



# PANION

## Charge planning & management for electric trucks

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**k2.mobility**



Co-funded by  
the European Union



Co-funded by  
UK Government

Bruxelles | September 28, 2026

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# Factors Directly Impacting Daily Operations

## At the depot:

- Energy costs & peak consumption
- Grid congestion
- Limited charging infrastructure
- **Tight operational schedules**
- **Unforeseen changes in routes and timing**
- Vehicle-to-route allocation requires **coordination** between parking and charging

At the depot



Along the tour

## On the road

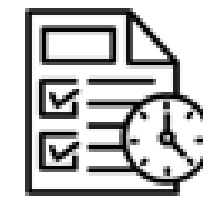
- Multiple charging cards and providers
- Lack of transparent kWh pricing
- Public charging locations not always suitable for e-trucks  
(weight-/height restrictions, turning radius, space constraints)
- Driver uncertainty



# Maintaining the continuity of the core logistics business requires integration and contextualization



## Unique added value output



Dynamic & responsive charge plan per truck



Charging cost per truck per time (for subcon charge back) based on actual market pricing



Power consumption & energy demand forecast

**First Priority: Secure business operations**

**Second Priority: Energy cost efficiency**



# PANION: Dynamic Reservation, Execution Management & Optimization of Charging for Commercial Fleets

- **Reservation** for charging sessions for commercial vehicles and trucks via a web UI or a mobile app
- **Estimation of energy consumption** for each vehicle's upcoming tours based on historic tour information, routing information, payload etc. using machine learning and artificial intelligence
- **Dynamic updating of the charging sessions** based on realities of the road for each individual vehicle via real-time connectivity to the vehicle
- **Assignment of a specific charge point** for each individual vehicle considering the available network capacity, required battery energy level and departure time
- **Real-time management and control of the charging profile** to secure on-time departure with the right level of energy on the battery
- **Automatic vehicle recognition**, authorization, recording of all relevant session information to generate weekly, monthly, quarterly charge cost reports for each individual vehicle for partner/subcontractor/visitor invoicing (considering dynamic market prices as applicable)
- **Real-time communication** of charging plans, their updates and associated tasks to all stakeholders (drivers, transport managers etc.)

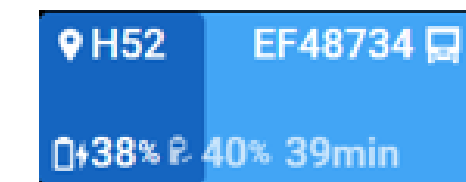




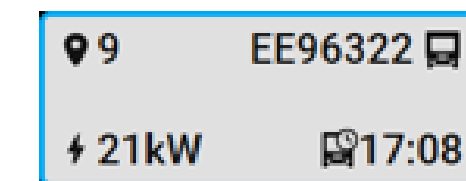
# Charge Session Monitor providing eye catching status information for relevant stakeholders



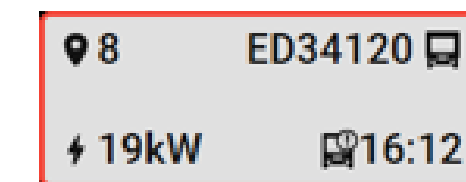
Ready to Drive Now



Ready to Drive in 39 min



Dynamic reservation in 52 min



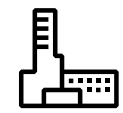
Charging start due for 5 min



# Belgian's largest private bus operator has chosen **PANION** to manage electric bus charge operations



Hanse NV  
>1,000 buses, 24 depots



24 bus depots in Flanders, with different operating models  
(public transit – scheduled & on-demand, school-bus, company transport)



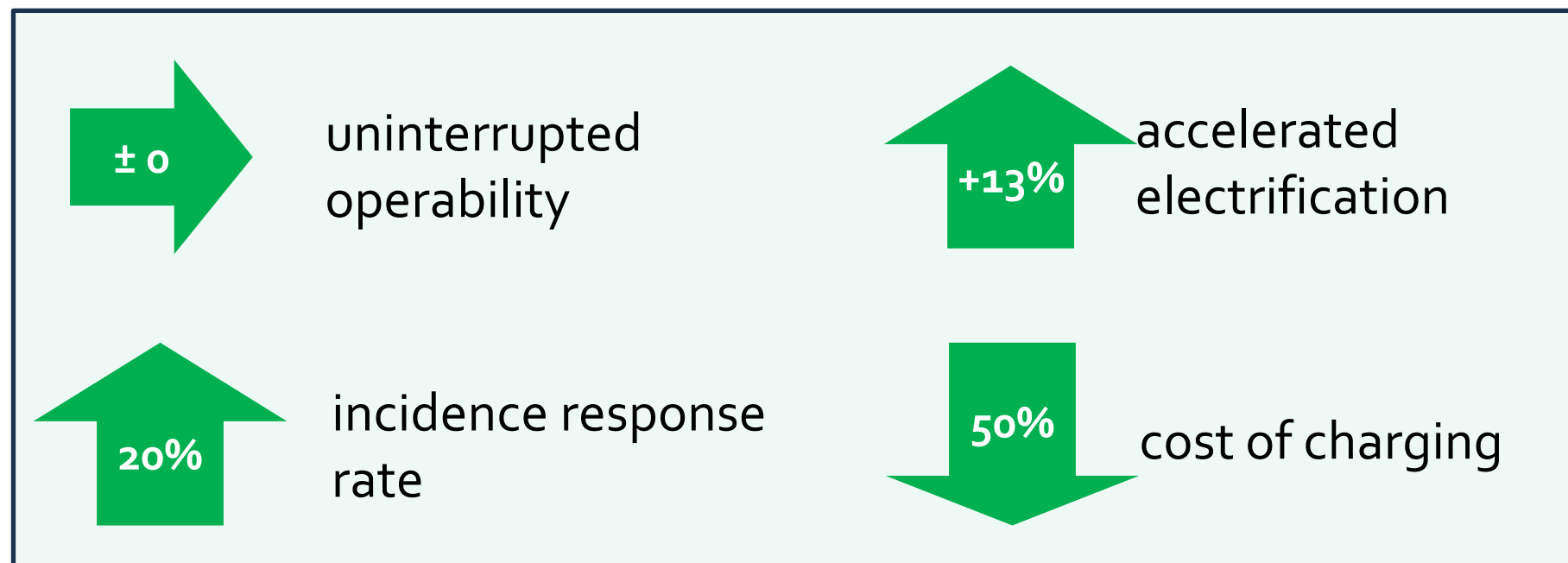
350+ e-buses (city, standard, coach, articulated),  
multiple OEMs, native telemetry, circulation plan import



180 chargers with 320 outlets, 6 models from 3 OEMs

"We have selected PANION for charge management and planning for their integration and interaction with our core business systems allowing us to utilize electric vehicles in daily operations efficiently, cost effective and without or minimal manual coordination. All these are prerequisites for us leading the way in decarbonizing public transportation."

**Pieter Steurbaut**  
Chief Operating Officer, Hansea NV





**Tobias Zschech**  
K2 Mobility GmbH | **PANION**

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Co-funded by  
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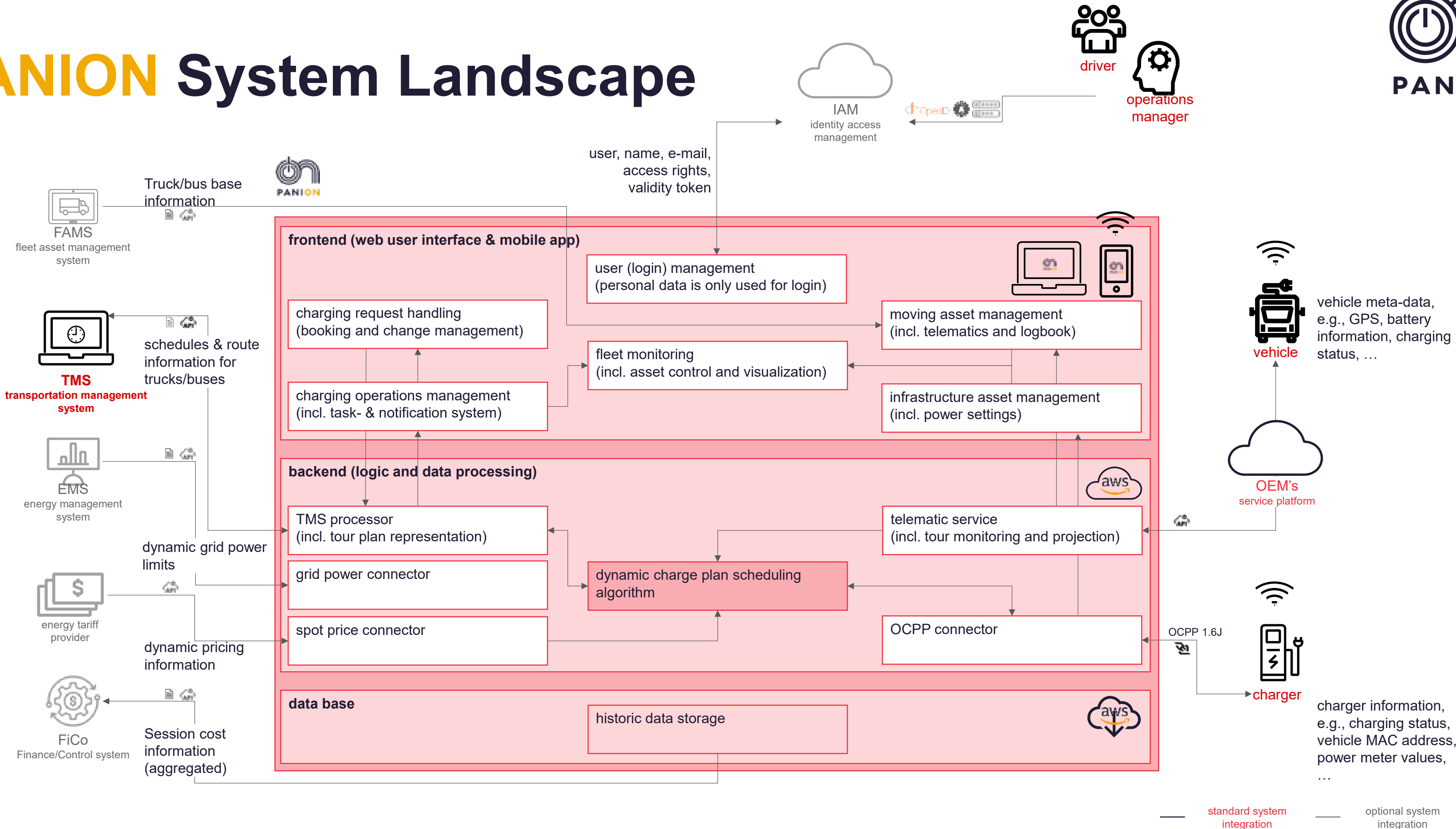
K2 Mobility GmbH

# PANION Integrated Charge Management

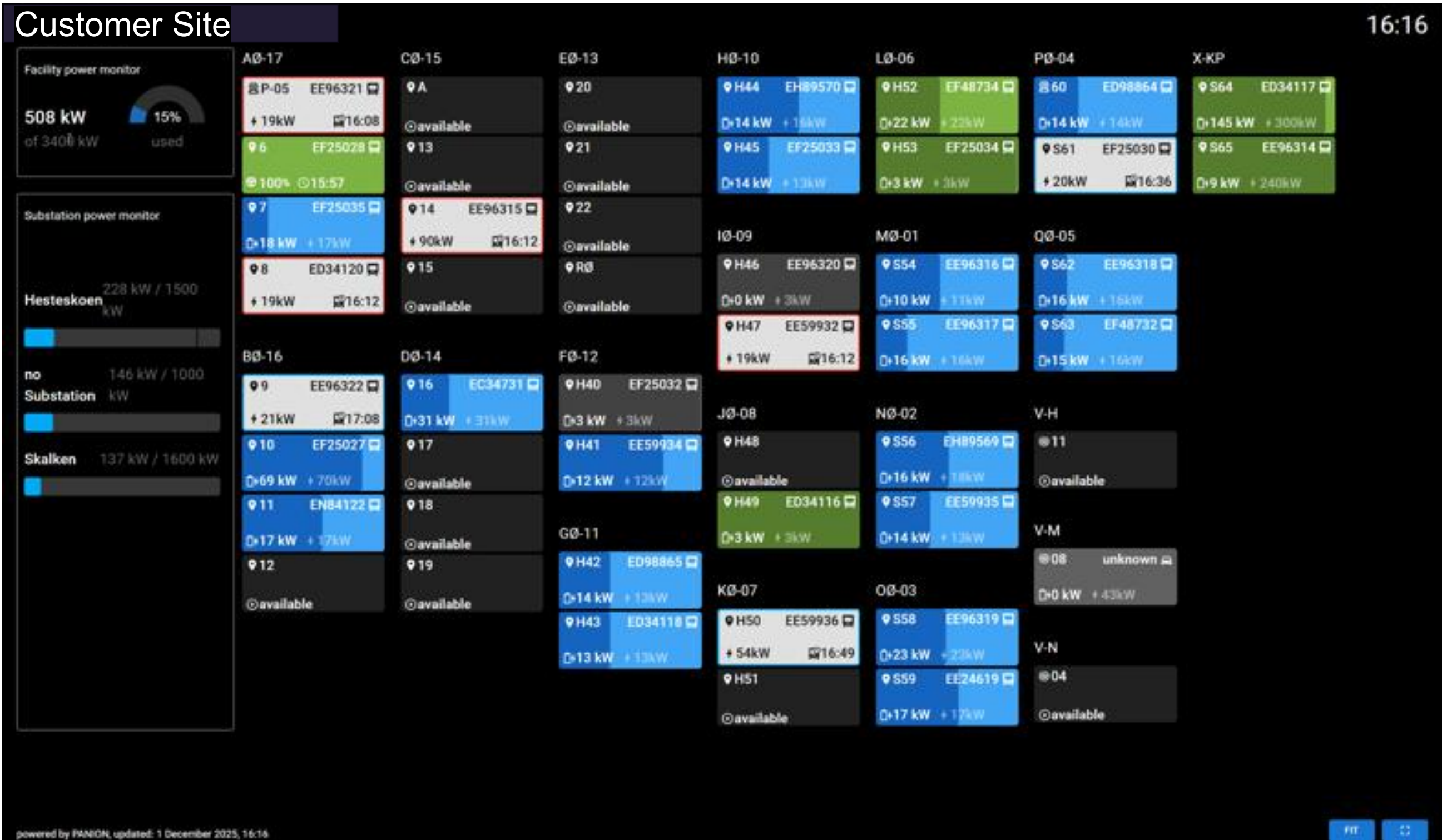


& ... you?

# PANION System Landscape



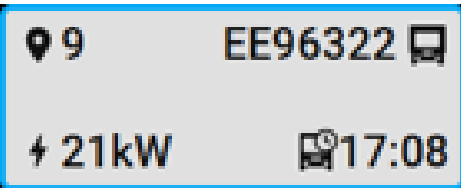
# Charge Session Monitor providing eye catching status information for relevant stakeholders (1/2)



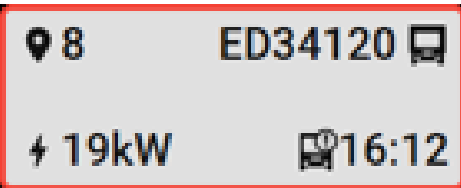
Ready to Drive Now



Ready to Drive in 39 min

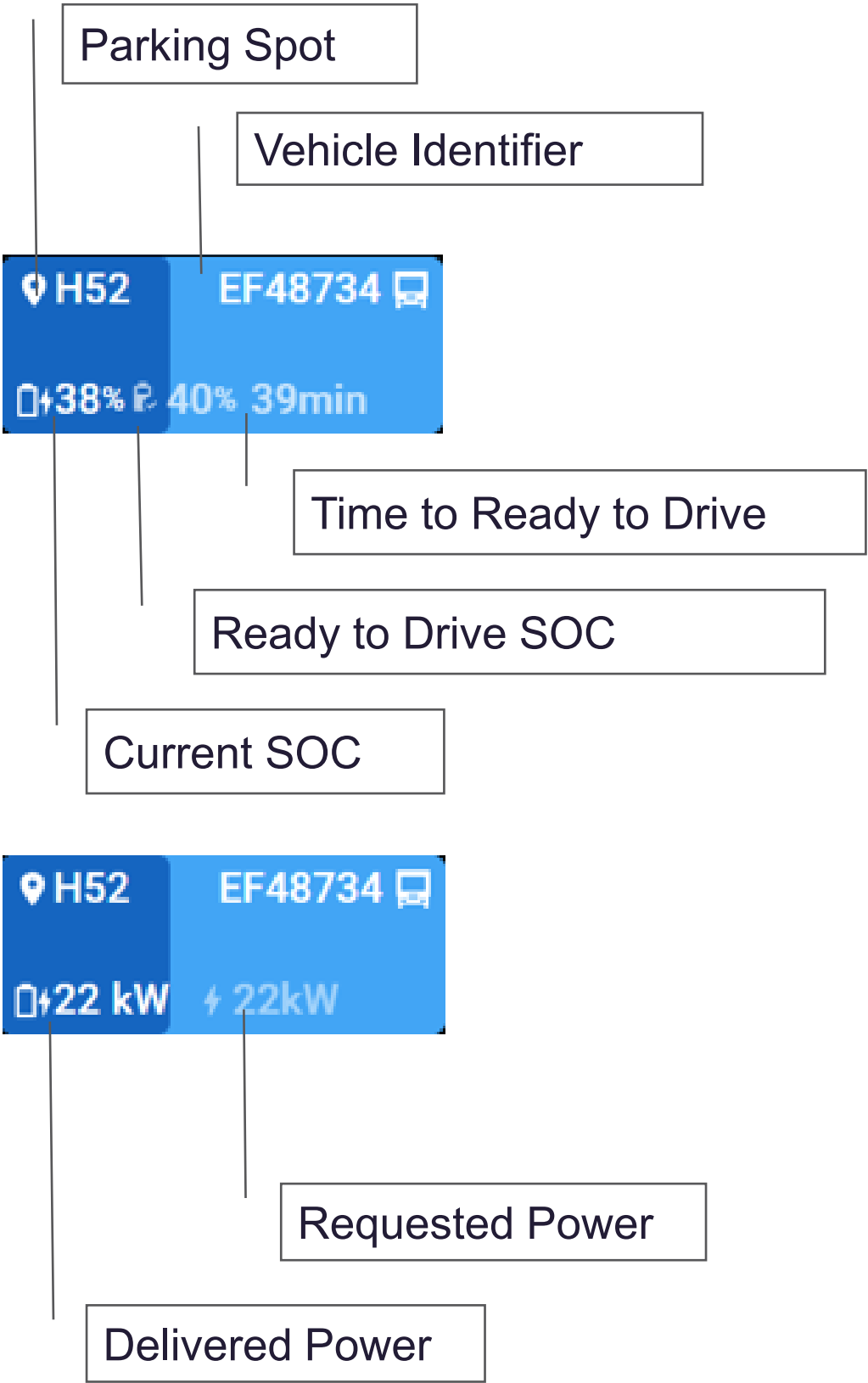
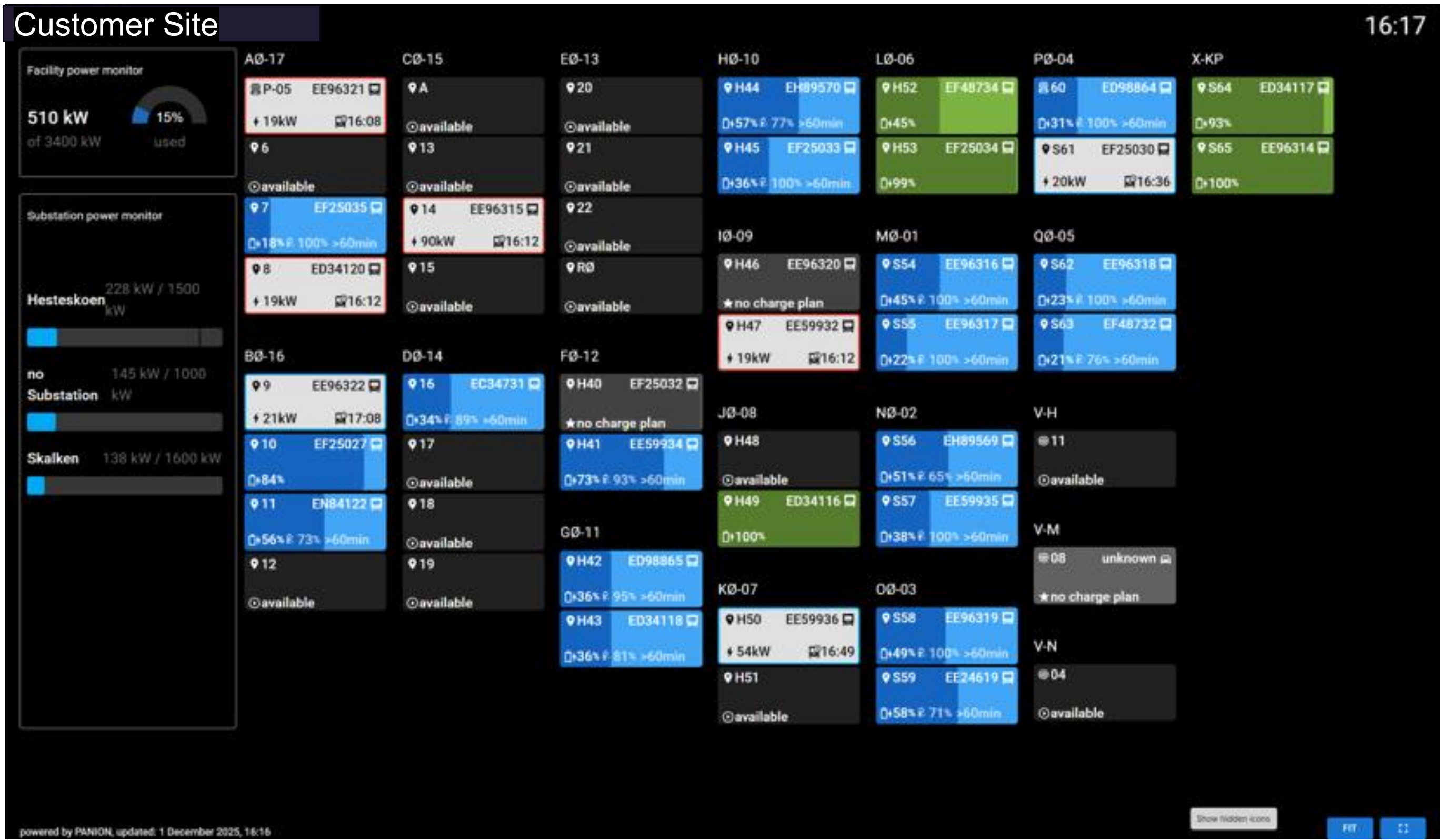


Dynamic reservation in 52 min

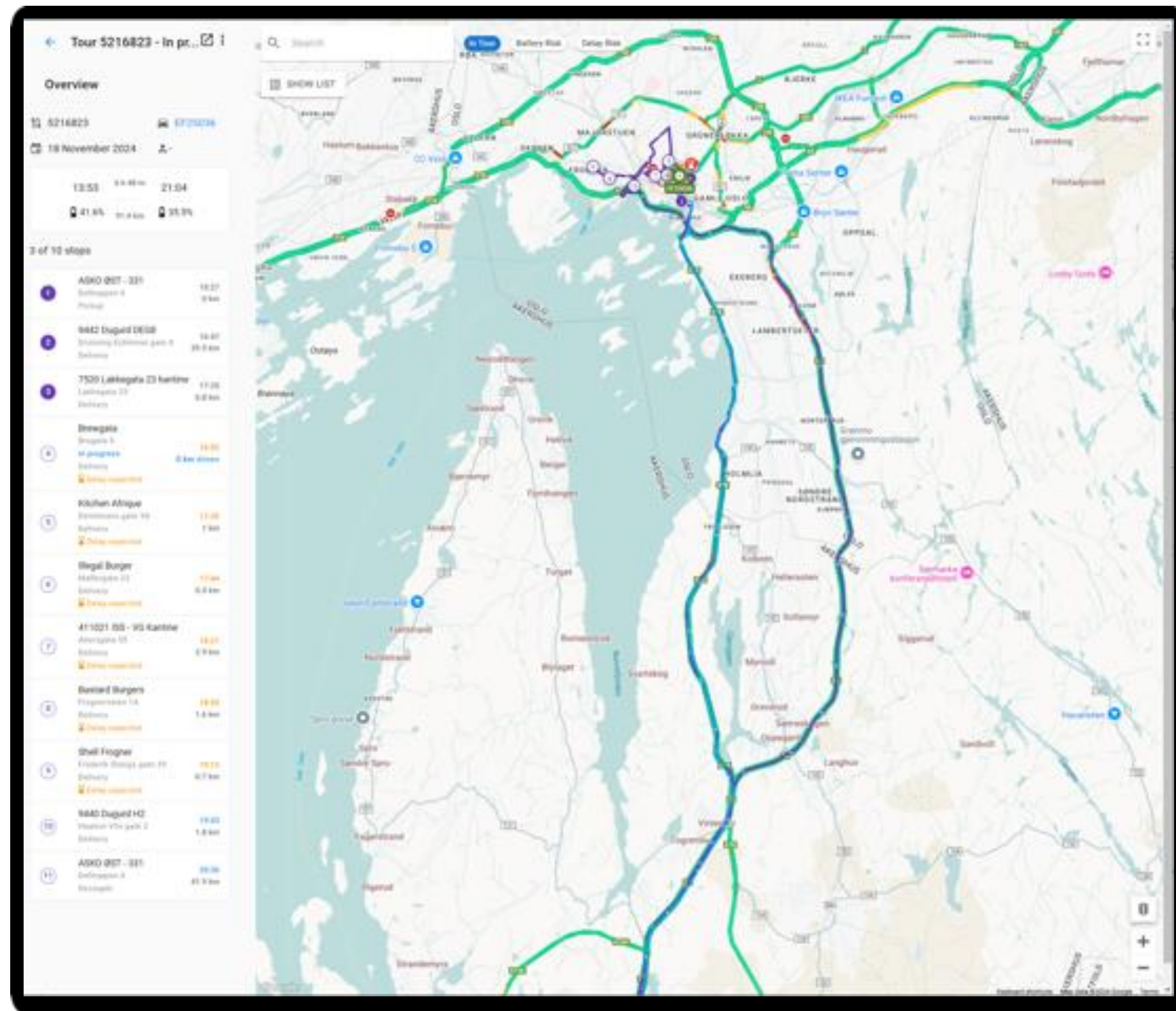


Charging start due for 5 min

# Charge Session Monitor providing eye catching status information for relevant stakeholders (2/2)



# PANION Tours: keeping the eyes on the vehicles - and the vehicles on the road



## What it is:

- **monitoring** geo-location, SOC and traffic for every vehicle in real time
- **recalculating** ETA and expected SOC constantly – adjusting affected charge plans and triggering communication updates accordingly
- **helping** the fleet manager to devote time and attention to **business operations** and customer service
- generating **recommendations** to change the tour and resolving the charge shortages of the EV (opportunity charging)

## Sample Case:

manage complex grocery logistics operations by visualizing tours and related risks, adopting proven user-friendly patterns

**k2.mobility**

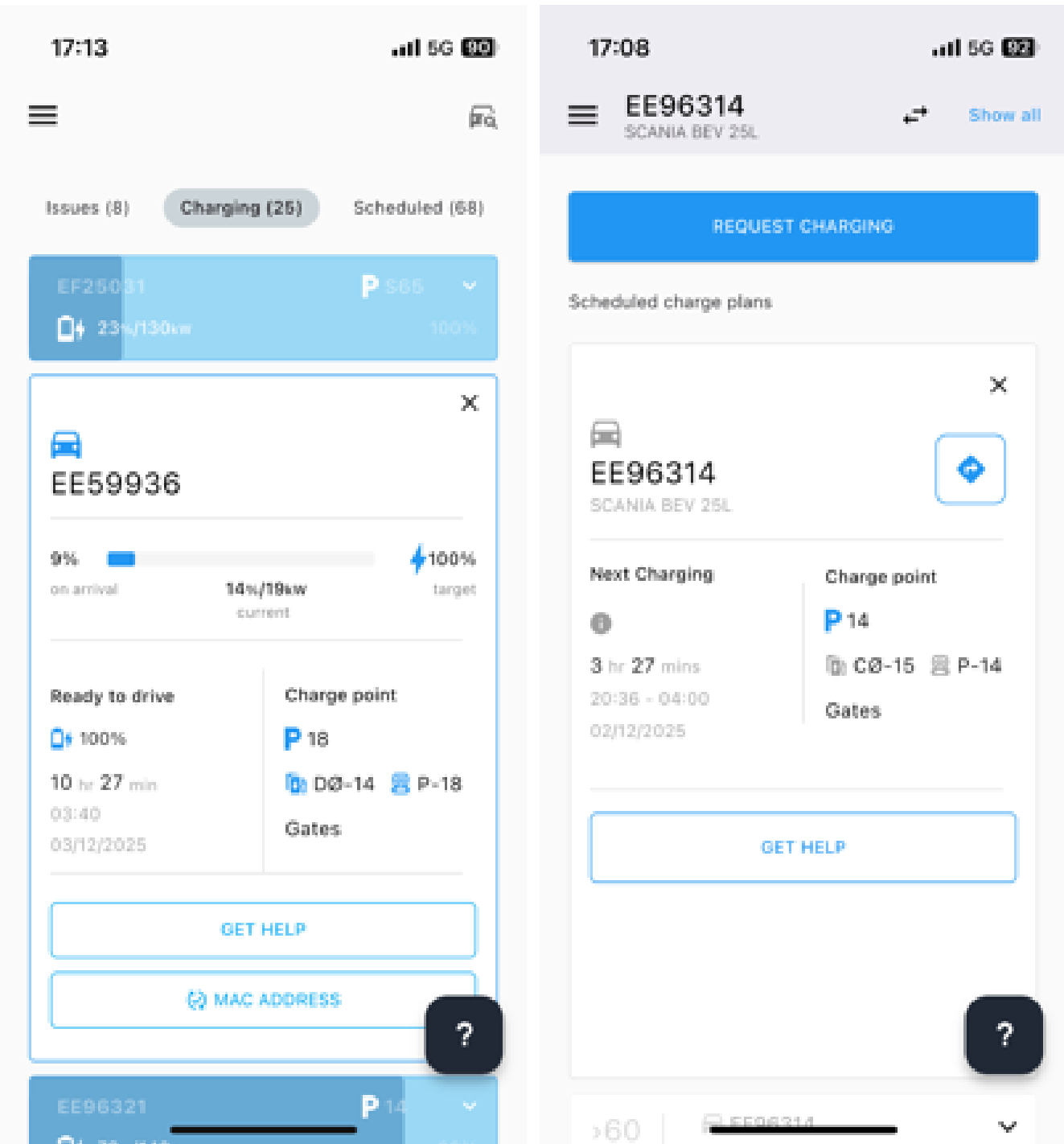
SOC: State of Charge | ETA: Estimated Time of Arrival | EV: Electric Vehicle

# Instructions for drivers via Mobile App

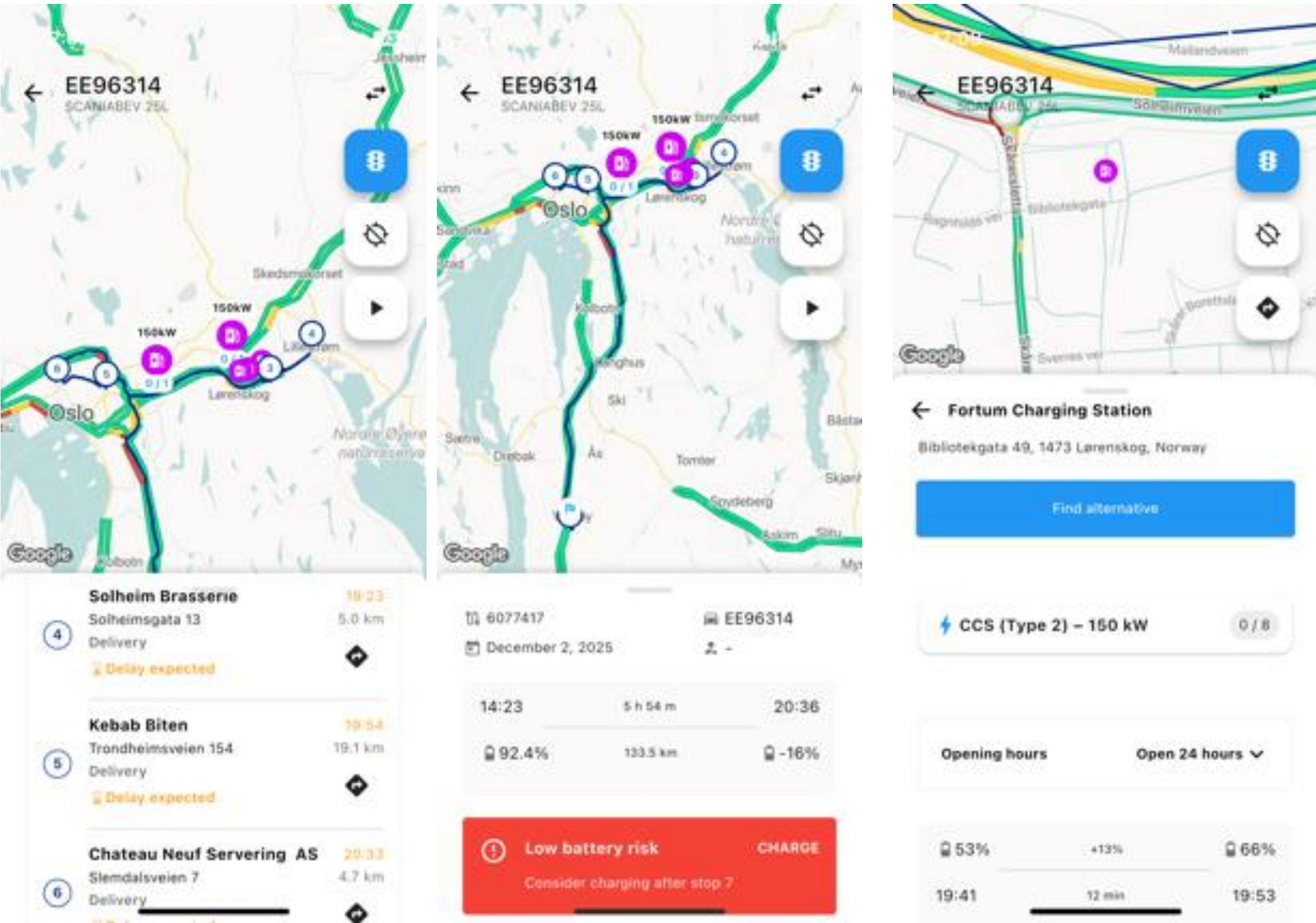
also enabled for Android Auto and Apply Car Play



At the depot



On tour



# PANION Notifications

PANION sends notifications via E-Mail, SMS or SNS integration (e.g. Slack) ... incl. all relevant information for operational decisions or call to action.

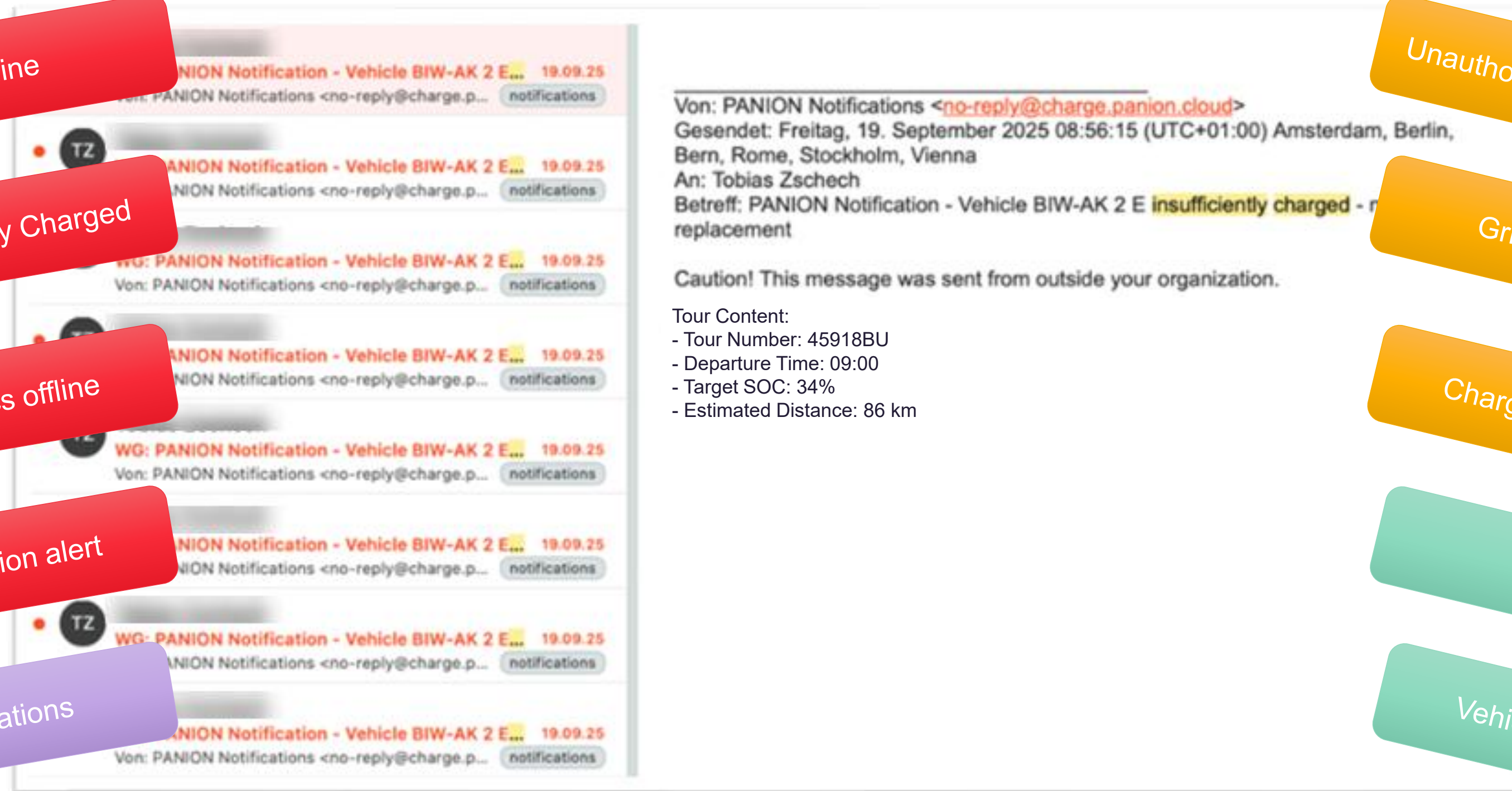
Charger Offline

Vehicle Insufficiently Charged

Vehicle telematics offline

TMS data validation alert

... other notifications



Unauthorised Charging Attempt

Grid Protection Alert

Charger Boot Notification

Vehicle ready

Vehicle needs reparking

# Scandinavia's industry leading grocery & HORECA distributors rely on PANION



**ASKO**

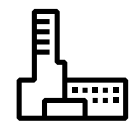
Svein Sollie,  
Director Transport ASKO NORGE AS

"The PANION team gained deep understanding of our operations. **PANION Charging helps us maintain operational excellence in spite of the additional challenges associated with truck battery charging.** It automatically coordinates battery charging with our daily operations. We now feel comfortable to further continue the ramp up of our fleet of electric trucks leading to a fossil free transportation in a few years. The coming 2 years(26->27) we will increase our fleet from 250 to approx. 400 trucks"

# Middle-mile fleet of largest e-commerce retailer works with **PANION**



Amazon Transportation Services Europe  
10,000 trucks, 75+ depots



8 facilities in 2 countries  
3-shift e-commerce supply chain



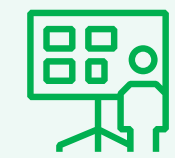
150+ e-trucks (tractor trailer),  
multiple OEMs, native telemetry, 3<sup>rd</sup> party TMS



~58chargers with ~40 outlets, 5 models from 2 OEMs



weekly session reporting, KPI & error monitoring  
operational efficiency, critical pull time schedules



analysis of plans vs. real fleet behavior to comPANION  
transition consulting for the world's largest logistics  
player enabling strategic decisions

"Amazon has been working with PANION since late 2022 on identifying and addressing the challenges coming with the electrification of our fleets. We appreciate their customer centric way of working and are looking forward to our continued collaboration aimed at establishing an operating model for e-transport at the scale of Amazon."

**Hadrien Cimino**

Program Manager,  
Amazon Transportation Services



# PANION saves money on your energy bill

## FROM DAY 1



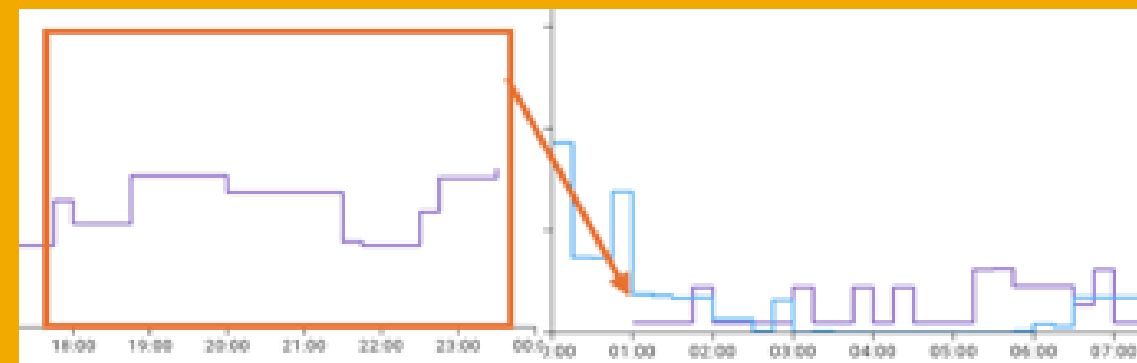
### OPERATIONAL SITUATION

- 30 e-trucks
- Monthly consumption: 387 MWh
- Charging after 17:00 > 7,4 MWh
- Charging after 23:00 > 1 MWh
- Baseline monthly energy cost: €42,570

### 5% savings

#### FIXED DAY/NIGHT ENERGY CONTRACT

- Difference high & low tariff= 2 cent
- Optimizable volume: 100 MWh per month
- Tariff spread: €0.02 per kWh
- Savings per month: €2,000



### 25% savings

#### VARIABLE ENERGY CONTRACT (EPEX)

- Full 387 MWh variable
- Average EPEX price: €0.11 per kWh
- Conservative optimization: 25%
- Savings: €10,650 per month
- €355 per truck per month



FULL  
OPTIMIZATION  
BY PANION



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