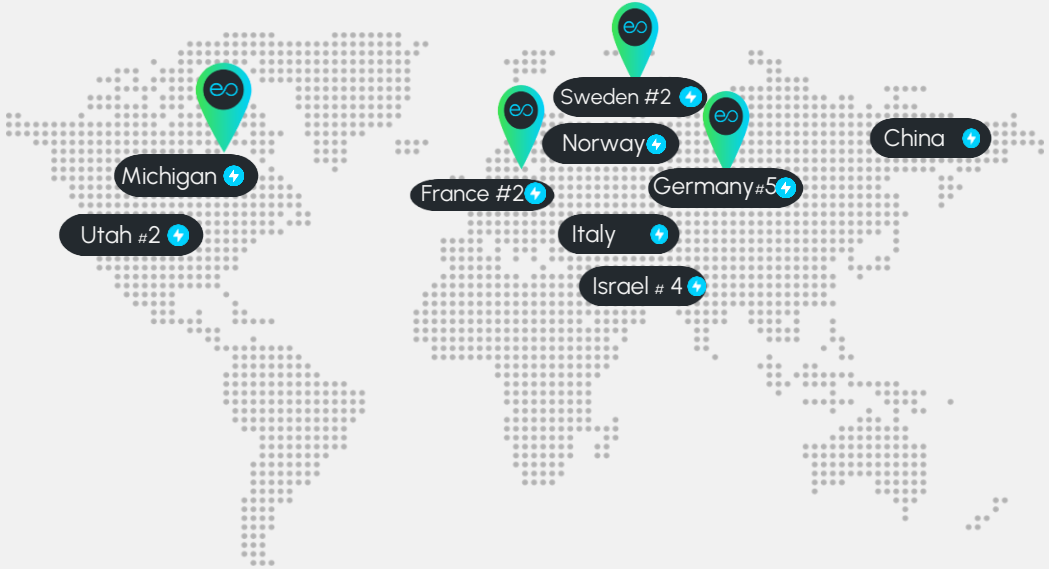

electreon
Charging the way forward
DISTRIBUTION
UTILITY MEET
DUM 2023
anytime, anywhere

Electreon - world leading pioneer of wireless charging

19 Projects across the globe

4 Subsidiaries in the USA, Germany, Sweden and France



2021 TIME
One of the Best Inventions of the Year

19
Global Projects

2013
Company Founded

16
Patents

12
Automotive Partners

2023
World Record 100-Hour Drive

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Challenges in the EV Transition

- The Battery Problem
- Charging Infrastructure
- Electric Grid Connections
- Electric Fleet Operation

Electreon’s technology solves these challenges

Electreon's Value Add

- No Visual Impacts = Low Maintenance and Charging Anywhere
- Efficient EV Operations = Increase Uptime and Reduce Management Costs
- Shared Charging Platform = Multiple EVs Charge from Single Unit
- Battery Reduction = Save on Costs, Weight, and Emissions

Electreon provides wireless charging anywhere, anytime

Product Details

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Electreon's Wireless Charging System

1. Above-ground Management Unit (AMU) transfers energy from the grid to the charging infrastructure

2. Underground Management Unit (UMU). Same functionality as AMU without any visual impact

3. In-road copper coils transfer power to the vehicles' receivers

4. Vehicles receiver installed on the EV to transfer energy directly to the engine

5. Management Software monitors & manages optimal EV charging in real time

Dynamic
Charging as you drive

- Up to 500 kW per 100 meters
- A shared charging platform for all EVs
- Enables unlimited range*

*While driving on wireless Electric Road

The New Global Standard in Wireless ERS

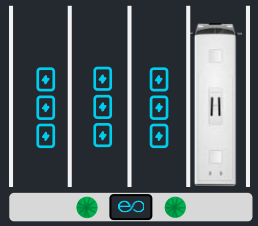
Electric Road System

Static Charging

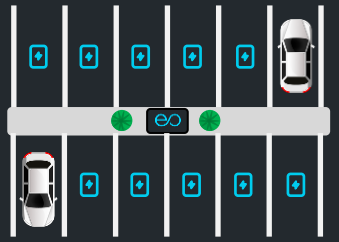
Two static charging products

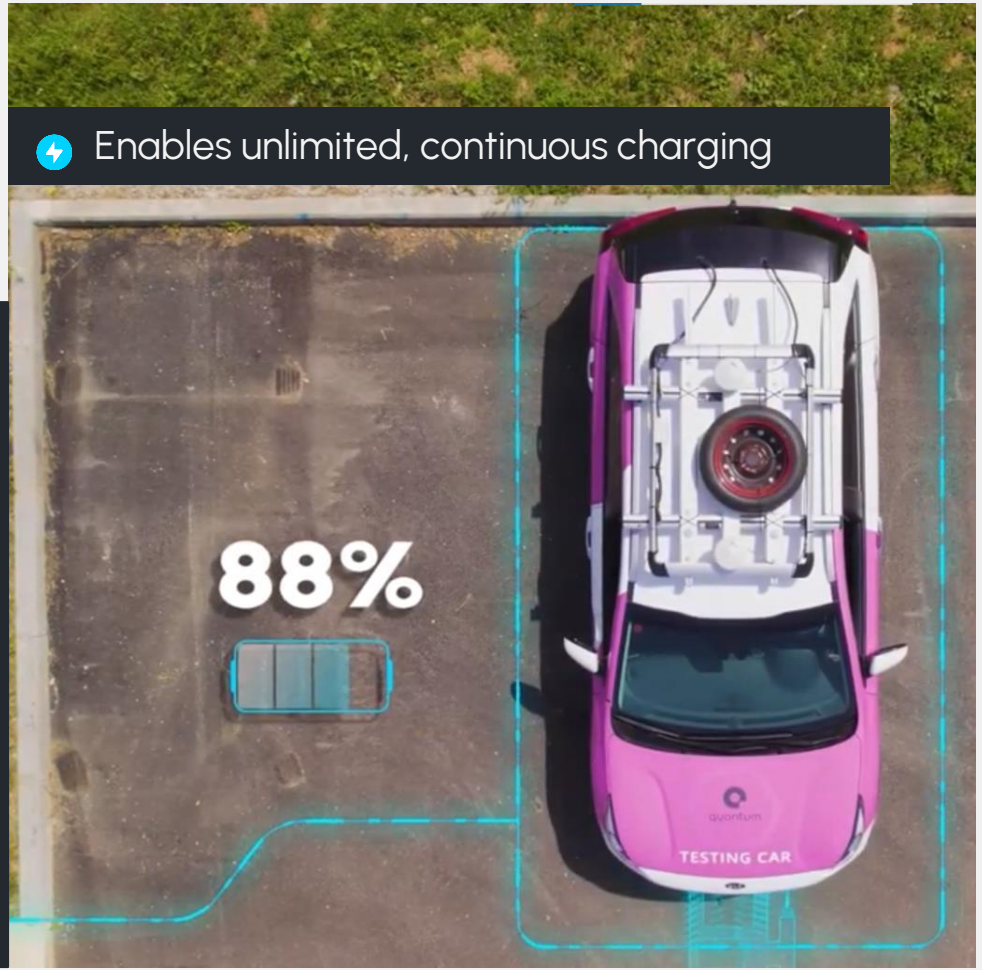
Charging up to 180 kW
Charging up to 360 kW

Charging up to
4 buses
simultaneously



Charging up to
12 private vehicles
simultaneously

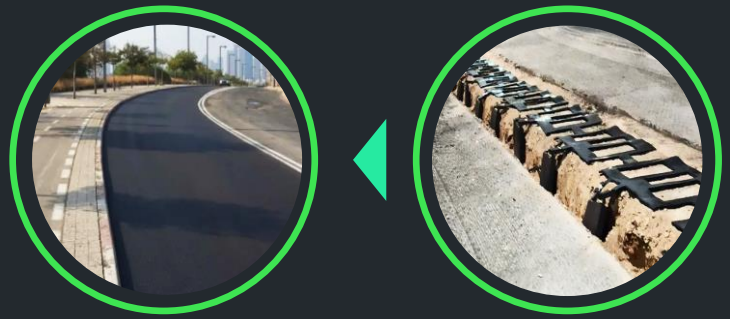




Quick & Easy Deployment

1 km of coils laid, and asphalt repaved in **one night**

With no change to the road surface



Creating Sustainable Impact: eBus and eTruck Project Use Cases

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Project: Tel Aviv University

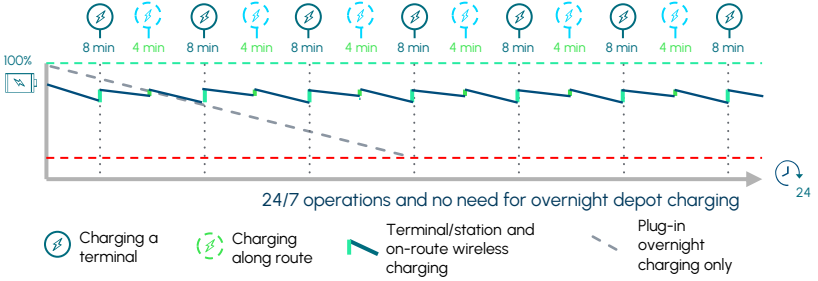
Wireless charging in any location enables regular 'top-up' charge throughout the day

- **Eliminates range anxiety** – and enables increased operational hours, even 24/7 operations
- **Battery capacity can be reduced by up to** 90%, saving an estimated **$53K and 48 tons of CO2 emissions** per battery, per bus.
- Perfectly suits operations and workflows of the bus fleet - no interruption to current fleet behavior

In Sweden We demonstrate that a 40 ton e-truck can be equipped with just a 210 kWh capacity battery and have extended range

Tel Aviv – Live Public Project

Optimal mix of regular 'top-up' stationary charging at terminal with dynamic charging along the bus route



In Tel Aviv – we showcase massive battery reduction

Overnight conductive charging

400+ kWh
Required bus battery capacity

Distributed wireless charging

42 kWh
Required bus battery capacity

Project: Full City Fleet Commercial Agreement

Dynamic charging

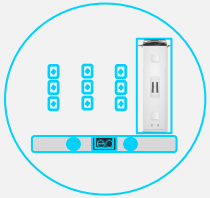
90 kW charging at 15 km/h

$$\frac{90\ \text{kW}}{15\ \text{km/h}} = 6\ \text{kWh/km}$$

30 Round trips a day over 1km of electric road

6 kWh*30 = 180 kWh

One charging platform unlimited for all vehicles



Static charging

Charging 90 kW during a 5 minute bus stop en route

$$\frac{90\ \text{kW} * 5}{60} = 7.5\ \text{kWh}$$

20 static charging breaks a day

7.5 kWh*20 = 150 kWh

Can charge one bus/vehicle at a time

180+150 = 330 kWh

Combining dynamic and static charging can supply the full daily electricity requirements of a bus

<u>In Tel Aviv:</u>

Up to 1,000 buses can be charged by deploying several kilometers of electric road and several static charging stations at bus day terminals

<u>$70M in savings :</u>

Savings on chargers ~ $20M cost for 1,000 chargers

Savings on power connection at overnight depot/garage: 90 MW

Savings on batteries $50M

<u>Advantages:</u>

Operational flexibility

No dependence on overnight charging

24/7 operation

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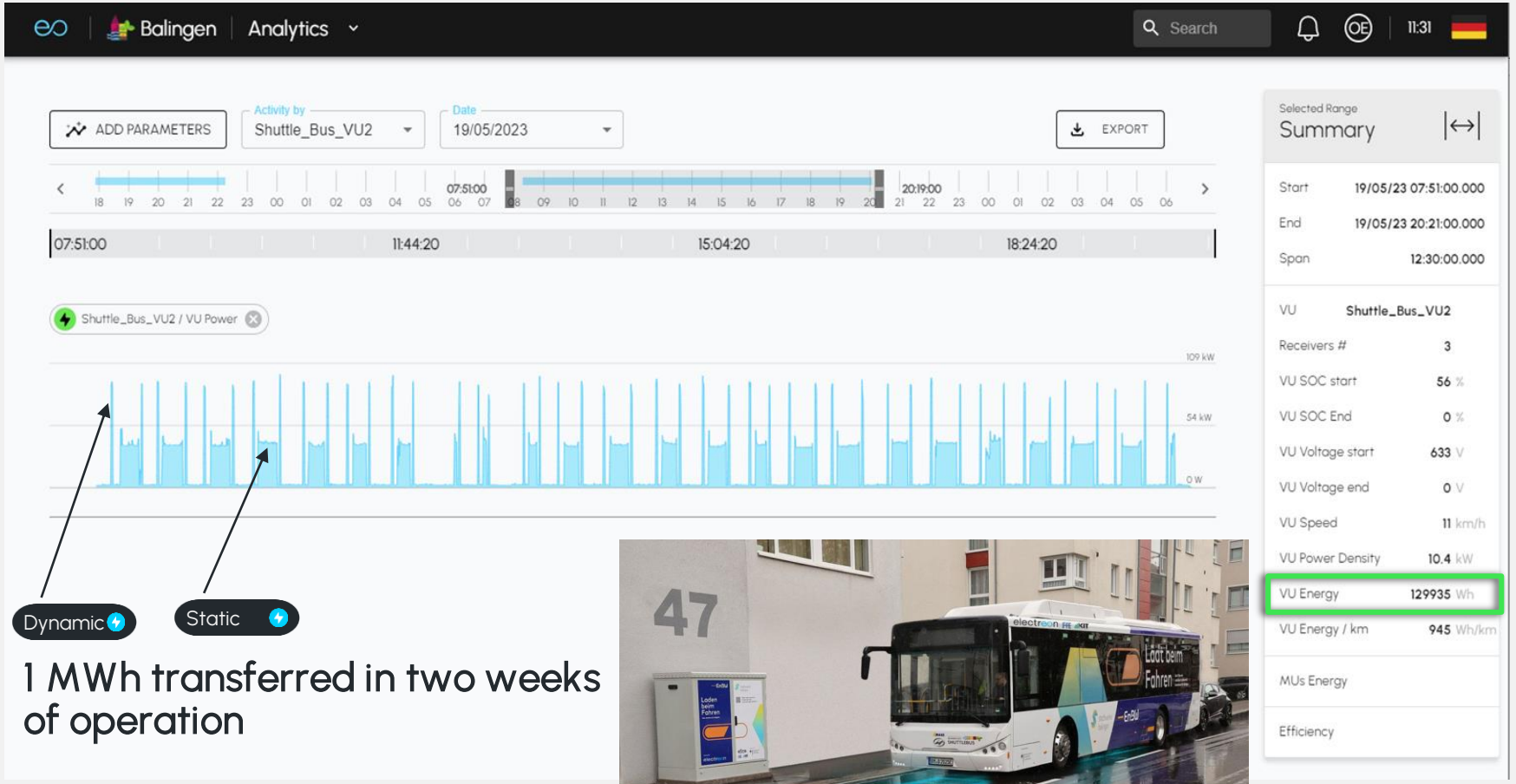
Project: Balingen, Germany



1 MWh transferred in two weeks of operation

Project: Gotland Island, Sweden

Gotland Island, Sweden

Application: 1.65 kilometers of dynamic Wireless Electric public road and static charging solutions

Vehicle: 40-ton electric *heavy-duty truck, and urban bus*

HIGER

TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION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Thank You