XL-CONNECT

Project info

Duration: Jan. 2023 - Dec. 2026

Funding: €8.39 million

Partners: 24 (10 countries)

Demonstrations: 4 European countries (Belgium, Germany, Italy & Portugal)

Contact us

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XL-Connect partners

virtual vehicle
UNIVERSITÀ DEGLI STUDI FIRENZE
ABEE
IFP Energies nouvelles
Applus IDIADA
enorise
RWTH AACHEN UNIVERSITY
ISEA RWTH AACHEN UNIVERSITY
AIT AUSTRIAN INSTITUTE OF TECHNOLOGY
UNIRESEARCH
eurecat
RICARDO Member of WSP
Regionetz STAWAG EWV
mycroftmind member of TTC group
FEV
ABB E-mobility
UNIVERSITY OF WEST BOHEMIA
dccs
E-REDES
NEUMAN ALUMINIUM
circontrol
BMW
estra
EAVY CHARGING

Funded by the European Union

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Overview

XL-CONNECT is a Horizon Europe project that optimizes smart and bidirectional charging (V1G/V2G/V2X) across Europe. It enhances the entire charging chain—from energy supply to user interaction—enabling electric vehicles to support grid stability, improve energy efficiency, and integrate more renewable energy. By combining technical, economic, and behavioral insights, XL-CONNECT creates a holistic, on-demand charging ecosystem that benefits all stakeholders and accelerates the adoption of electromobility.

Objectives

The project aims to develop a scalable, intelligent charging ecosystem that optimizes energy use, strengthens grid stability, and enhances the user experience and accessibility of charging services.

Concept

XL-CONNECT connects electric vehicles, users, energy providers, and service platforms in a seamless ecosystem. Continuous data exchange allows real-time, intelligent charging decisions that balance energy demand, renewable availability, and user needs while ensuring efficiency and satisfaction for all participants.

Innovations

The project introduces advanced smart charging strategies, a predictive digital twin for load management, integration of renewable energy, and an open, interoperable system architecture. These innovations enable adaptive and efficient charging across diverse scenarios.

Expected Impact

XL-CONNECT contributes to a more efficient and sustainable mobility-energy system. By reducing energy exchange with the grid, lowering infrastructure costs, improving user experience, and accelerating the adoption of electromobility, it delivers tangible benefits for both users and the energy system.

Expected results

The project produces optimized smart charging solutions and user-friendly bidirectional charging services. It also generates insights into economic and operational trade-offs, supports standardization and interoperability, and enables better integration of renewable energy.