



Unplugged

αυτονομία

fka 

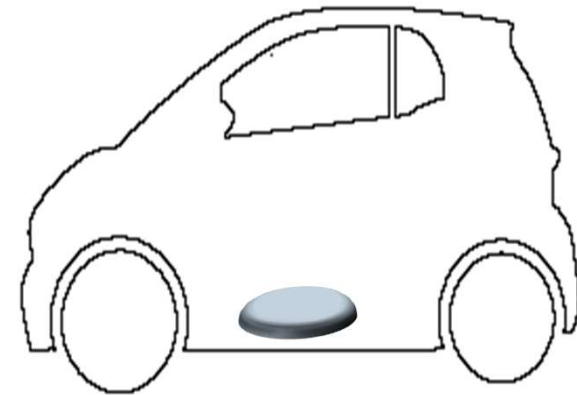
evs|27

A technical insight into UNPLUGGED

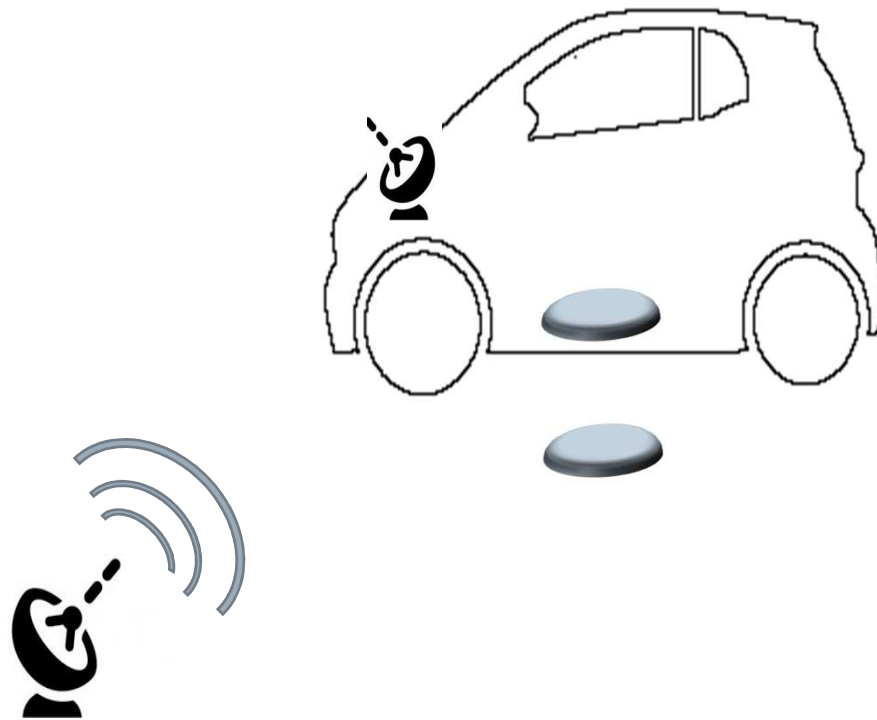
Axel Barkow (fka)



Positioning/Alignment



Communication

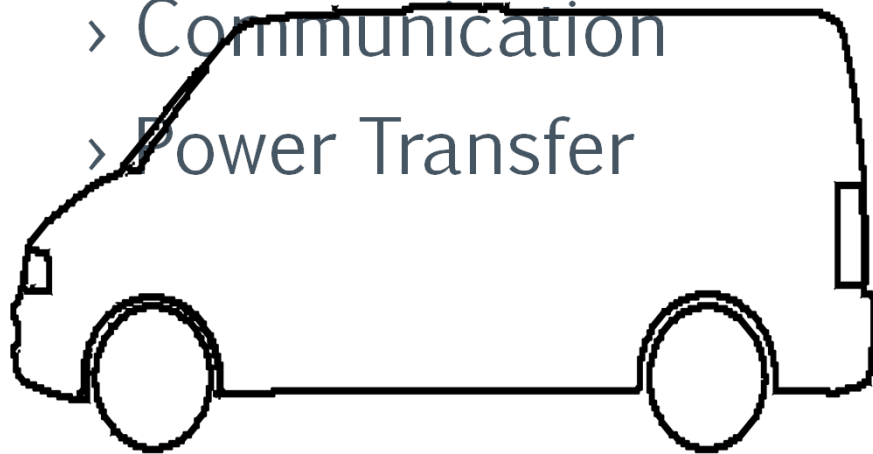


Power Transfer

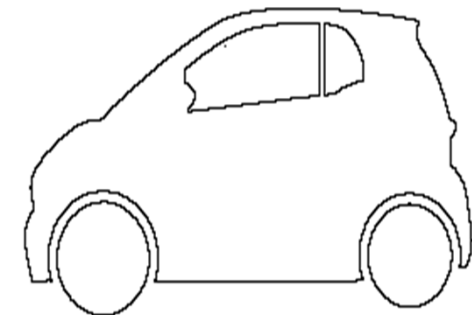


Interoperability

- > Positioning
- > Communication
- > Power Transfer



Passenger cars



Positioning/Alignment

- › Needs to support
 - Stationary
 - Static en-route
 - Dynamic en-route
- › Should provide solutions for **Interoperability fully supported**
 - Guiding
 - Assisted Positioning
 - Automated Positioning
- › Is based on
 - Camera
 - RFID Technology
 - Field Measurements

Communication

- › Needs to provide information exchange between vehicle and infrastructure during
 - Positioning
 - Charging
- › Is based on and extends ISO/IEC 15118
 - Reuse of solutions from conductive charging
- › Uses Wifi as communication link

Interoperability fully supported

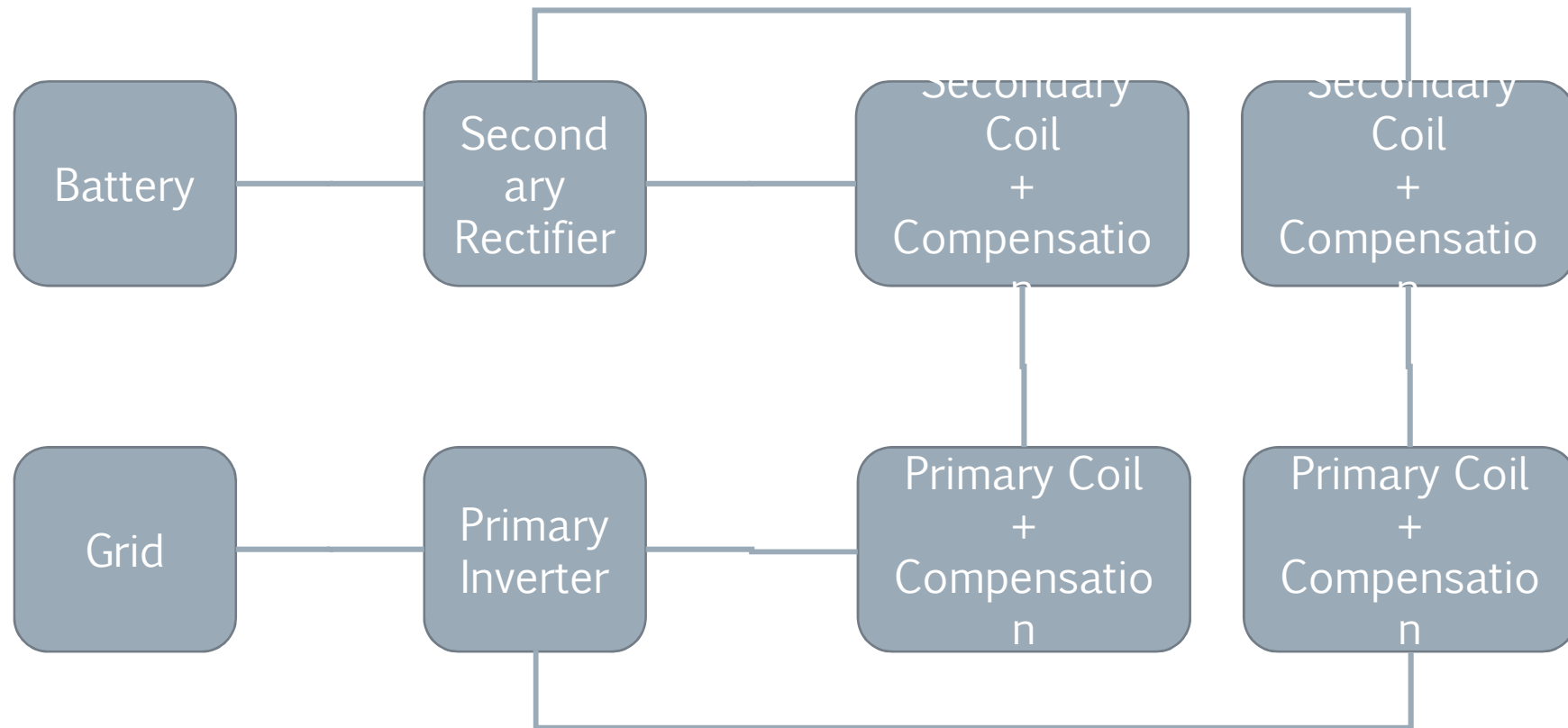
Power Transfer

	Passenger Car System @ 3.7kW	Commercial Vehicle System @ 50kW
Battery voltage min/max	220V / 370V	259V / 380V
Battery current max	10A	160A
Primary coil size	490mm x 690mm	850mm x 400mm
Frequency nom.	140kHz	25kHz
Secondary coil size	265mm x 310mm	850mm x 400mm
Air gap min/max	100mm / 170mm	180mm / 234mm
Misalignment min/max	±100mm	±130mm

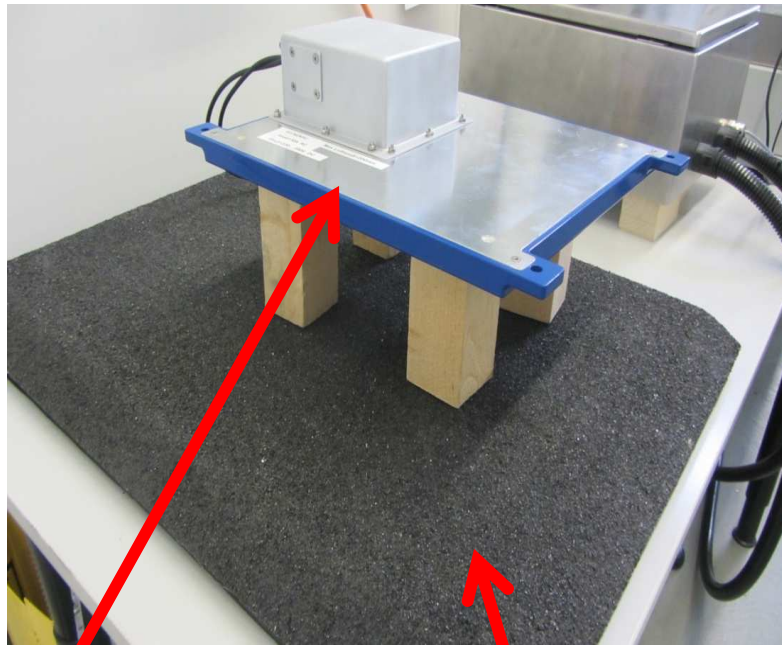
Interoperability limited

Power Transfer

3.0kW



Passenger Car System @ 3.7kW

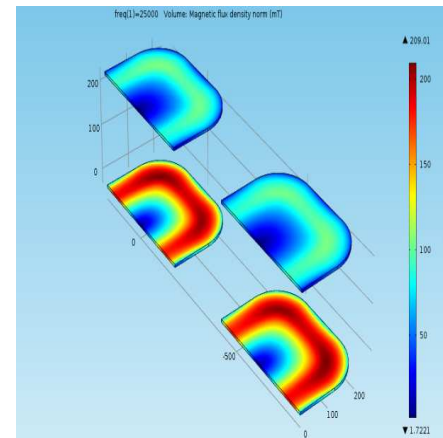
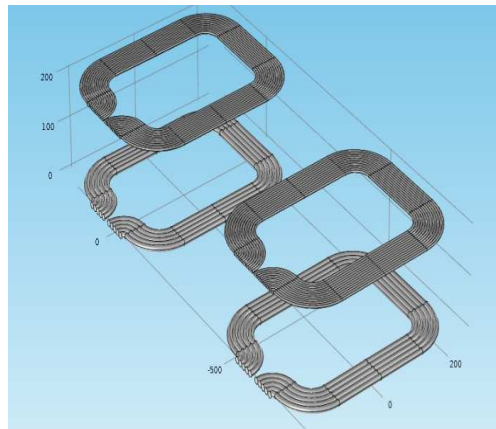
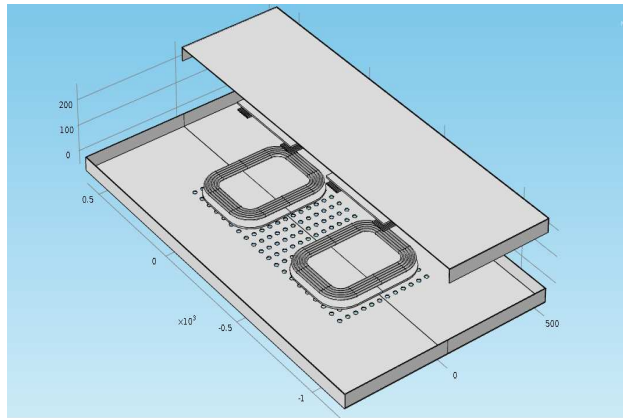


Vehicle Pickup

Primary coil



Commercial Vehicle System (@ 50kW)



Thank you