PARK&CHARGE AND QWELLO REVITALIZE EV CHARGERS WITH LF ENERGY EVEREST

CHALLENGE

When the province of Gelderland's concession for 191 EV chargers expired in early 2024, the region faced a dilemma. These chargers, initially installed in 2013, were outdated and increasingly unreliable due to the manufacturer, EVBOX, ceasing support. Traditionally, such infrastructure is replaced entirely at the end of its lifecycle, leading to significant waste, high costs, and logistical challenges. However, Park&Charge, the successful bidder for the new concession, sought a more sustainable and circular approach. Park & Charge's recent acquisition through Qwello helped here, as Qwello manufactures charging stations and has co-developed a charge controller. This deep technical know-how came in handy.

The challenge extended beyond technical obsolescence. Many of these chargers relied on proprietary technology, creating a significant risk of stranded assets. If a station operator or their vendor goes out of business or ceases support, proprietary systems often become unserviceable, requiring complete replacement. This risk is particularly acute in the rapidly evolving EV market, where several early players have exited the industry, leaving their equipment unsupported. For Gelderland, a traditional replacement approach would not only contradict the region's sustainability goals but also incur substantial costs and disruptions.

THE SOLUTION

Qwello and Park&Charge opted to refurbish the chargers using LF Energy's EVerest software stack. This open source platform, combined with the PhyVERSO charge controller co-developed by Qwello, Pionix, and Phytec, provided a robust and future-proof solution. Key aspects of the solution included:

- Open Source Foundation: EVerest offered a non-proprietary, standardized software architecture, ensuring compatibility with a wide range of EVs and backends. This mitigated the risk of stranded assets by enabling future operators to maintain and upgrade the chargers easily.
- Survey and Assessment: The team identified reusable components, such as the steel exteriors and existing meters, to minimize waste and costs.
- Custom Solutions for Legacy Challenges: A degree of customization was required to ensure reliable operation. For example, the legacy LED indicators required a new component to integrate with the EVerest system seamlessly.
- Prototype and Rollout: A working prototype was developed in the lab, followed by step-by-step retrofitting instructions for field implementation. Rigorous safety and functional testing ensured reliability.
- Circular Economy Principles: By retaining most of the existing hardware, the project significantly reduced material waste and embodied carbon.

RESULTS

The refurbished chargers delivered exceptional outcomes:

- High Utilization Rates: Achieved an average utilization of 20–25%, significantly above the typical rates for AC chargers in the Netherlands.
- Enhanced Compatibility: EVerest's standardized software ensured seamless interaction with diverse EV models and backends, improving reliability and user experience.
- Sustainability Gains: Retaining key hardware components minimized environmental impact, aligning with circular economy principles.
- Future-Proofing: Open source technology ensures easier upgrades and maintenance, extending the chargers' lifespan and reducing long-term costs.

BROADER IMPACT

Qwello plans to deploy EVerest across its new generation of chargers in Sweden, Germany, France, Spain, and the Netherlands, with additional retrofit projects in the pipeline. By leveraging open source innovation, Qwello and Park&Charge have set a precedent for sustainable e-mobility infrastructure. The approach taken was also in-line with Qwello's commitment to adhere to the highest possible market principles and criteria in terms of Environmental, Social, and Governance (ESG) standards. This initiative demonstrates how collaboration and technology can breathe new life into aging assets, mitigate the risk of stranded assets, and align with global sustainability goals.

Learn more about **LF Energy EVerest**, and read more about this deployment on the **Park&Charge Blog**.