

Automotive

North America

# ELECTRIC VEHICLE CHARGING

Accelerating Innovation with Containerized Edge Infrastructure

## Business overview

This U.S.-based technology company is transforming the electric vehicle (EV) charging experience through a modular battery swapping solution. Designed for speed, scalability, and compatibility across vehicle types, the system allows depleted batteries to be replaced with fully charged ones in minutes, eliminating downtime and streamlining energy distribution. Focused on sustainability and large-scale deployment, the company works with automakers, fleet operators, and infrastructure partners to accelerate EV adoption globally.

## Challenges

As the company matured, its infrastructure team faced several obstacles:

- Distributed edge environments across factories, vehicles, and partner sites
- Frequent software updates and diagnostics needed at scale - often thousands of devices
- Manual and inconsistent deployment processes due to reliance on CLI tools and bespoke scripts
- Developer bottlenecks due to limited autonomy and dependency on operations
- Compliance, security, and version control became harder to manage as release frequency increased

## The solution

By adopting Portainer's container management platform, the startup achieved:

- Self-service, GitOps-driven deployment workflows for edge services and in-vehicle apps
- One-click rollouts across fleets and facilities via standardized templates
- Role-based access controls enabling clear separation between development, testing, and operations teams
- Centralized monitoring, logging, and version tracking to streamline visibility and compliance
- Automated orchestration, eliminating manual intervention and scaling reliably across global infrastructure

These efficiencies empowered the startup to deploy updates faster, increase engineering velocity, and stay ahead in the race to release connected EV innovations.

Whether you're managing at scale or building  
at the edge, we're here to make it simple.

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