AVERE-EUROPE WIRELESS POWER TRANSFER WEBINAR

JULY 1ST 2020

PRESENTATION AGENDA

1. **Standardization**
   a. Role of standardization
   b. Which standards deal with wireless power transfer
   c. What can be found in these standards
   d. Europe and wireless power transfer
   e. IEC 63243: the new dynamic wireless power transfer standardization project

2. **New H2020 research project: INCIT-EV**
   a. Introduction
   b. Consortium
   c. Project overview
   d. Work package structure
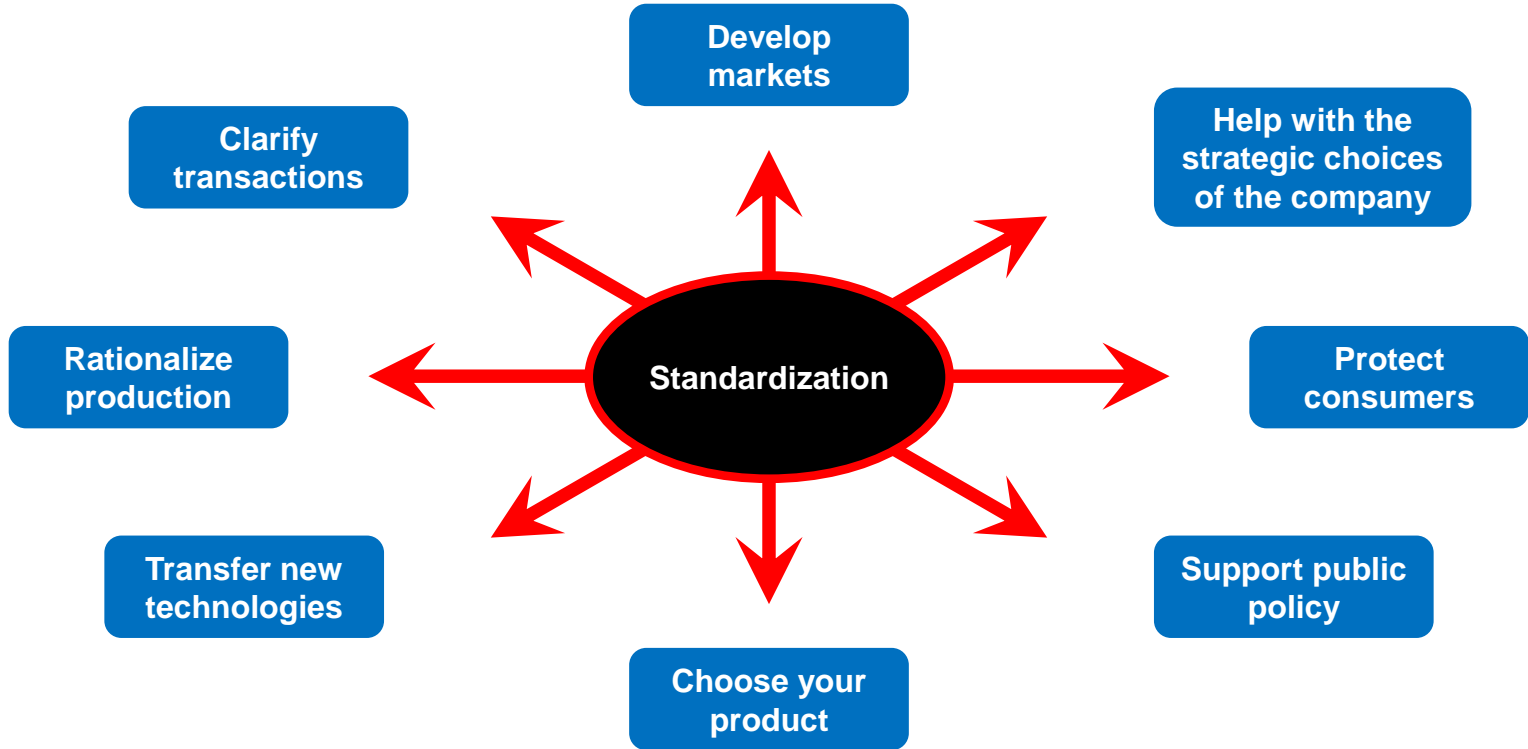   e. Methodology

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A – ROLE OF STANDARDIZATION

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B – WHICH STANDARDS DEAL WITH WIRELESS POWER TRANSFER

1 WPT

- **Complete system: SAE J 2954**
  GB/T 38775 series
- **Infrastructure : IEC 61980 series**
- **EV : ISO 19363**

Harmonized standards since 2019

2 Communication
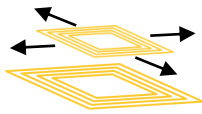
- **ISO 15118**
- **SAE J 2847-6**
- **GB/T 38775.2**
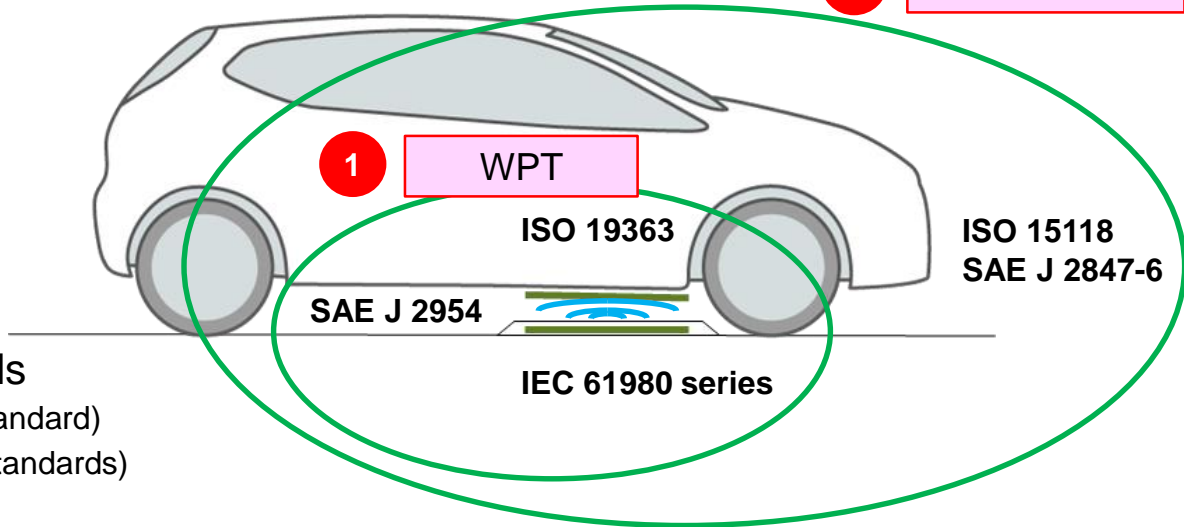
From convergence documents
to real industrial standards
SAE J 2954: August 2020 (TIR → Standard)
IEC 61980 : May/Sept 2021 (TS → Standards)

2 Communication

1 WPT

ISO 19363

ISO 15118
SAE J 2847-6

SAE J 2954

IEC 61980 series

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C – WHAT CAN BE FOUND IN THESE STANDARDS

Power transfer

Power / Efficiency

Coil distance

Alignment tolerance
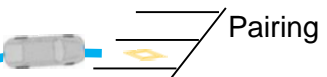
Interoperability requirements and test procedures

WPT Power Class		
WPT1	WPT2	WPT3
3,7 kVA	7,7 kVA	11,1 kVA

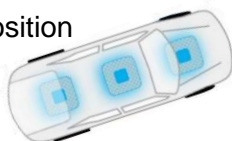| Ground Clearance	
Z1	100-150 mm
Z2	140-210 mm
Z3	170-250 mm

Alignment

Fine positioning

Pairing

Alignment check

Alignment requirements and test procedures

Vehicle integration

Coil position

Coil size

Coil size and position requirements

Safety

Foreign object detection

Live object protection / EMF

Electrical shock

Safety requirements and test procedures

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D – EUROPE AND WIRELESS POWER TRANSFER

- **M/533 Commission implementing decision on standardization request to CEN/CENELEC/ETSI**

APPENDIX I
REQUESTED WORK PROGRAMME

Reference information	Publication[28]
I European standards (ENs) on electricity supply	
1. A European standard containing technical specifications with a single solution for wireless recharging for passenger cars and light duty vehicles interoperable with the specification contained in IEC/TS 61980-3 Ed. 1.0 or its later edition	31/12/2019

- **On-going activities regarding emission test levels to respect in Europe**

  - Technical meeting scheduled with ECC SE 24 on the 7th of July at 2pm in order to review test procedures and measured data.

  - Meeting open to everybody, registration required on CEPT website **https://www.cept.org/ecc/meeting-calendar/**

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E – IEC 63243: THE NEW DWPT STANDARDIZATION PROJECT

- **A new project regarding dynamic wireless power transfer**
  - Convener: Professor Uooyeol Yoon (KAIST)
  - Kick-off meeting in June 2019
  - Next meeting will be hold by Israel (Electreon), October 13~15th, 2020

- **Standard with the same technical scope as for static: interoperability and safety**

But

- **Proposition to create interoperability Testing Symposium in the same way as for ISO 15118**

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A – INTRODUCTION

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875683.

8 countries : Estonia, France, Germany, Italy, The Netherlands, Slovenia, Spain, Turkey.

33 Members:

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B – CONSORTIUM

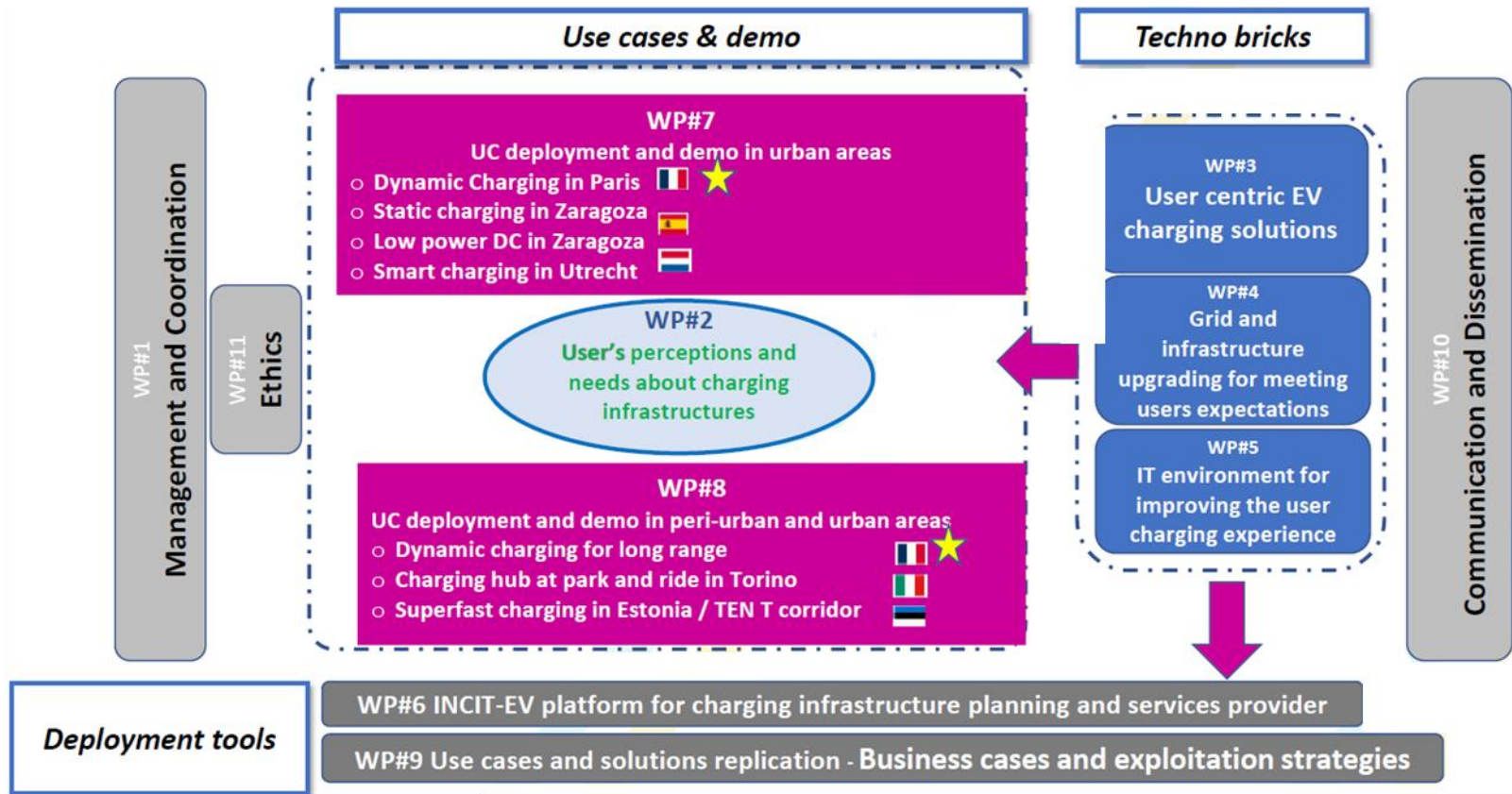| Participant No.	Participant legal name	Short name	Country	Organisation type
1 (Coord)	RENAULT SAS	RSA	FR	LC- OEM
2	Commune de PARIS	CDP	FR	Public Authority
3	Fondation Partenariale MOV'EOTEC	VEDE	FR	RTO
4	Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux	IFSTTAR	FR	RTO
5	PSA ID	PSA	FR	LC- OEM
6	COLAS SA (LTP:Colas Ile-de-France/Normandie)	COLAS	FR	LC- road infrastructures construction and management
7	EUROVIA Management	EUROVIA	FR	LC- road infrastructures construction and management
8	ENEDIS	ENEDIS	FR	LC - DSO
9	Ayuntamiento de Zaragoza	AYZ	ES	Public Authority
10	Fundación CIRCE Centro de Investigación de Recursos y Consumos Energéticos	CIRCE	ES	RTO
11	Red Eléctrica de España S.A.U.	REE	ES	LC - TSO
12	IDNEO Technologies SAU	IDNEO	ES	SME- Charging system provider
13	Ingeniería y Técnica del Transporte TRIA SA	TRIA	ES	SME- Charging system provider
14	Comune di TORINO (LTPs: GTT, 5T)	COT	IT	Public Authority
15	Fondazione LINKS - Leading Innovation & Knowledge for Society	LINKS	IT	RTO
16	Politecnico di Torino	POLITO	IT	RTO
17	IREN SPA	IREN	IT	LC - DSO
18	PRIMA ELECTRO SPA	PRIMA	IT	LC- Charging system provider
19	FPT INDUSTRIAL SPA (LTP: IVECO)	FPT	IT	LC- OEM/ Charging system provider
20	Province Noord-Holland	MRA-E	NL	Public Authority
21	GREENFLUX assets B.V.	GFX	NL	SME- IT provider
22	We Drive Solar	WDS	NL	SME- Car-sharing services
23	Pitpoint EV B.V.	PitP	NL	LC- Tech provider
24	Eesti Energia Aktsiaselts	EESTI	EE	LC - DSO
25	EV charged B.V.	EVBox	NL	LC- Charging system provider
26	ELES d.o.o., Sistemski operater prenosnega elektroenegetskega omrežja	ELES	SI	LC - TSO
27	Univerza V Ljubljani	UL	SI	University - RTO
28	ATOS SPAIN SA (LTP: Atos IT)	ATOS	ES	LC- IT provider
29	BIT & BRAIN technologies SL	Bitbrain	ES	SME- User expert
30	QI ENERGY ASSESMENT SL	QiE	ES	SME- Exploitation expert
31	AVERE FRANCE	AVERE	FR	EV Users Association
32	Bursa Buyuksehir Belediyesi	BBB	TR	Public Authority
33	Stadtwerke Norderney GMBH	SWN	DE	LC - DSO

Table 22 INCIT-EV Consortium and role

C – PROJECT OVERVIEW

INCIT-EV aims to demonstrate, at five demonstration environments including TENT-T corridors, an innovative set of charging infrastructures, technologies and its associated business models, ready to improve the EV users experience by considering both their conscious and unconscious preferences in their design, with the ultimate goal of fostering the EV market share in the EU.
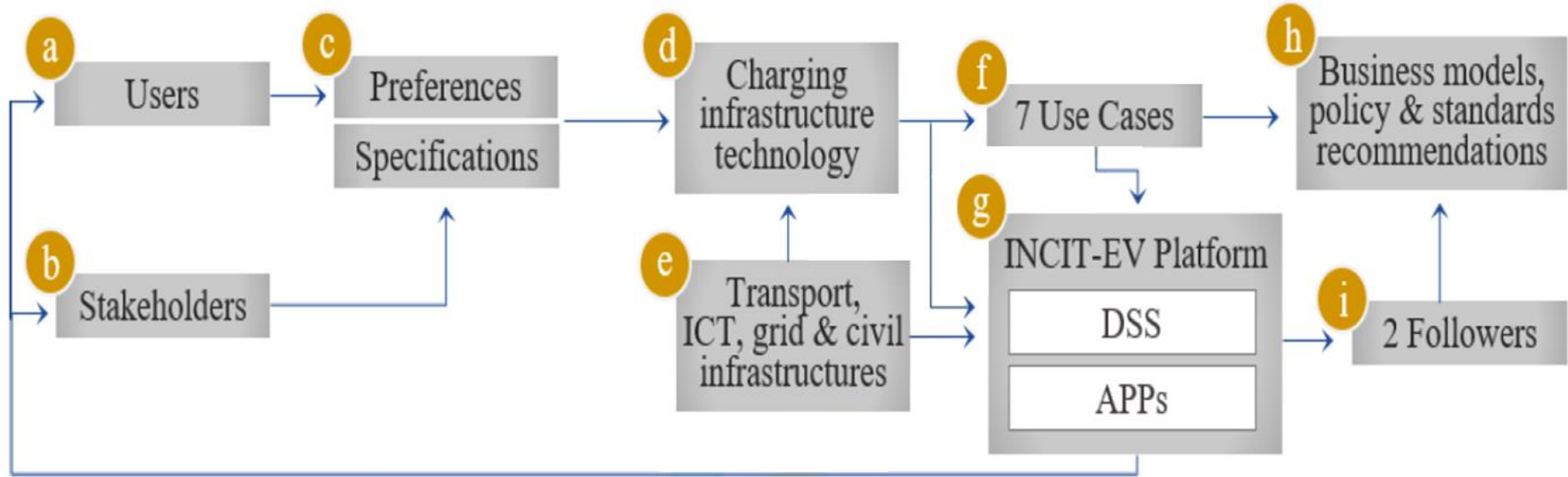
SEVEN USES CASES

UC1 Smart and bi-directional charging optimized at different aggregation levels, at Amsterdam & Utrecht (Netherlands).

UC2 Dynamic wireless charging lane in urban area, at Paris (France).

UC3 Dynamic wireless charging for long distance – e-road prototype, at Satory (Versailles, France).

UC4 Charging hub in a park-and-ride facility, at Turin periphery (Italy).

UC5 Superfast charging systems for European corridors, at Tallinn periphery (Estonia).

UC6 Low power DC bidirectional charging infrastructure for EV, including two-wheelers, at Saragossa (Spain).

UC7 Opportunity wireless charging for taxi queue lanes in airports/central stations, at Saragossa (Spain).

TWO FOLLOWER LOCATIONS
Bursa (Turkey)
Norderney (Germany)

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D – WORK PACKAGE STRUCTURE

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E – INCIT-EV METHODOLOGY

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THANK YOU