

Wireless Power Transfer

From Research to Real-World Applications

Final Conference of the VLAIO TETRA Project DEO

12:00: Welcoming reception

13:00: The state of wireless power transfer

- *Introduction*
- *Wireless power transfer in 2026: Technologies, trends and market outlook*
- *Industrial case study – Cochlear
Safe and comfortable charging of medical implant devices*
- *Industrial case study – Forcebit
Challenges for wireless charging on rotating axes*
- *Inductive vs. capacitive wireless power transfer: A performance benchmark*
- *Technology demonstrators: from lab to application*

15:00: Coffee break & Demonstrator exhibition

15:30: Project results and lessons learned

- *Key results of the VLAIO TETRA project DEO*
- *Wireless power transfer in higher education: Training the next generation*
- *Emerging research directions in wireless power transfer*
- *Lessons learned: What works, what doesn't, and what's next*

17:00: Network reception

18:00: End

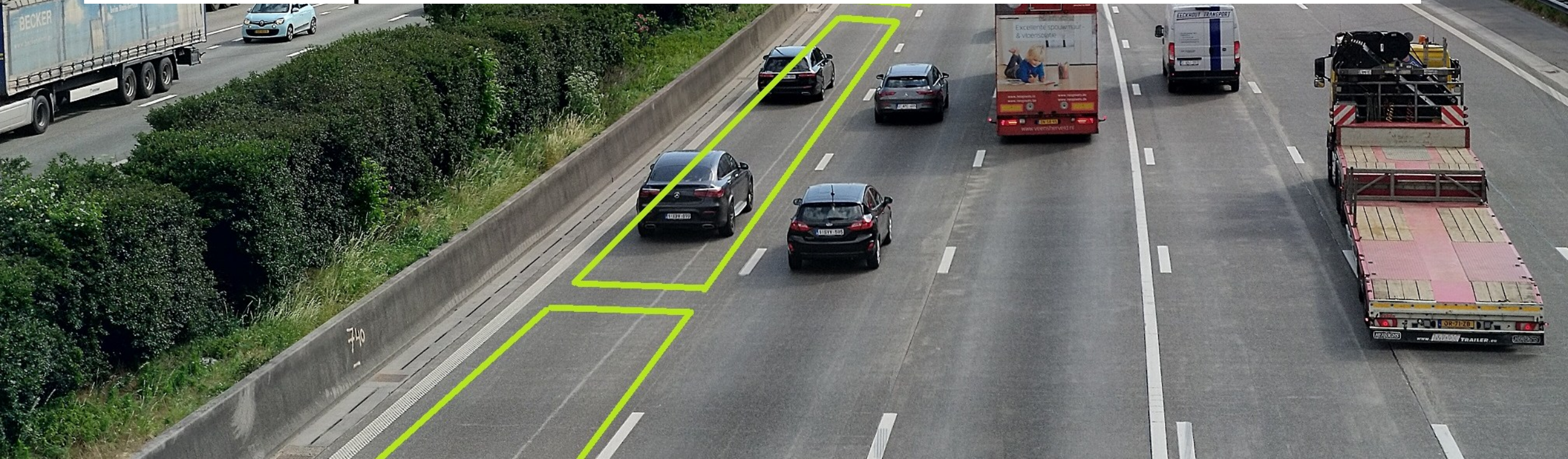
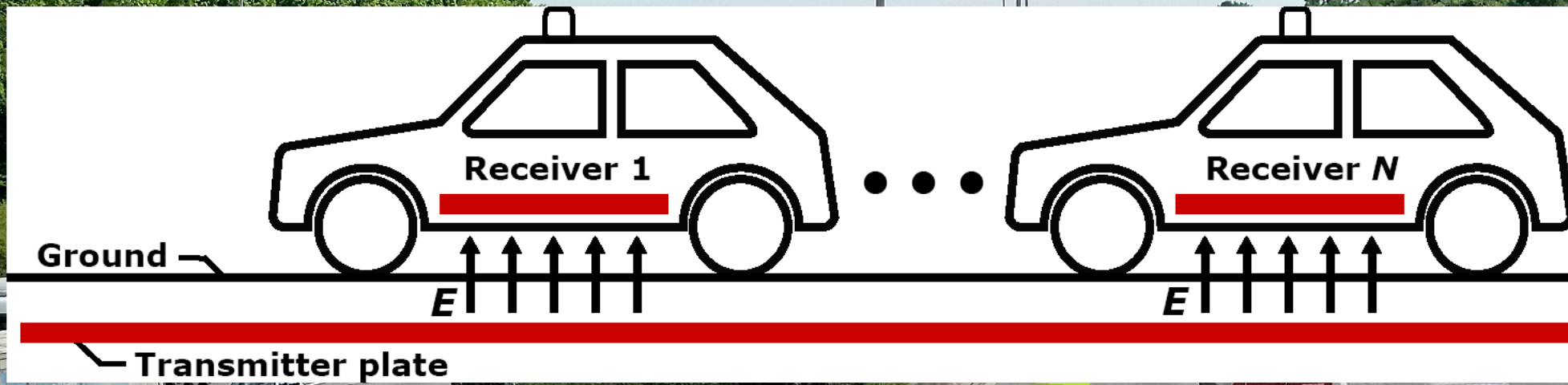


10 Sept. 2026, Antwerp



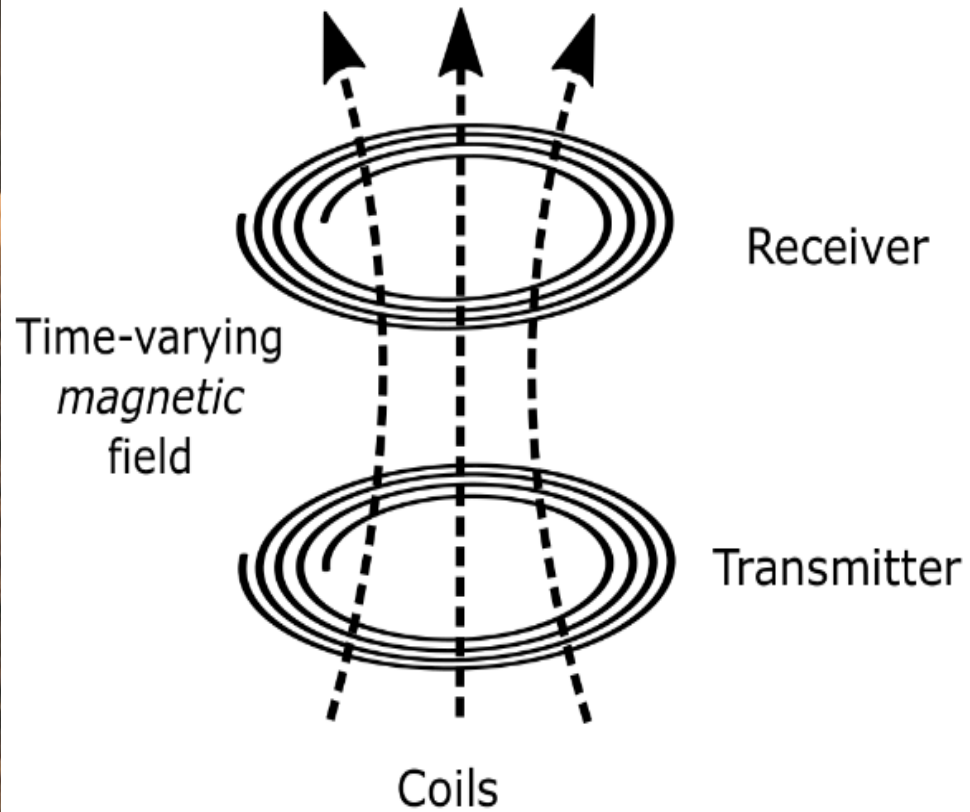


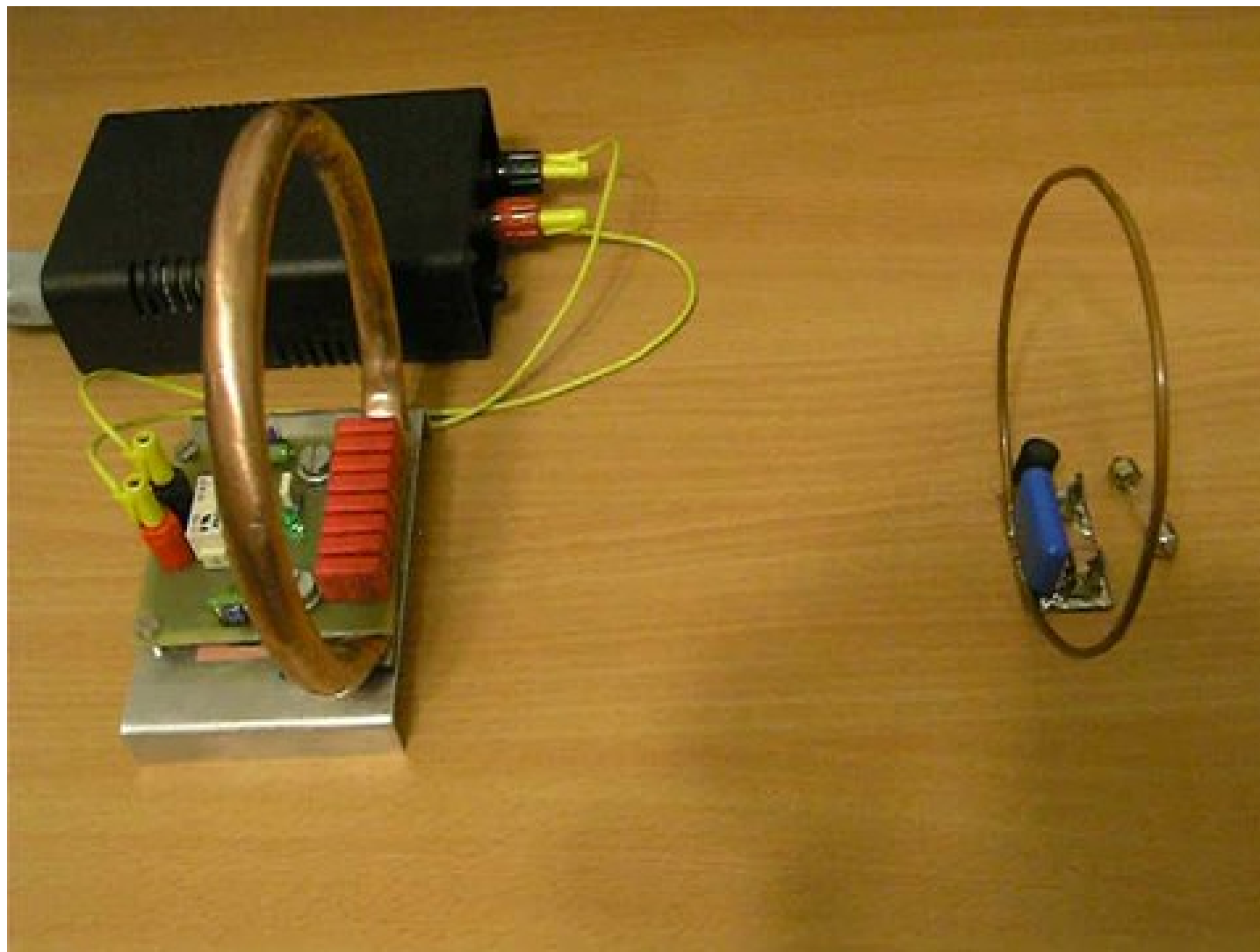
Wireless Power Transfer



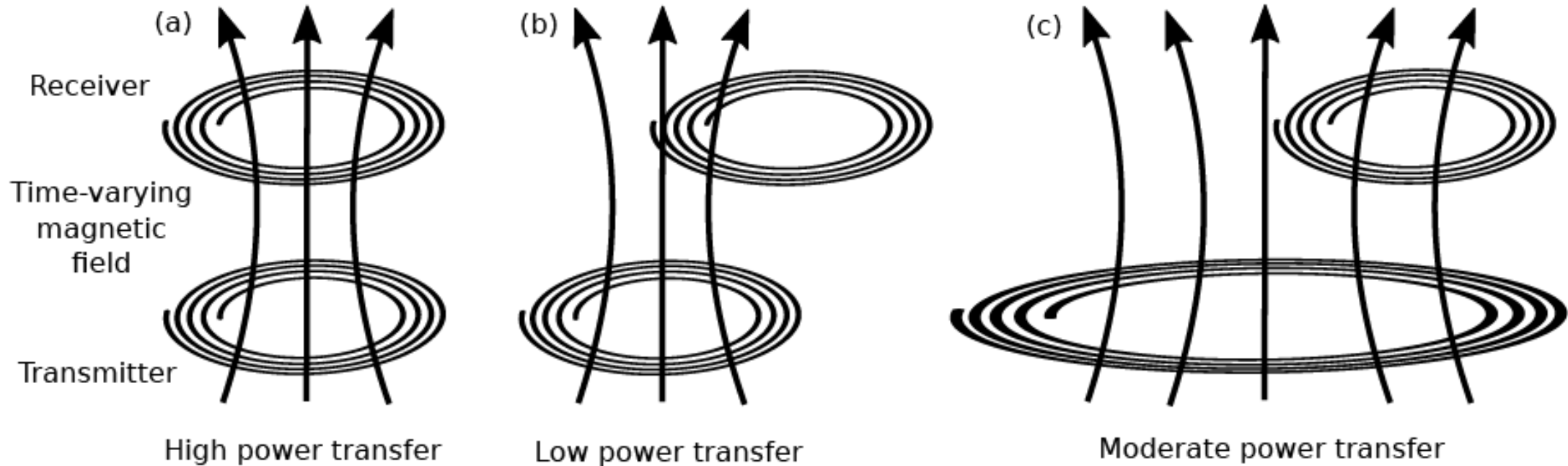


Inductive power transfer

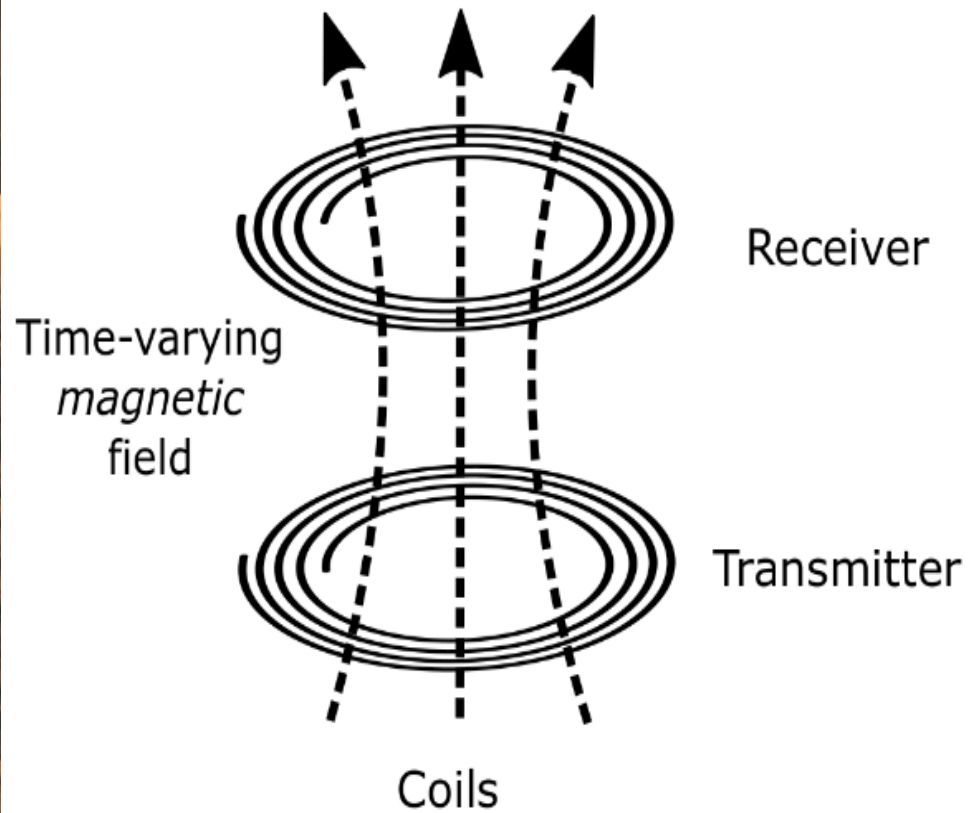




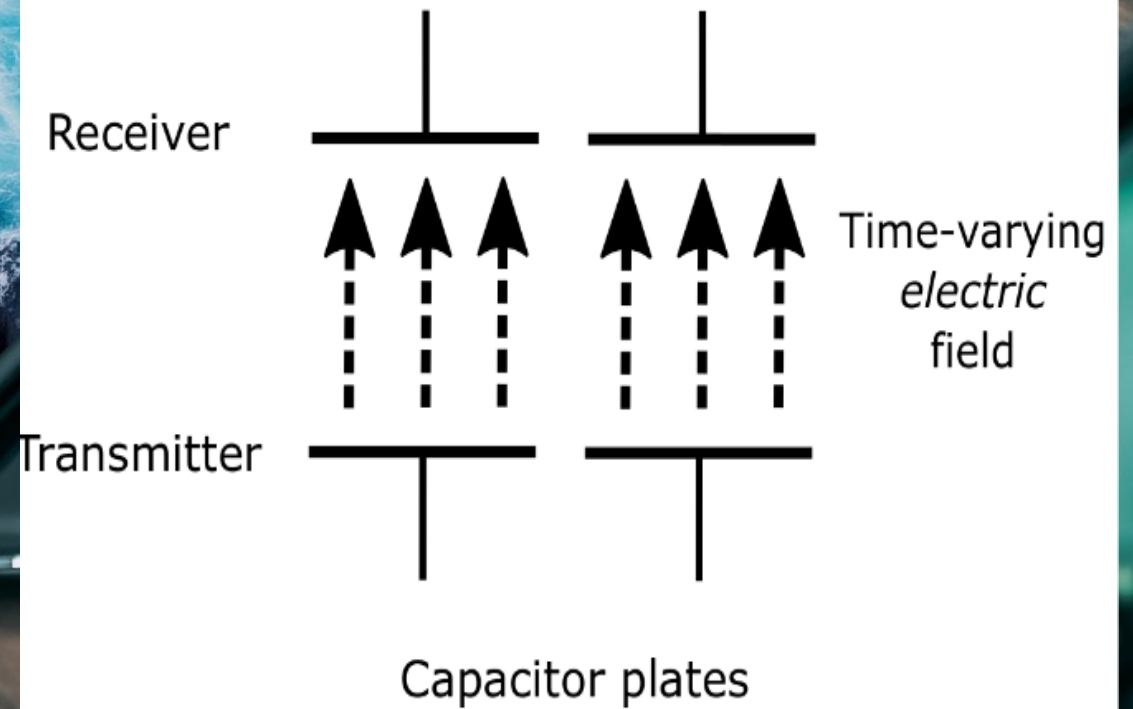
Inductive WPT = Magnetic WPT

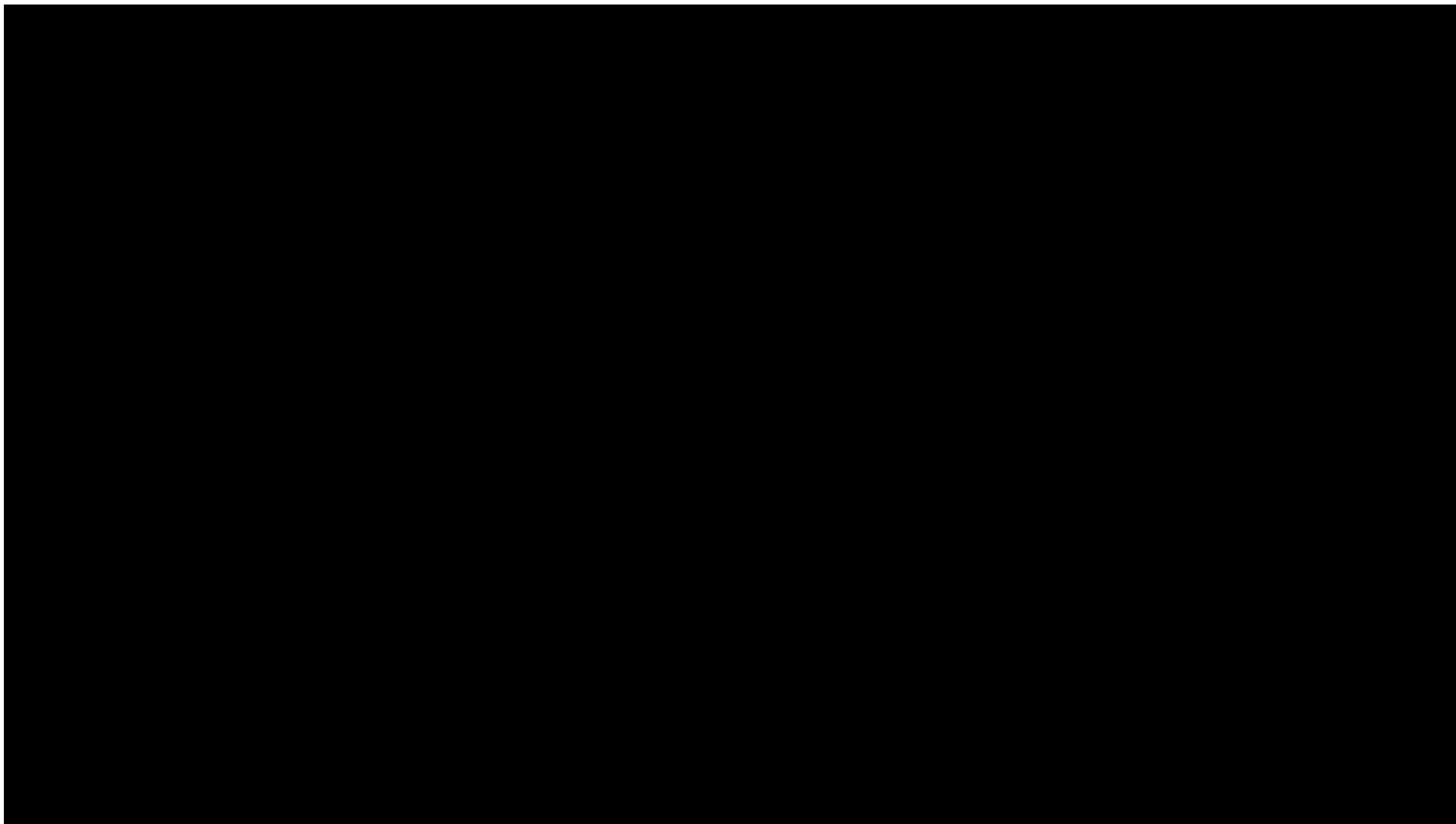


Inductive power transfer



Capacitive power transfer





<https://www.youtube.com/watch?v=IXZjVLFilcM>

Benefits

**Water
proof**

**Autonomous
(no human
intervention)**

**Facilitate
miniaturization**

**Improved
convenience &
user experience**

**Higher
durability &
robustness**

Dust proof

**Safer
(no sparks)**

Charging electric vehicles

R1 Ring of Antwerp: ideal for wireless power transfer

- A lot of cars
- Often (quasi)-stationary



Cutting the last cord



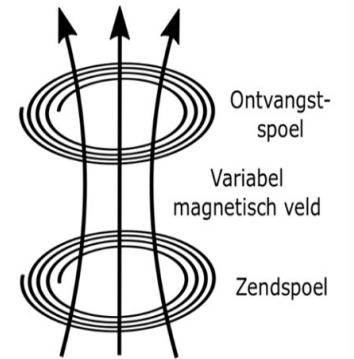


ERATO - <https://www.youtube.com/watch?v=LJd-T2BUEx8>

Wireless Power Consortium



- Global standard Qi, focus on hand-held consumer electronics
 - Desktop chargers (charging pad or stand)
 - Power banks (designed for travel, contain batteries)
 - Embedded chargers (built in furniture, cars, public locations,...)
- Supported by > 400 companies
 - All important companies, including Apple, Google, Microsoft, Samsung, Philips, HP, Huawei, LG, Sony, IKEA, Texas Instruments....
- > 8000's of certified products
- Magnetic induction from Tx to Rx

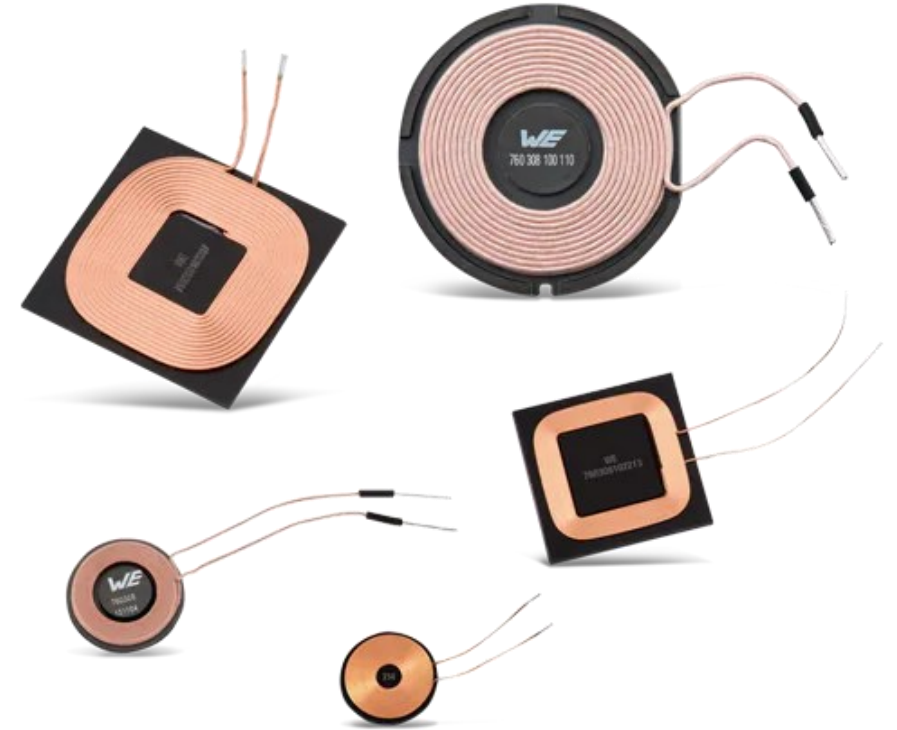


- Restrictions Qi:
 - Flat surface devices
 - Original up to 15 W
- Upcoming
 - Ki standard (Ki Cordless Kitchen): 100 W – 2.2 kW
 - Qi Medium power: 30-65 W
 - Light Electric Vehicle (eBikes & scooters)
- Other standards
 - AirFuel Resonant
 - SAEJ2954 (EVs – high power)



Charging area

- Typical
 - Single coil in the Tx with 50 mm outer diameter
 - Coil in Tx with outer diameter 40 mm
- Misalignment acceptable to (only) about several mm
- Transmission gap < 1 cm
- The Qi standard allows for multiple coils in Tx as an array but in practice one-on-one



Wireless Power Transfer

From Research to Real-World Applications

Final Conference of the VLAIO TETRA Project DEO

12:00: Welcoming reception

13:00: The state of wireless power transfer

- *Introduction*
- *Wireless power transfer in 2026: Technologies, trends and market outlook*
- *Industrial case study – Cochlear
Safe and comfortable charging of medical implant devices*
- *Industrial case study – Forcebit
Challenges for wireless charging on rotating axes*
- *Inductive vs. capacitive wireless power transfer: A performance benchmark*
- *Technology demonstrators: from lab to application*

15:00: Coffee break & Demonstrator exhibition

15:30: Project results and lessons learned

- *Key results of the VLAIO TETRA project DEO*
- *Wireless power transfer in higher education: Training the next generation*
- *Emerging research directions in wireless power transfer*
- *Lessons learned: What works, what doesn't, and what's next*

17:00: Network reception

18:00: End



10 Sept. 2026, Antwerp