

||| EVALO × **Deloitte.**

Case study with Floris Hebben, Senior Consultant

How Deloitte used Evalo to fast-track last mile delivery electrification



Our fleet clients want to scale electrification but struggle to see a cost and emissions-effective path. Evalo perfectly shows the possibilities and the best choices for the client. We see that large fleet owners still have big fears about electrification, such as managing long distances and EV effectiveness in the winter. Evalo helps us alleviate those fears with data and give clients the confidence to make decisions.



Floris Hebben

Senior Consultant, Supply Chain Strategy, Deloitte



Problem

Everyone understands that the transition to electric vehicles for fleets is necessary due to quickly approaching regulations around the world and the urgent need to decarbonize transport for the climate. However, the challenges are both complex and very specific to each service provider's situation.

Fleet managers are scared about range and keeping vans on the road, and often don't have sufficient time or insights to tackle a problem this big on their own. Many fleets just buy the biggest

van with the largest battery pack because it takes away most of their fears. But this is of course very expensive and often not needed.

We want to remove these fears by visualizing potential solutions for clients and showing that they often don't need to overspend on the biggest battery.

At Deloitte, we see five main fears from fleets when it comes to electrification:

Five electrification fears

1

Range: Will there simply be enough range to complete routes?

2

Circumstantial differences: Impacts of weight, temperature, elevation, etc.

3

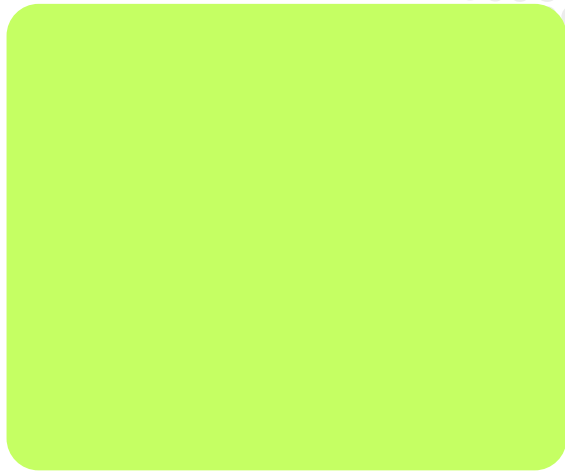
Higher investment costs: Will high upfront investment costs pay off?

4

Public charge infrastructure: Is it sufficient and reliable enough?

5

Managing a hybrid fleet: The complexity of operating ICEVs and EVs together.



Last-mile delivery fleets know electrification is necessary, but attempting to electrify while also managing the existing fleet leaves fleet managers trying to build the plane while flying it. They don't know what to expect and have fears about financial and operational impacts. **Our client wanted to start electrifying but lacked insights** beyond back-of-the-envelope math and buying the biggest battery to ensure they didn't run out of range.

Our challenge was to help them see a picture of what to expect and give them a clear and actionable direction to electrify in a cost and emissions-effective way.


Solution


Uploading
Batch_120124.csv

Processing
Batch_120224.csv


Processed
Batch_120324.csv



 Vehicle cost per kWh

 Weather impact

 CO₂e avoided

 Weight impact

 And many more

The first thing that caught our interest about Evalo was filling in logistical data with a bulk upload, where it immediately gives you insights on consumption per route. This sounded like a user-friendly and easy method to move an existing setup into a new electrified setup.

We used Evalo to simulate electrification with real routing data from the client. **Through the bulk upload, we got immediate insights from the first simulation run. We saw that many routes could actually be electrified right away** without any on-route charging or operational changes. From that point forward, we could really optimize for the client's specific situation.

We then simulated various electrification scenarios including different vehicle models, routing setups, and distribution networks. This gave a clear picture of the financial, operational, and emissions impacts of different possible options for the client.

Outcome

It would have otherwise been unbearable to get this level of insight with any other method. It simply would be impossible to get the detail we achieved through Evalo with any other tool.

With just a couple of simulations it gave immediate insights that a large portion of routes could be electrified without any on-route charging or operational difficulties. **The client saw and understood a clear path forward to jumpstarting their electrification** and doing it with a strong business case. This included the ability to electrify **55% of their routes without any on-route charging**

or changes to operations, even with conservative assumptions of -3 degrees, lots of elevation change, and other impact variables.

Without Evalo we could never have gained this level of insight. This detail was invaluable for building a report so comprehensive in a manageable timeline. We would have had to rely on open-source data and work with general kWh per km estimates, unable to account for the plethora of variables impacting consumption and emissions.

Key results



55 %

Of routes could be electrified without on-route charging and adjustments to operations.



72 %

Of routes could be electrified without on-route charging with adjustments to operations



Up to 15 %

Cost per parcel reduction potential in a fully electrified scenario



35 %


Potential CO₂e savings per parcel through electrification

Deloitte's perspective on fleet electrification

If you are ready to simulate specific scenarios for a specific fleet's situation, you can create real financial and business value while substantially decarbonizing your operations—all without reducing service levels or creating operational bottlenecks.

We see a major opportunity to further assist last-mile delivery with the Evalo simulation approach, both through smaller-scale simulation of individual depots and large-scale simulation of entire countries or markets.

The most important thing is to simulate first and make these decisions strategically. It's way too expensive to always purchase the biggest batteries and often not even possible to source. Simulating and then investing strategically can save huge amounts of money over time.



Evalo is business intelligence software for fleet electrification. Evalo lets you take real route data and simulate those routes with electric vehicles. The result is detailed insights on energy consumption and emissions impacts to drive effective investment decisions for fleets transitioning to electric vehicles.

Powered by the Chargetrip EV routing engine, Evalo accounts for the many factors that impact energy consumption and make electric vehicles so unpredictable. These include weather, road surface, vehicle speed, and much more. Complete with consumption models for hundreds of different commercial electric vehicles, you can simulate any selection of routes, with any vehicle, in any context.

Paint a clear picture of electrification for any fleet and light the path to electrification.

Book a demo of Evalo to get started

cecile.post@chargetrip.com