Smart Charging ALignment for Europe

Advancing smart and interoperable charging infrastructure in Europe and facilitating the mass deployment of electric vehicles while innovating in V2X (Vehicle-to-Everything) solutions.

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INNOVATION CLUSTERS AND USE CASES

SCALE will test innovative V2X solutions through 13 use cases in real pilot sites, divided into 4 innovation clusters:

Vehicle to home: two use cases in **Greater Munich Area** are testing smart home charging to enhance usability for end users, optimise renewable energy usage and reduce the pressure on the grid.

Vehicle to Business: uses cases in **Debrecen & Budapest, Toulouse, and Gothenburg** are looking at smart V2X charging solutions for office buildings that tap into the advantages of these spaces' centralised charging control, long stationary times and EV penetration in companies' fleets.

Vehicle to Depot: uses cases **Oslo, Eindhoven, Utrecht and Rotterdam** are implementing charging solutions with local battery storage for heavy-duty batteries, increasing charging speed without costly grid reinforcement and while utilizing renewable energy.

Vehicle to Public: use cases in **Oslo, Utrecht and several locations in Hungary** are testing smart public charging and V2X ecosystems to help municipalities and car park operators manage energy demand, alleviate local congestion and help reduce peak loads. Utrecht's use case is part of all four clusters: it is set-up to prove the potentials of scaled-up V2X services through a bi-directional ecosystem.

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METHODOLOGY

The project's methodology follows clear and logical steps:

1. Assess EV users and stakeholder needs through in-depth interviews, expert sessions, and case pilots
2. Ensure system interoperability, transparency and openness through an Open Architecture (open standards in IT communication)
3. Test and validate the solutions through innovative V2X solutions in 13 real-life use cases structured in 4 Innovation Clusters
4. Scale-up and prepare for mass-deployment in Europe through standardization of smart charging and V2x, joint procurement and building momentum

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ABOUT SCALE

SCALE (Smart Charging Alignment for Europe) is a three-year Horizon Europe project that explores and tests smart charging solutions for electric vehicles (EV). The enhancement of the smart charging infrastructure and the mass deployment of electric vehicles offer an opportunity to decarbonize hand in hand both energy and transport sectors.

AIMS

- Develop an **open system architecture by 2023** for smart charging and V2X (Vehicle-to-Everything) that ensures **interoperability, connectivity, system openness and fair market conditions.**
- Deploy a **user-centric approach**, with systematic knowledge gathering, removing existing acceptance barriers and developing solutions in line with 800 users directly involved in SCALE pilots.
- **Reduce the need for network reinforcement** by at least 50%, leveraging the existing grid and limiting time-to-market in quality and quantity to ensure a timely transformation.
- Prepare a **mass market and ecosystem for smart charging and V2X**, paving the way for Fit-for55 ambitions.
- Create **momentum across Europe for an open smart charging and V2X market**, ensuring impact beyond the project lifetime through SCALE's V2X Alliance.

PARTNERSHIP

The consortium consists of **29 European partners** at the forefront of electro-mobility, including distribution system operators (DSOs), aggregators, public authorities and e-mobility service providers. The project is led by ElaadNL, one of the world's leading knowledge and innovation centres in the field of smart charging infrastructure.

MORE INFORMATION

SCALE Project coordinator
Baerte de Brey, Chief International Officer - ElaadNL
baerte.de.brey@elaad.nl

SCALE Communication and Dissemination Manager
Antonios Tsiligiannis, Project Manager - POLIS Network
Atsiligiannis@polisnetwork.eu

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