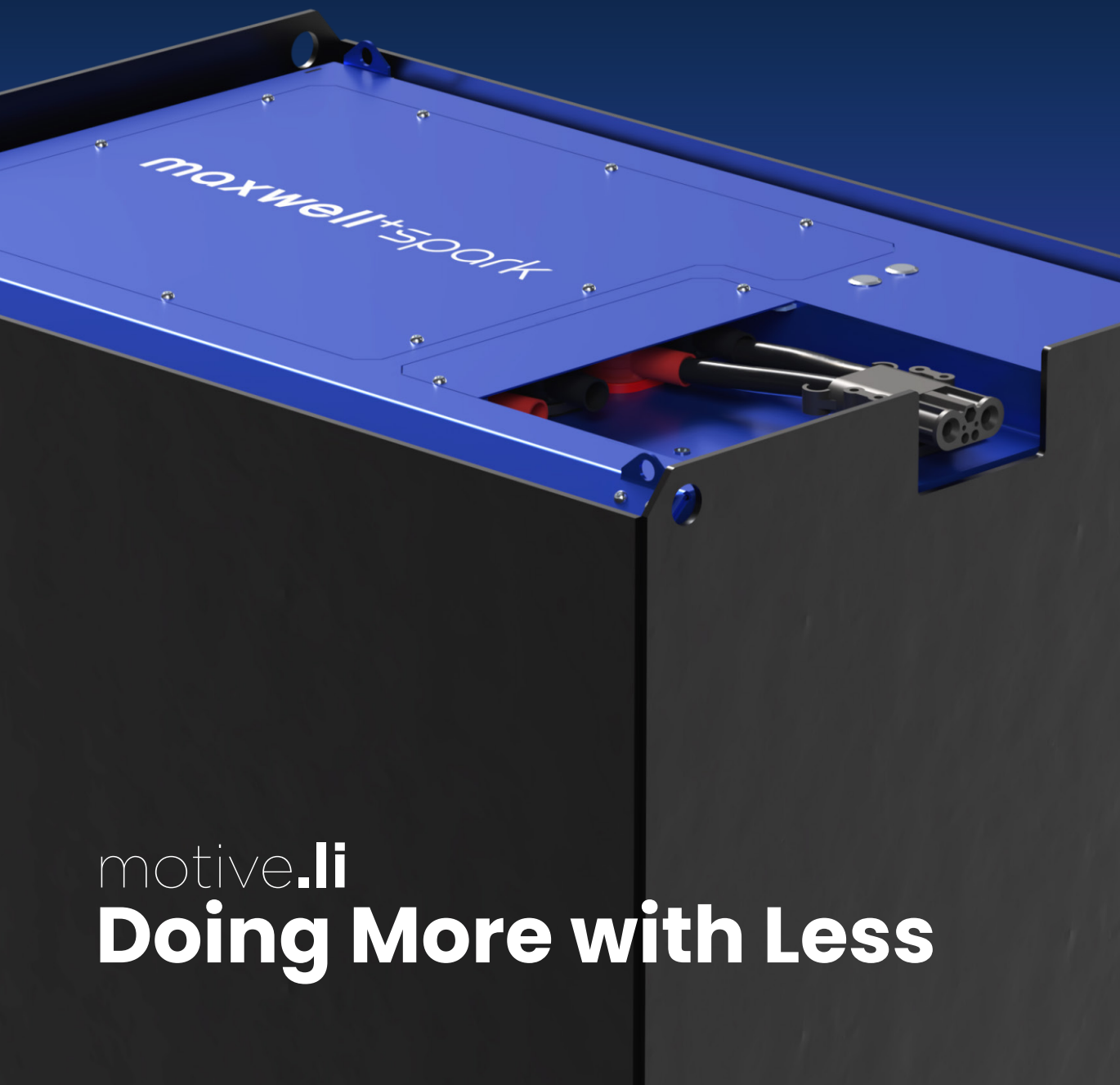




motive.li
Doing More with Less



Enabling fleet-wide charging with limited power infrastructure

Context

A national grocery retailer operates multiple distribution centres with varying operational demands and infrastructure constraints.

maxwell+spark



Doing More with Less

Enabling fleet-wide charging with limited power infrastructure

THE CHALLENGE

What if your site doesn't have enough power to charge your whole fleet?

Common charging concerns:



Different usage patterns make fleet-wide charging harder to plan



Mixed MHE fleets and charging requirements



Traditional charger-per-machine model not viable



Insufficient electrical infrastructure to charge all machines simultaneously.



Doing More with Less

Enabling fleet-wide charging with limited power infrastructure

THE SOLUTION

MAKING MORE POSSIBLE WITH EXISTING INFRASTRUCTURE.

Instead of requiring a one-to-one charger-to-machine setup, maxwell+spark implemented a flexible charging approach that allows any battery to charge on any charger.

By reducing the number of chargers needed and integrating charging into natural breaks in the operation, the site was able to support its fleet without major electrical upgrades.

This was enabled by **a flexible charging architecture**, including:

Multi-voltage chargers

→ any battery can charge on any charger

Battery-charger communication (CAN)

→ ensures compatibility across the fleet

Reduced charger ratio (~75%)

→ fewer chargers than machines

Operational integration

→ staggered charging during operator breaks

Facility level charger load-balancing possible

→ OPTIONAL BUT NOT REQUIRED IN THIS EXAMPLE

maxwell+spark

maxwellandspark.com

motive.li

Key results

Fleet **successfully scaled** across multiple national DCs



Charging infrastructure optimised without major upgrades



Increased **operational flexibility** (any machine, any charger)



Reduced dependency on fixed charging points



Standardised approach rolled out across sites



What this means

This is not just a battery story.
It is a systems design story:

- + Solving real operational constraints
- + Reducing infrastructure cost and complexity
- + Enabling scale where traditional systems would stall