Unplugged

fka

Interoperable Inductive Charging for Electric Vehicles

IEVC 2014, Florence

SEVENTH FRAMEWORK PROGRAMME

Consortium

Advisory Board

BOMBARDIER

APTS

TOYOTA

AVERE

TNO innovation for life

POLIS

RENAULT

COMUNE DI FIRENZE

Ajuntament de Barcelona

Charging Scenarios

› STATIC charging

- The vehicle is not moving for a medium/long period of time (>5 minutes)
- The driver does not intend to use the vehicle soon
- Scenarios: Parking at home / the office / the supermarket etc.

› STATIONARY charging

- The vehicle is not moving for a short period of time (<5 minutes)
- The driver is likely still on the vehicle, on the way to his/her target location or intends to use the vehicle again very soon
- Scenarios: Traffic light, Bus stop, Taxi stand, Delivery truck

› DYNAMIC charging

- The vehicle is moving
- The driver is on the way to his/her target location
- Scenarios: Highway, Strategically chosen roads

Interoperability is the key

Test sites

Aachen

(Research only)

- Positioning
- Communication
- EMI shielding
- Low power transfer (3.7 kW)
- Test vehicle: Fiat 500

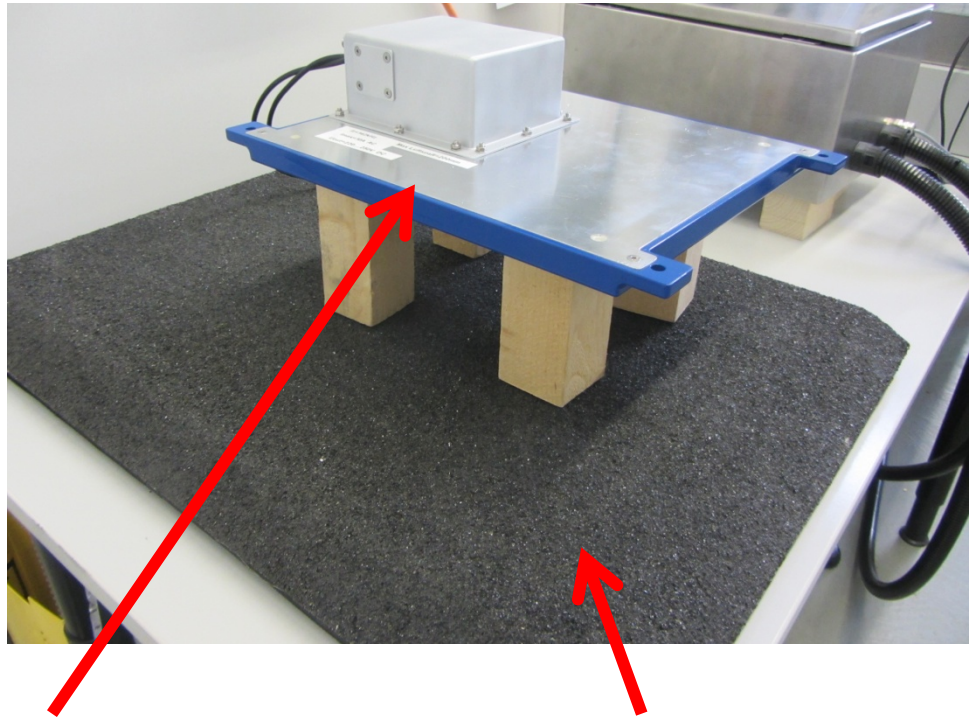
Different focuses

Zaragoza

(Research & Demonstration)

- Interoperability
- Billing
- Integration into public environment
- High power transfer (50 kW)
- Test vehicle: Iveco Daily (Distribution truck)

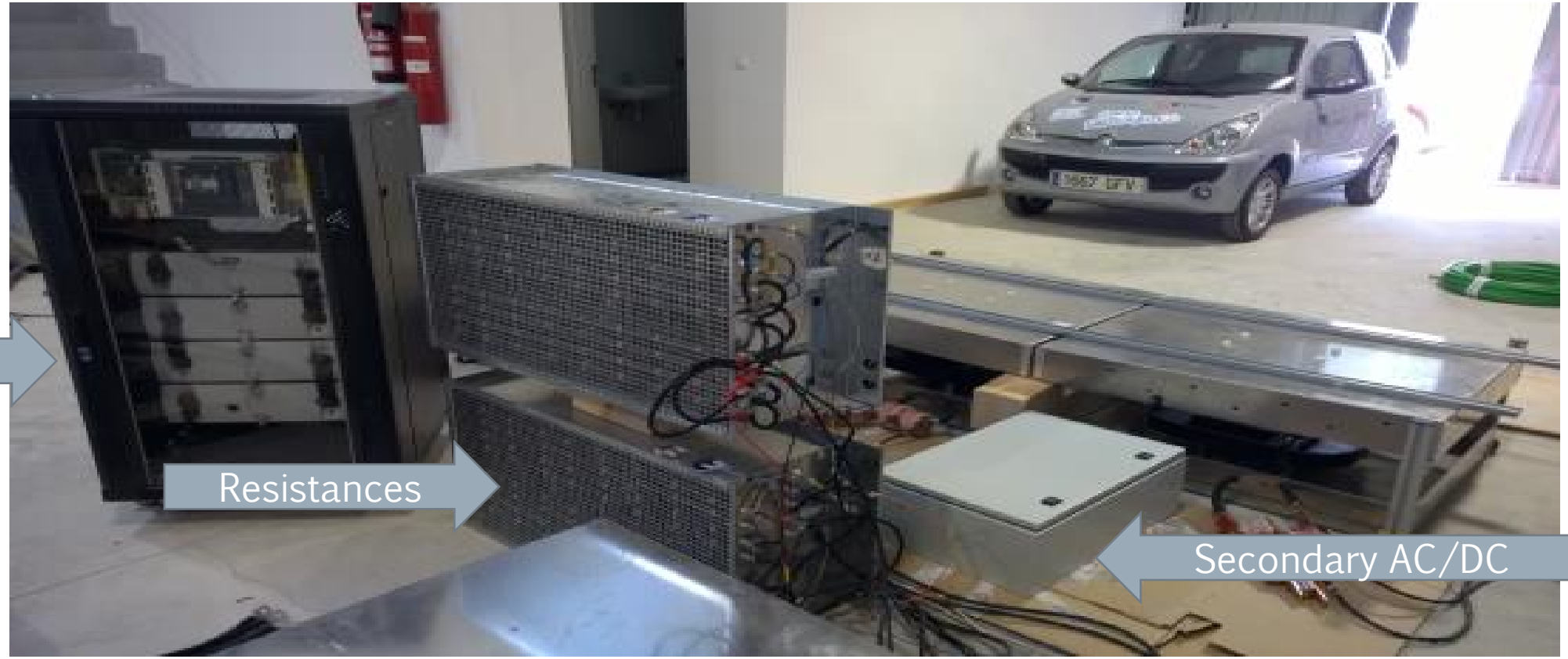
Passenger Car System @ 3.7kW



Vehicle Pickup

Primary coil

Commercial vehicle system @ 50kW



Communication

- If power transfer is wireless, communication must be wireless, too.
- An existing wireless standard should be used.
- The wireless charging communication should follow the IEC15118 standard as much as possible.

COMMITTEE DRAFT ISO/CD 15118-4

2014-03-05 | ISO/TC 22/SC 3 | N 2508

WARNING: This document is not an International Standard. It is distributed for review and comment. It is subject to change without notice and may not be referred to as an International Standard.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

ISO/TC 22 / SC 3

Title

Electric and electronic equipment

Secretariat DIN

Circulated to P- and O-members, and to technical committees and organizations in liaison for:

☐ discussion at (venue/date of meeting)

☐ comments by (date)

☒ approval for registration as a DIS in accordance with 2.5.6 of part 1 of the ISO/IEC Directives, by

2014-06-06 (date)

(P-members vote only: ballot form attached)

P-members of the technical committee or subcommittee concerned have an obligation to vote.

English title

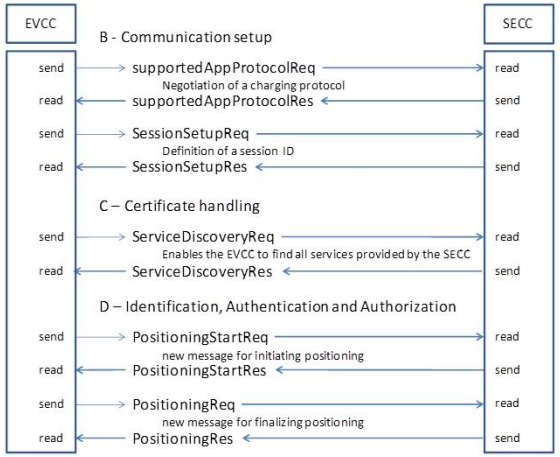
Road vehicles - Vehicle to grid communication interface - Part 4: Network and application protocol conformance test

French title

Véhicules routiers - Interface de communication entre véhicule et réseau électrique - Partie 4: Essai de conformité du protocole d'application et du réseau

Reference language version: ☒ English ☐ French ☐ Russian

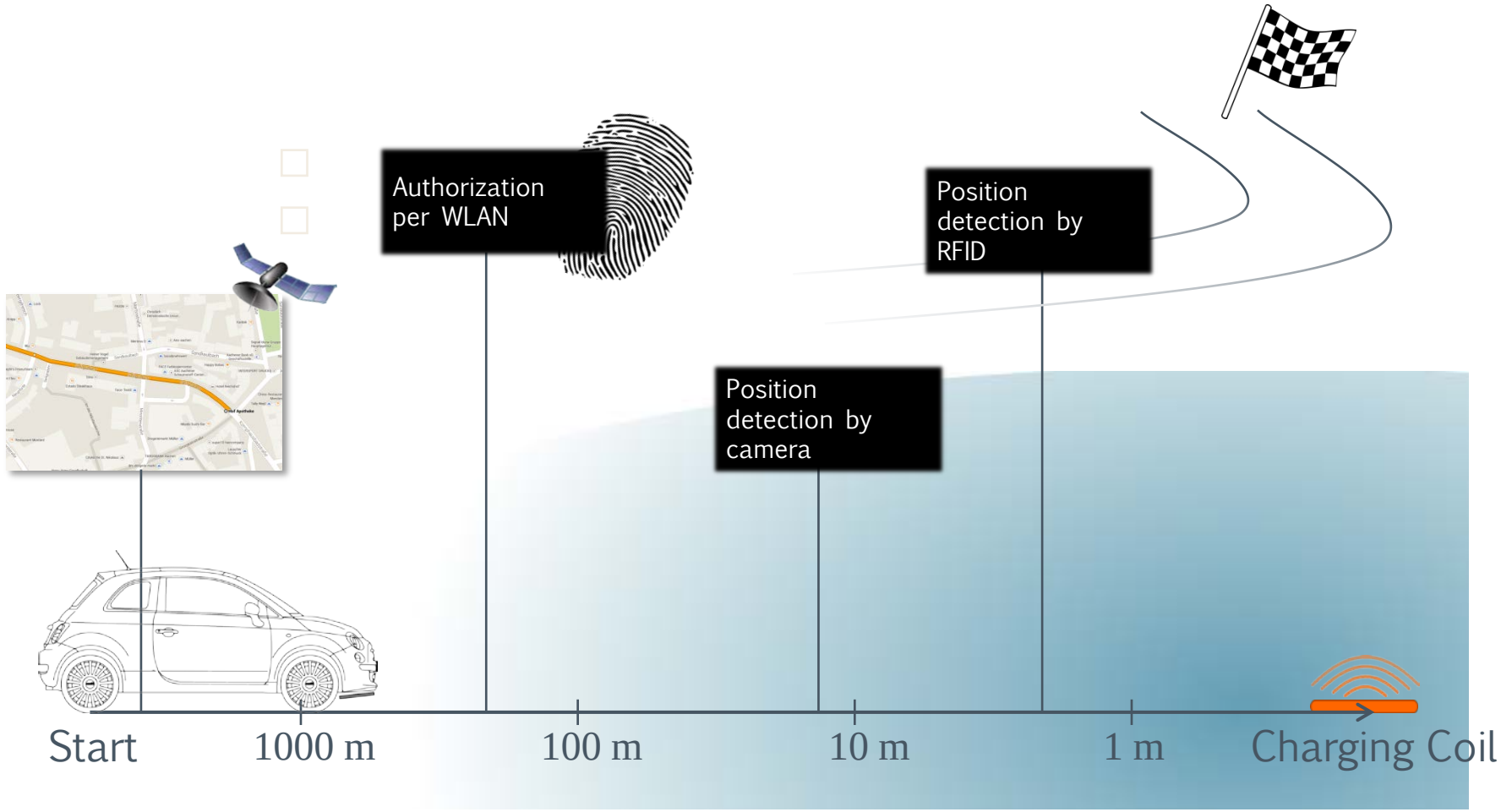
Introductory note



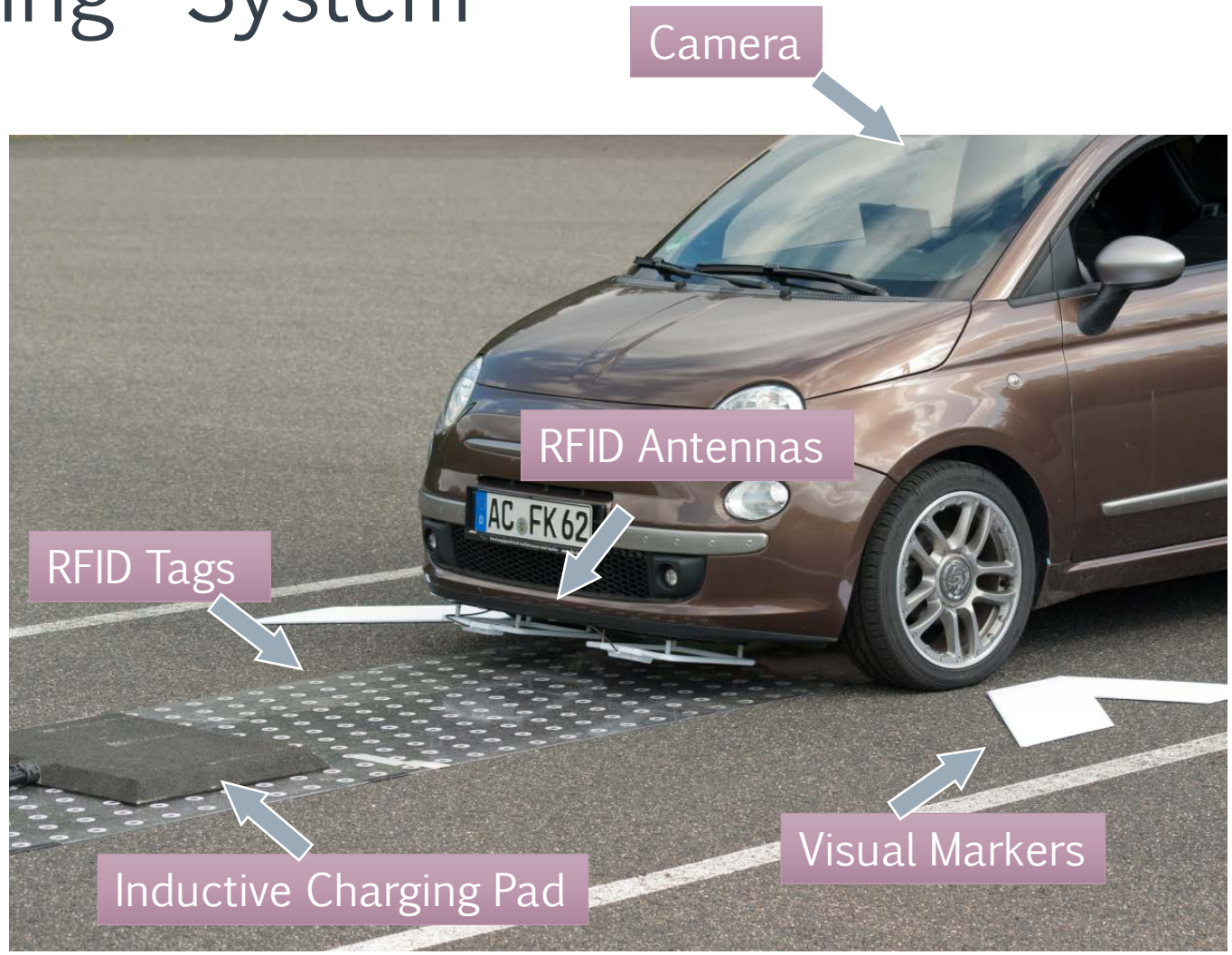
Unplugged

SEVENTH FRAMEWORK PROGRAMME

Communication/Positioning



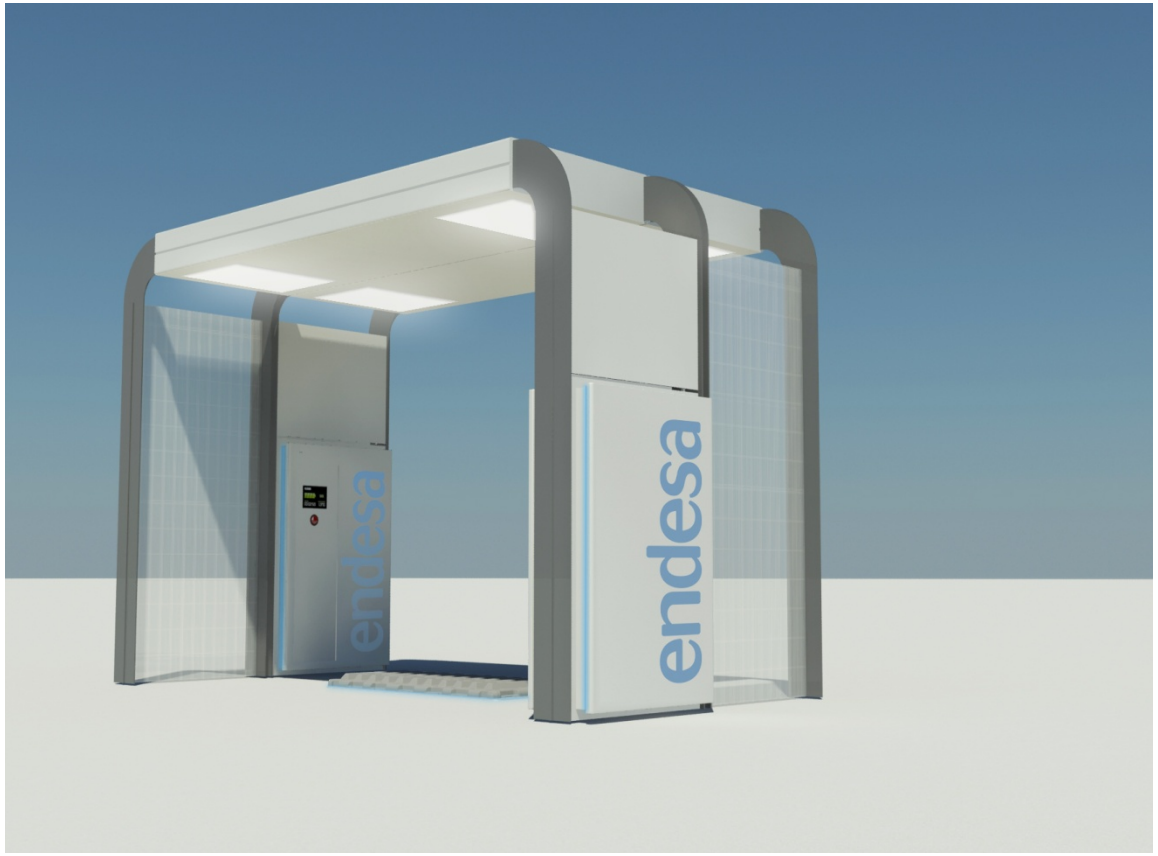
Positioning System



Static and dynamic en-route inductive charging study

- Technical feasibility of en-route charging
- Power grid power request and grid management strategies
- Economic feasibility of en-route charging
- Social impact of en-route charging technical
- Dynamic charging feasibility

Join us for the



Unplugged

Final Demo
in Zaragoza
the 25th and 26th
of March 2015

unplugged-project.eu