

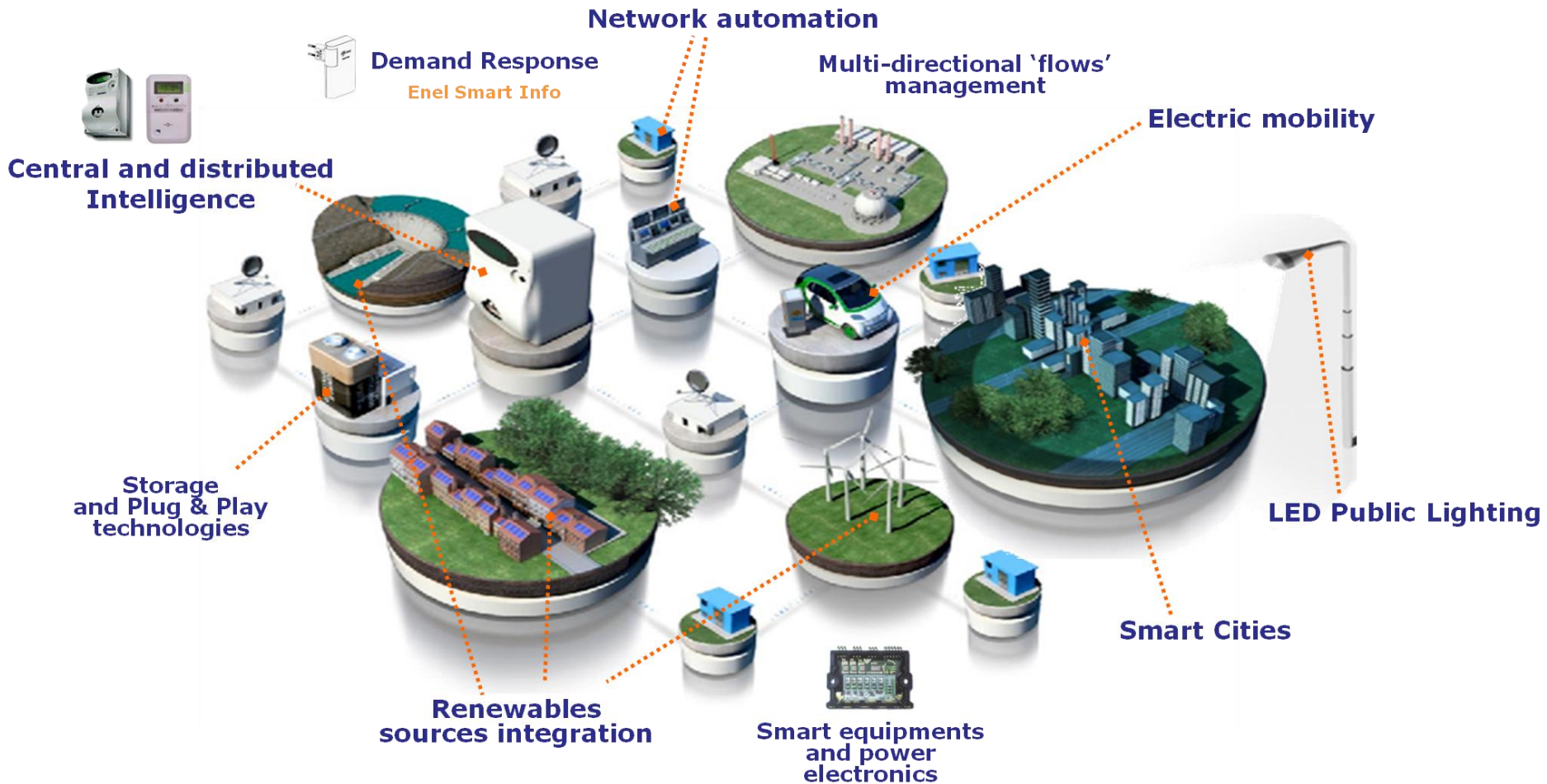
# ENEL: Electric Mobility Solution

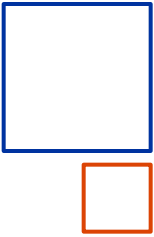
July, 2015



# Enel Electric Mobility Solution

## Enel Distribuzione Smart Grids technology





# Enel Electric Mobility Solution

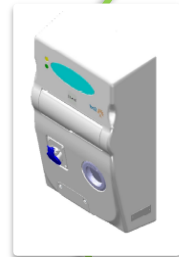
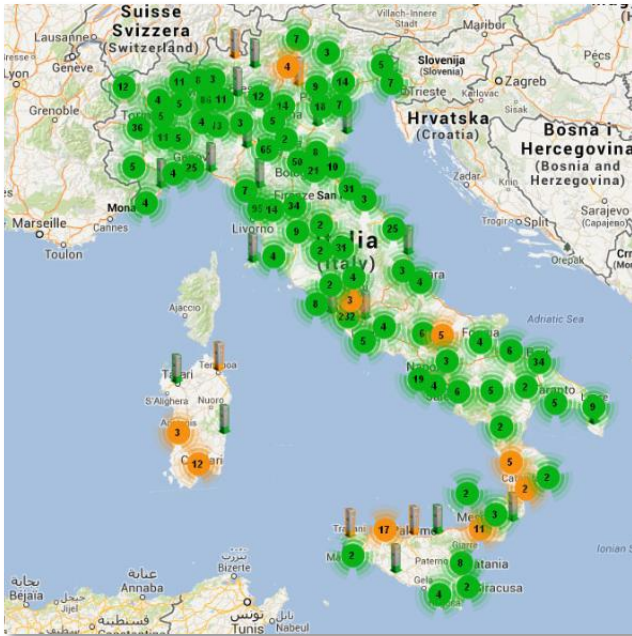
## E-mobility engagement overview



An extensive deployment of charging points by Enel to support electric mobility rollout in Italy

Fast Charge for highways **43 kW AC**

Geolocatization of public charging infrastructure



Slow charge for private  
**3.3 kW AC**



Fast Charge for cities  
**22 kW AC**



Multistandard Charge  
**43 kW AC, 50 kW DC, 22 kW AC**

More than **2,000 EV** stations deployed  
**1000+** customers in Italy

# Enel Electric Mobility Solution

## Flexible IT asset operation and management



A real-time operation and management of EV charging infrastructure to provide **B2B** and **B2C** services

**ECAR - Operation Centre**

Welcome A242348

Home

Asset configuration | Contract operations | Recharges | Tickets | Dashboard | Administration

World > Italy

Regions	Avail.	Rech.	Main.	Tot.
Veneto	16	1	0	17
Valle d'Aosta	4	0	0	4
Umbria	15	0	0	15
Tuscany	116	16	0	132
Sicily	11	0	0	11
Sardinia	5	0	0	5
Puglia	9	0	0	9
Piedmont	7	1	0	8
Molise	5	1	0	6
<b>Tot.</b>	<b>583</b>	<b>36</b>	<b>0</b>	<b>619</b>
<b>Tot.World</b>	<b>733</b>	<b>42</b>	<b>0</b>	<b>775</b>

**Dashboard**

- 44.108 recharges
- 174.895 kWh
- 213.897 Kg saved

**Ongoing recharge sessions**

Results 1 - 6 of 35. Tot pag: 6

ID	S/N	address	City	start	elapsed	kWh	plug	use	RFID	rate
43222	N.11EH21M	Via Giovanni Paol	AGNONE	12/11/12 08:46:21	175 h, 18', 37"	0,000	-	Home	1000020	-
44072	N.11EH21M	Via Cannizzaro	PISA	16/11/12 14:27:11	73 h, 37', 51"	4,131	SCAME	Home	1000013	-
44237	N.11CH21M	Via Crescenzo 9	ROMA	19/11/12 09:28:41	6 h, 36', 14"	19,561	Mennekes	Home	1000029	-
44256	N.11CP21T	Via Olindo Guerrin	ROMA	19/11/12 11:01:01	5 h, 4', 1"	14,924	Mennekes	Home	1954534	-
44274	N.122422M	Via Nuova 16	BAENZA	19/11/12 11:16:21	4 h, 18', 38"	0,265	SCAME	Home	1116707	-

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# Enel Electric Mobility Solution

## Multi-tenancy for asset management, CRM and B2B



Enabling electric mobility throughout Europe

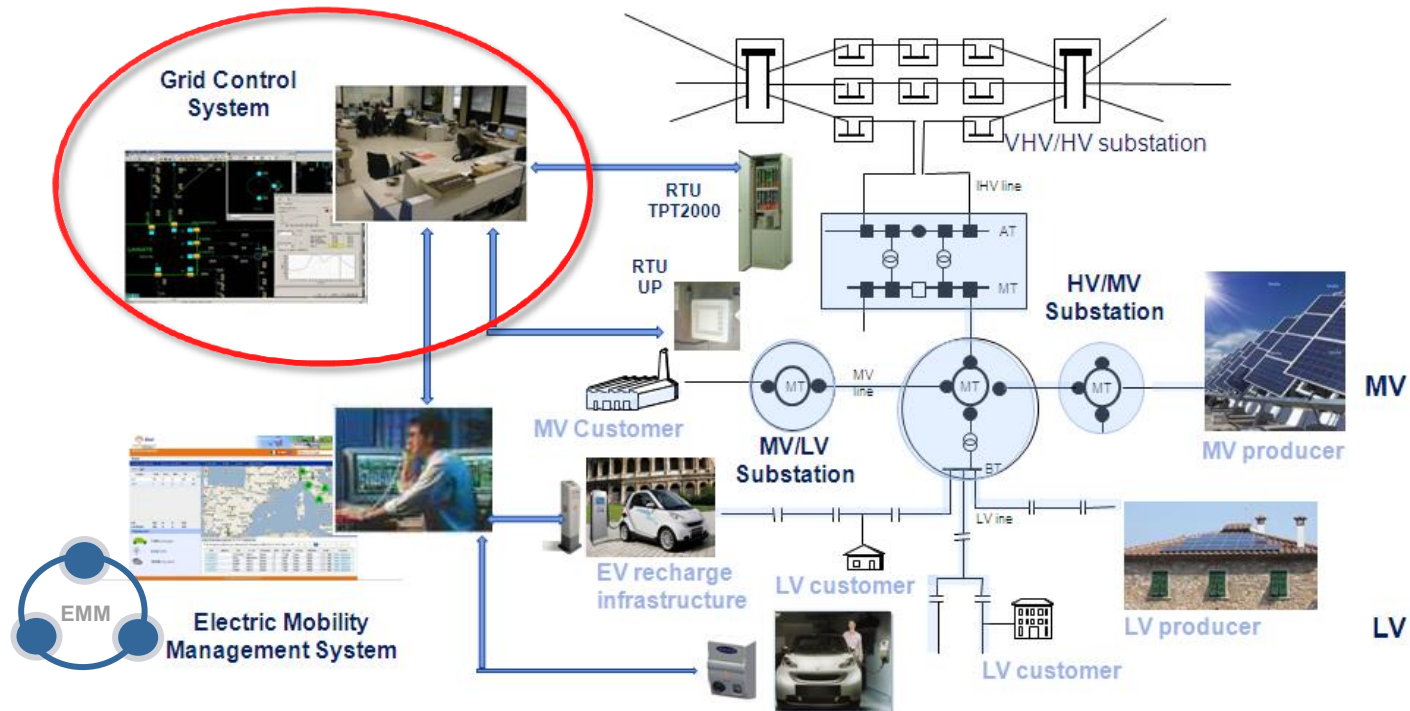


Our Platform is serving customers in several countries



# Enel Electric Mobility Solution

## The approach for Smart Grids integration of EVs



The charging infrastructure is designed on purpose to be fully integrated in the **electricity distribution grid**, controlling that the charging profiles are compliant with DSO constraints and using EVs as dynamic loads to implement, improve and secure a GHG-free energy value chain.

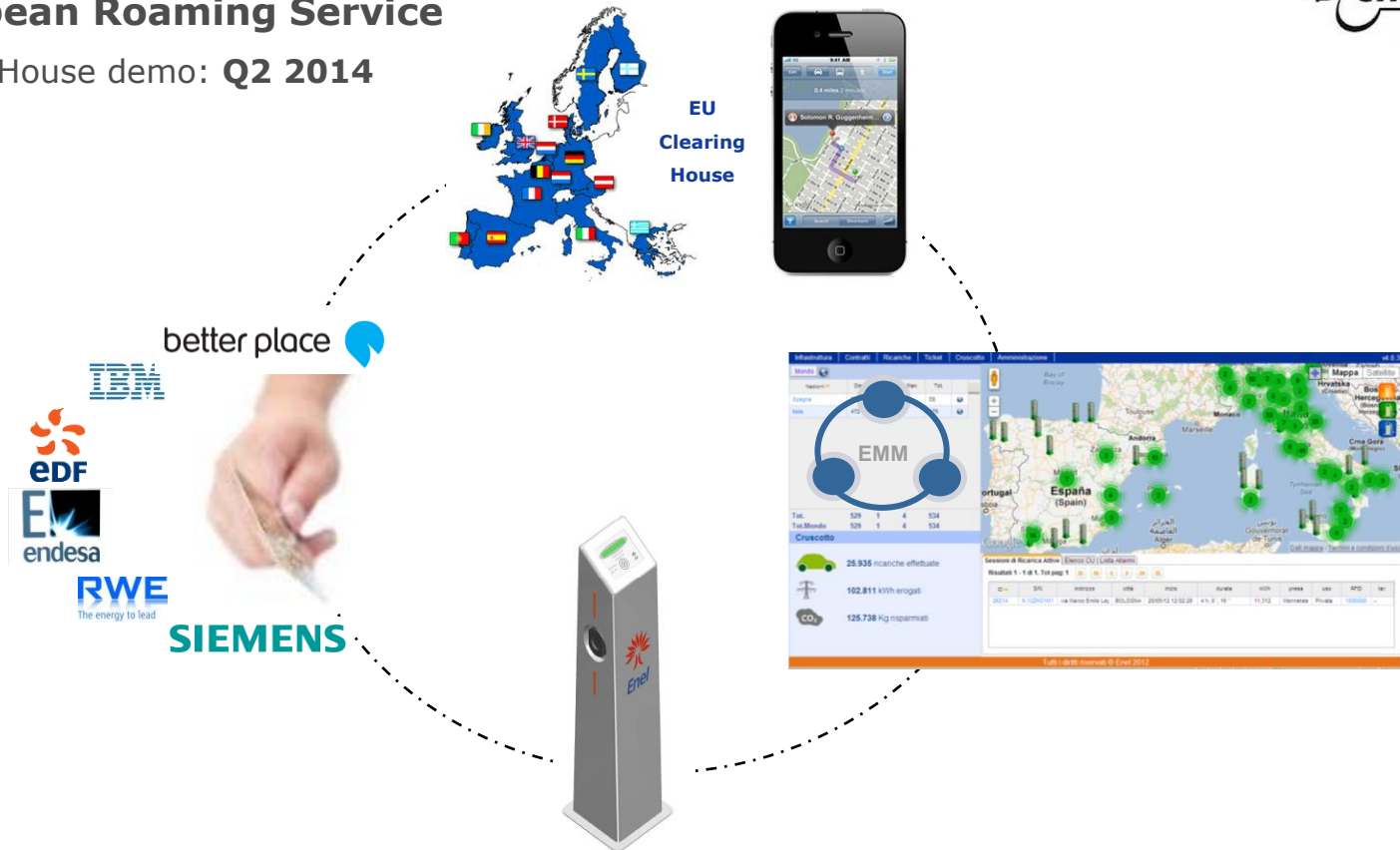
# Enel Electric Mobility Solution

## EU wide interoperability



### Pan-European Roaming Service

Clearing House demo: Q2 2014



Enel was **Demo Regions Board Leader** and managed the business scenarios demonstration, including **roaming**.

Green eMotion proposed the definition of Customer Card and Contract standards, too.

# Enel Electric Mobility Solution

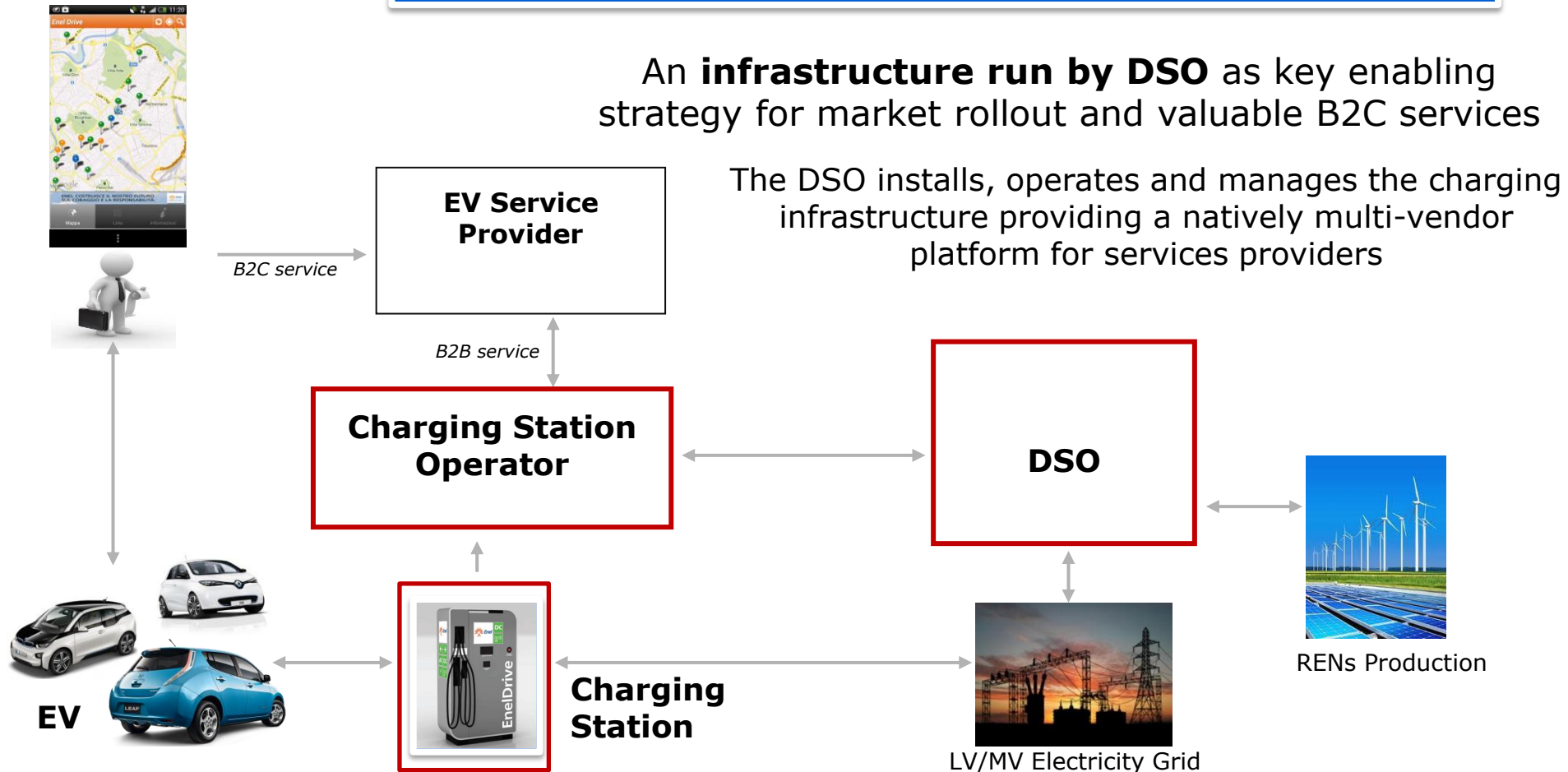
## Regulated model of EV stations deployment



Possible target: **75,000 public stations** by 2020 in Italy

An **infrastructure run by DSO** as key enabling strategy for market rollout and valuable B2C services

The DSO installs, operates and manages the charging infrastructure providing a natively multi-vendor platform for services providers





# Enel Electric Mobility Solution

## Regulated model of deployment: preconditions



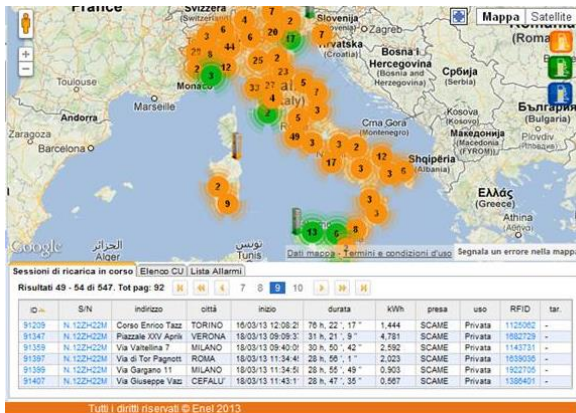
**85% of distribution market in Italy**  
(most of the country except for Rome, Milan and Turin)

Enel Distribuzione network



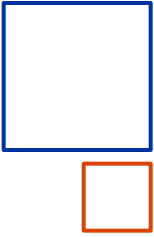
**34 Mln of smart meters deployed**  
Single country in Europe with complete rollout of AMI

**2,000 public/private EVSEs deployed**  
Real-time operated by a dedicated e-mobility platform



**Pioneering the EV-EVSE communication**  
Jointly developing advanced communication with Daimler, Renault





**Thank you for your attention!**