

DEMO 1 – LUXEMBOURG

Innovative Smart Energy Hub
for Grid Flexibility



DEMO
LEADER:
LIST

LUXEMBOURG
INSTITUTE OF SCIENCE
AND TECHNOLOGY



Rout Lëns
LUXEMBOURG



Domain

Electricity, Urban
Development, Mobility



Partners involved

LIST, IKO Real Estate, Sudstrom,
Circu Li-ion, Q Energy, GenCel
Schneider Electric

“The Weforming demonstrator in Luxembourg shows how innovative energy infrastructure such as grid- scale Li-ion battery storage systems, smart EV charging stations, and intelligent control systems can work together to support a more flexible and efficient electricity system.”

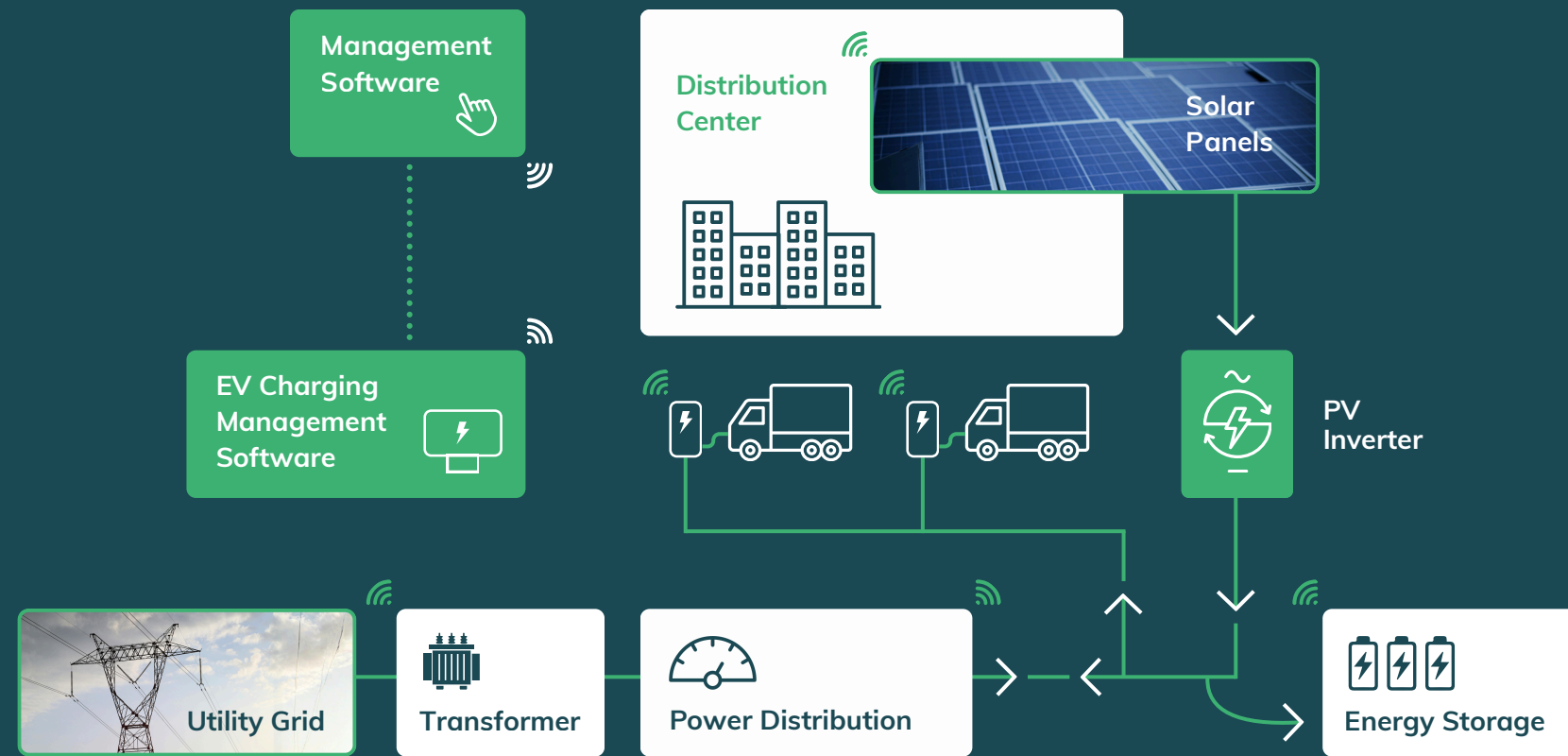


[weforming.eu
/demo-1-luxembourg](https://weforming.eu/demo-1-luxembourg)



KEY TECHNOLOGIES

At the core of the demo is a power hub integrating grid-forming battery storage systems, EV charging infrastructure, and intelligent control technologies. They enable coordinated energy management and allow local loads and mobility systems to interact more flexibly with the electricity grid.



IMPACT

- Show how buildings can help manage power networks.
- Prove that battery hubs provide vital backup services.
- Demonstrate how buildings earn money from the DSO.
- Manage EV fleets to make electric transport easier.
- Use smart monitoring to reduce daily operating expenses.
- Empower residents to share and manage power.

TECHNICAL CHARACTERISTICS



High-Density Multiport Converter Prototype

- SST technology based on SiC devices
- Solar photovoltaic generation + BESS + EV charging + Fuel cells



Power Processing Hub

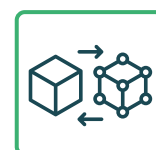
- Battery Energy Storage Systems
- AC and DC EV Charging Infrastructure



Networked Real-Time Controller



Cloud-Based Operational Framework for Intelligent Grid-Forming Buildings



Multi-energy Digital Twin

