

# Paving the way into an electromobility future

Green eMotion

FP7 call TRANSPORT – 2010 TREN -1

43 partners

Project Start: March 2011

## IEVC 2014 - Florence

Speaker: Giovanni COPPOLA - Enel



24 Mio € funded by:



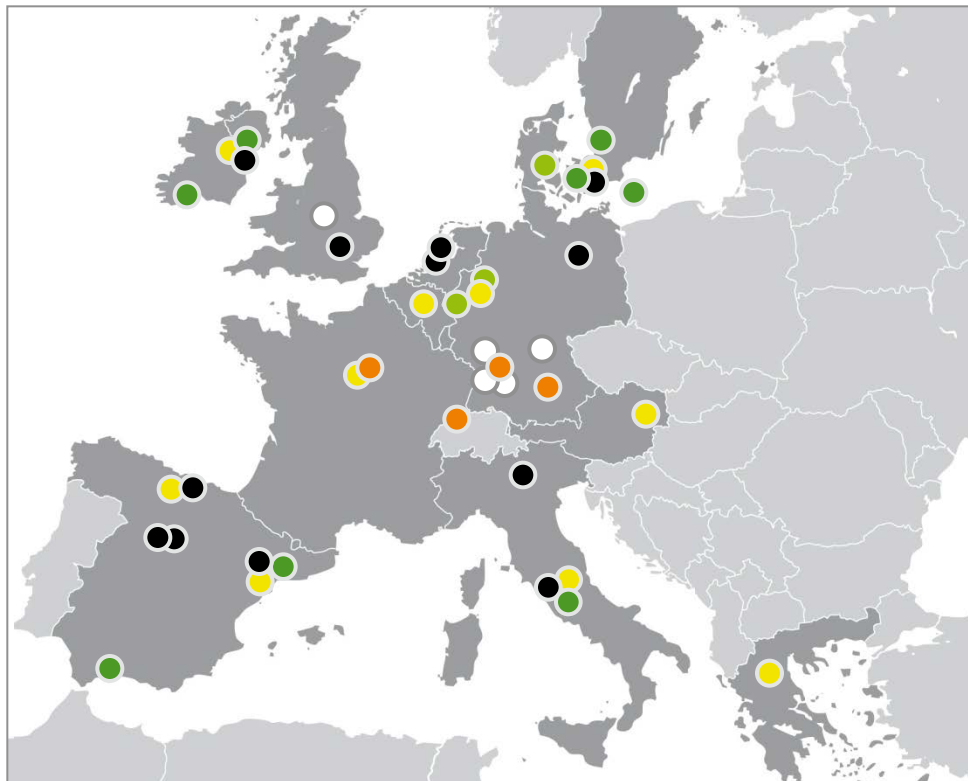
Will I be able to charge my eCar anywhere in Europe?



takes care that you will be e-mobile throughout Europe

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# Green eMotion – a 42 Mio € project with 42 partners



## ○ Industries:

Alstom(UK), Bosch(D), IBM(D), SAP(D),  
**Siemens** (D, Project Coordinator)

## ● Utilities:

Danish Energy Association(DK), EDF(F),  
Endesa(ES), Enel(I), ESB(IR), Eurelectric(B),  
Iberdrola(ES), RWE(D), PPC(GR),  
Verbund(AU)

## ● Electric Vehicle Manufacturers:

BMW(D), Daimler(D), Nissan(H), Renault(F)

## ● Municipalities:

Barcelona(ES), Bornholm(DK),  
Copenhagen(DK), Cork(IR), Dublin(IR),  
Malaga(ES), Malmö(S), Rome(I)

## ● Research Institutions and Universities:

Cartif(ES), Cidaut(ES), CTL(I), DLR(D),  
DTU(DK), ECN(NL), Imperial(UK), IREC(ES),  
RSE(I), TCD(IR), Tecnalia(ES), TNO(NL)

## ● EV Technology Institutions:

DTI (DK), FKA(D), TÜV Nord(D)

**FP7 call TRANSPORT – 2010 TREN -1**

**Project Start: March 2011**

**Duration: 4 years**

**Funding: 24 Mio €**



## Cities / Municipalities

- Reduce parked cars in the city due to limited parking space
- Reduction of congestion in traffic infrastructure
- Reduction of air pollution and noise
- Fulfillment of residents mobility demands

## Strategies

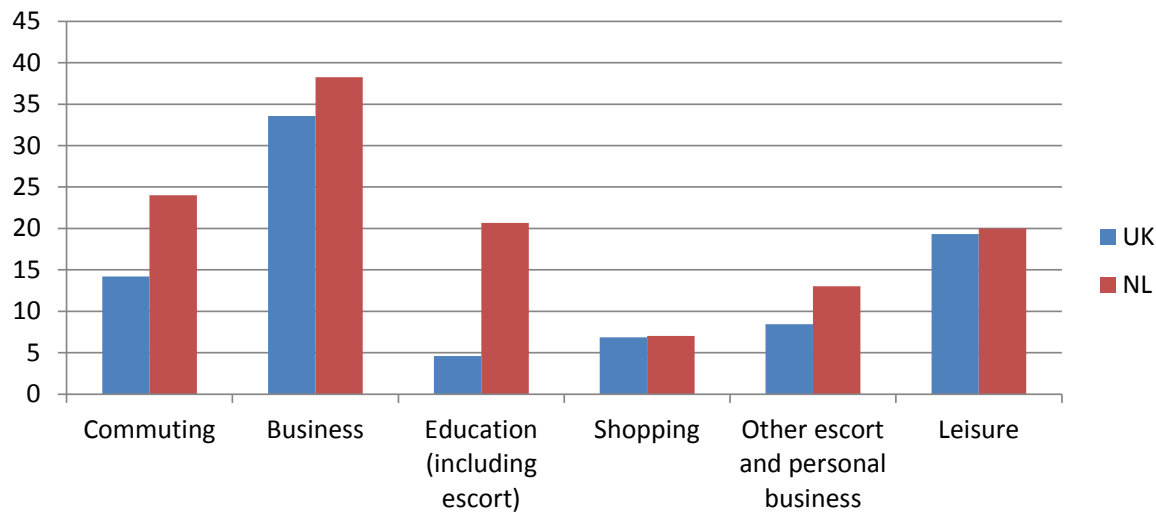
- Motivate people to use public transport
- If people need to use a car it should be electric
- Implement eCar sharing in cities as transport option

**Which charging infrastructure do we need to support the strategies?**

# Where will people charge their EV?

- EV driver will charge at home when possible
- Public charging is required
  - for drivers without home charging option
  - in cases of long distances

**Average trip distance [km], UK all transport modes, NL only car (drivers)**



Sources: National Transport Survey UK (NTS), Statline.nl Dutch statistical office



# Charge event characterization



17:59

18:00

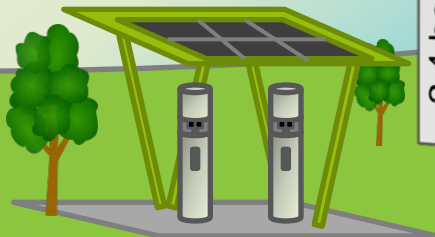
5:59

Start charging  
73.32%

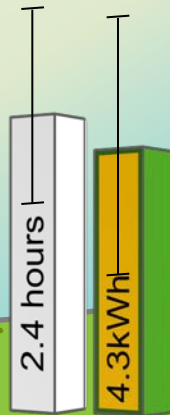
processes percentage  
26.68%

Average charge consumption (IC95%( $\mu$ ))

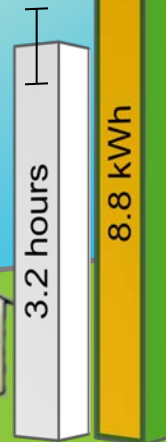
Average charge duration (IC95%( $\mu$ ))



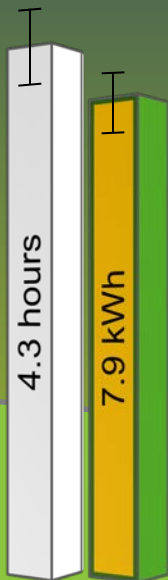
**Public access**  
60.15% installed  
26.12% uses



**Household**  
10.05% installed  
34.37% uses



**Office parking**  
25.27% installed  
39.51% uses



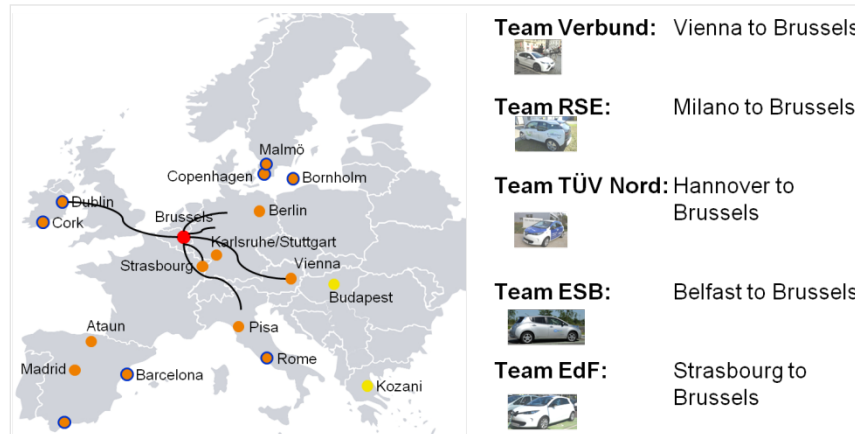
75% EV run up to 51km between charges



Average EV SOC  
when start charging  
from 63% to 65% IC95%( $\mu$ )

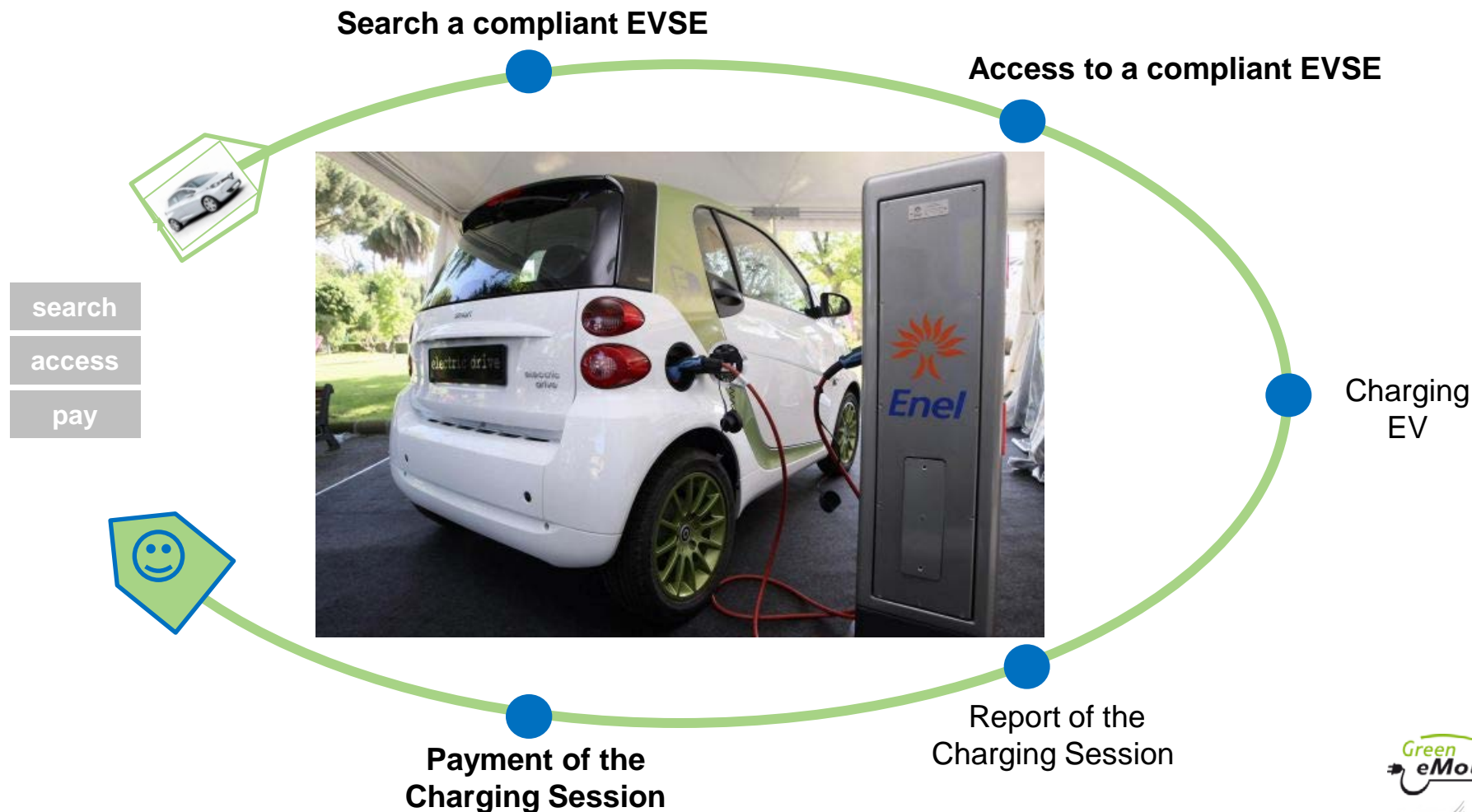
# Interoperability

## The Rally to Brussels on Sept. 18th, 2014



# Interoperability

## Looking for a seamless experience





# Interoperability

## IT interfaces within electric mobility framework



A **seamless** customer experience is built on **IT system harmonized** interfaces

### EV Customer



search

access

pay

B2C service

EV Service  
Provider

B2B service

EVSE Operator

DSO

RENs Production

LV/MV Electricity Grid

EVSE

EV



# Interoperability

## IT interfaces within electric mobility framework



### Alternative Fuels directive



Type 2 AC



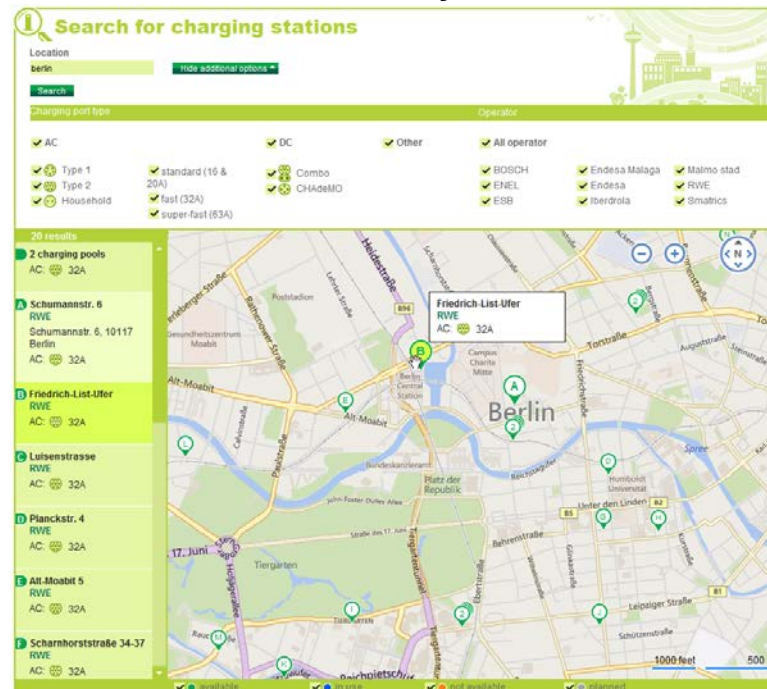
Combo 2



DC CHAdeMO



### POI e-mobility interface



select – your location  
select – your connector

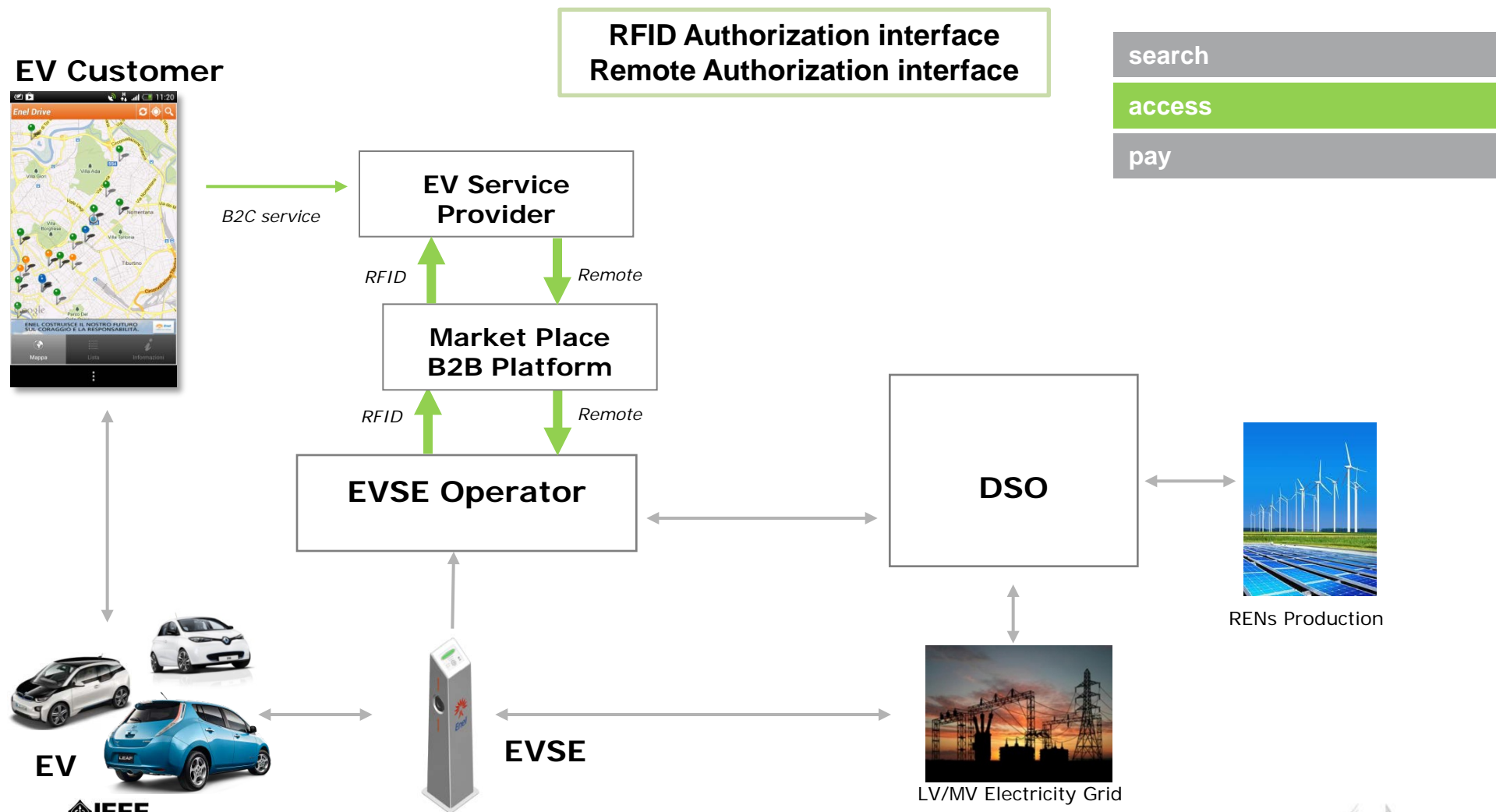
search

access

pay

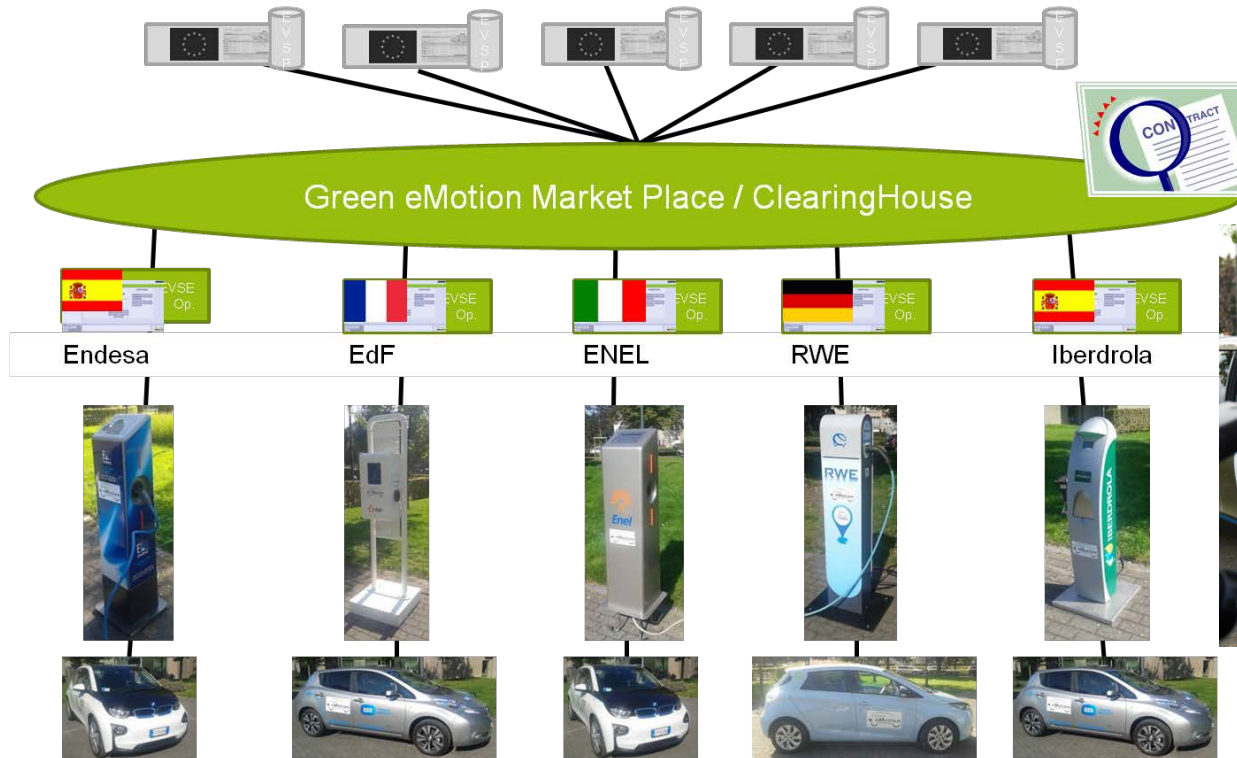
# Interoperability

## IT interfaces within electric mobility framework



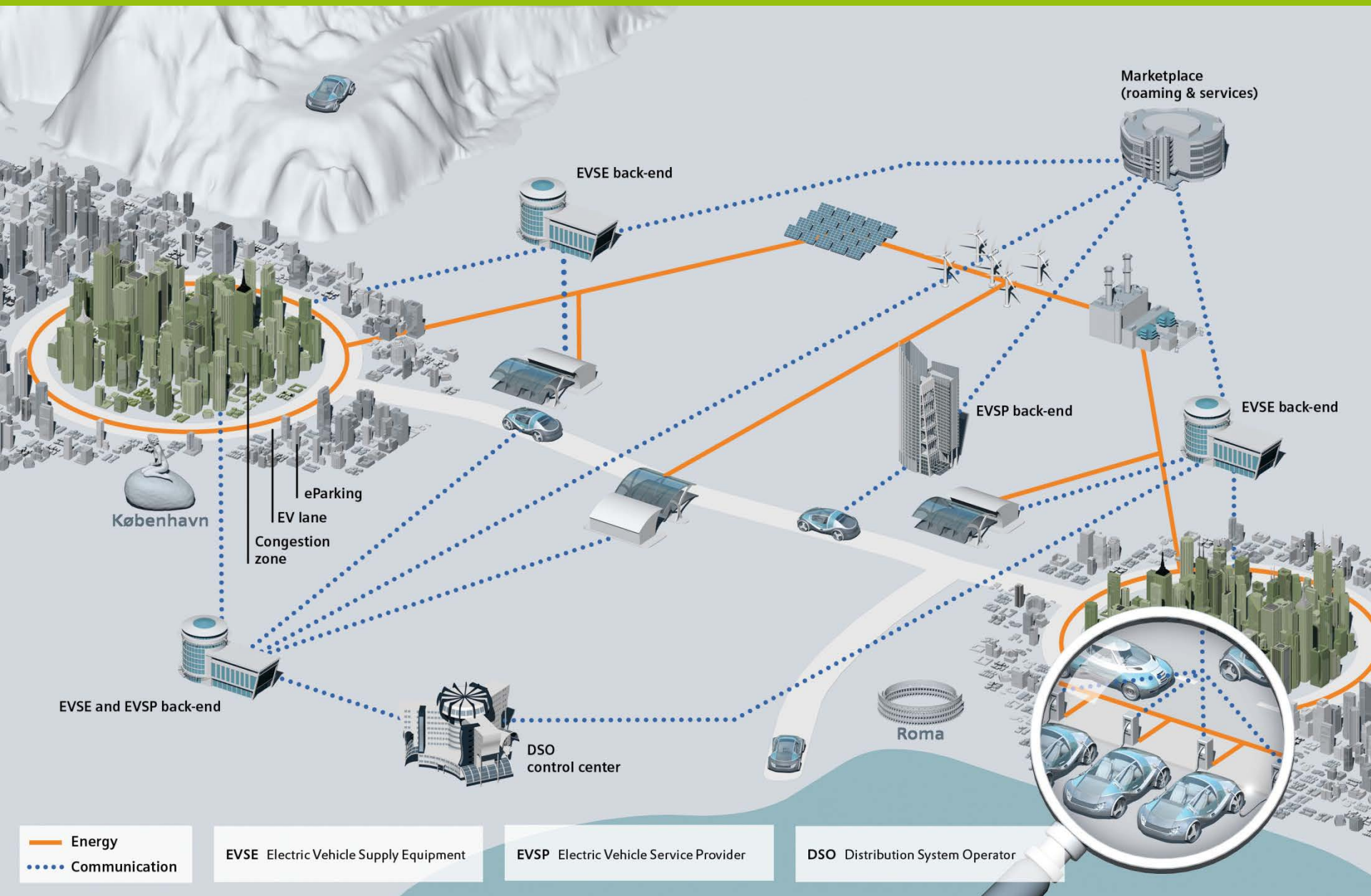
# Interoperability

The interoperability demonstration of Sept. 18th, 2014



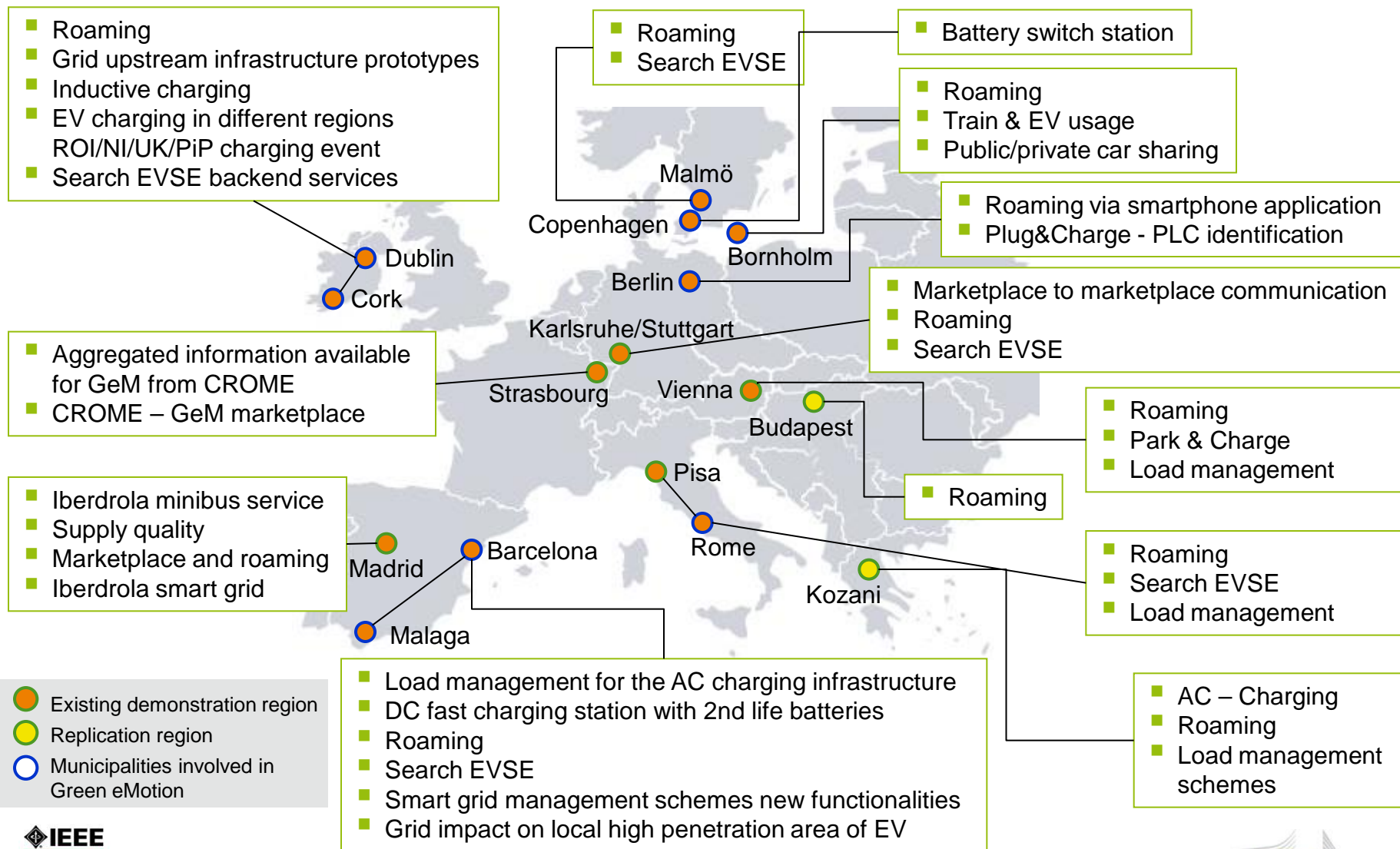


# European electromobility – the big picture





# Green eMotion – a demonstration project in 11 + 2 demo regions



# External Stakeholder Forum – build a consensus on a broad base



- Objectives of the Green eMotion Stakeholder Forum:
  - **discussions** of requirements and results
  - **common understanding** of an interoperable electromobility system
- More than **300 institutions and companies** as members!
- **8 meetings** held so far:  
Brussels, Dublin, Paris, Brussels, Ehningen, Brussels, Barcelona, Brussels
- **Next meeting:**  
February 25/26, 2015, in Brussels as 3<sup>rd</sup> EU Electromobility Stakeholder Forum (together with FREVEU and ZeEUS)  
(will be the final event for the Green eMotion project)

