with own user profile
- Fast and easy data exchange and synchronization between systems
- Connectors are preconfigured and ready to use
- Can be operated with hardly any IT knowledge
- Decentralized architecture = guarantee of sovereignty

Key Performance Indicators | General Development

Mobility Data Space
Data Sharing Community

Customer scaling and „Leads“

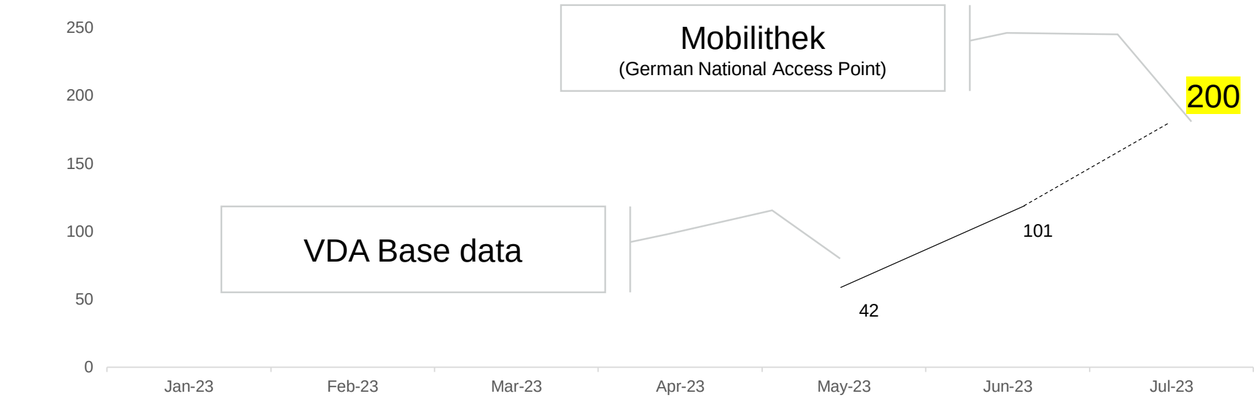


>150

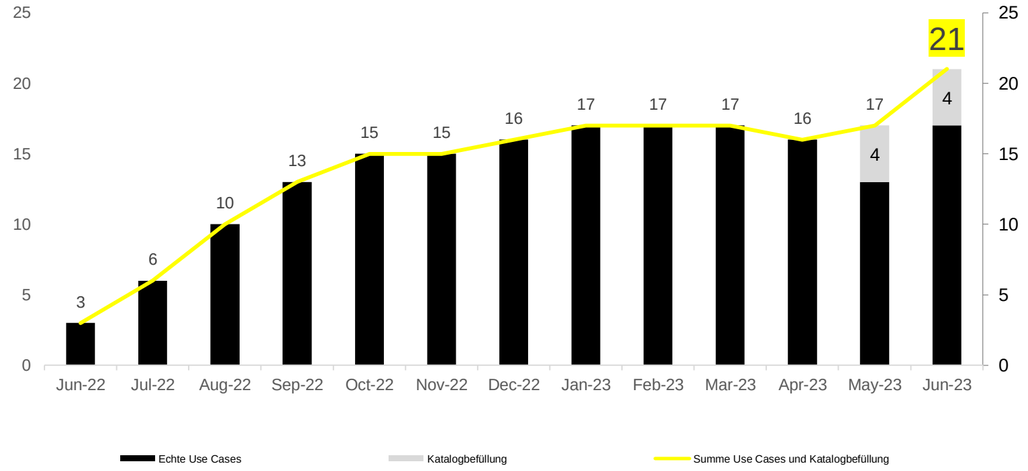
Some new customers:

- **City of Gelsenkirchen**
- TIER Mobility SE
- **City of Hamburg &Hamburger Hochbahn AG**
- IW Consult – Institut der dt. Wirtschaft
- Invenium Data Insights GmbH
- Mitsubishi Electric Europe B.V.
- IBM

Shop window



Use cases



Unleash Your Data!

Michael Schäfer
michael.schaefer@mobility-dataspace.eu

→

DRM Datenraum Mobilität GmbH
Karolinenplatz 4
D-80333 München

Gefördert durch:

Bundesministerium
für Verkehr und
digitale Infrastruktur

aufgrund eines Beschlusses
des Deutschen Bundestages