

Development of the European Framework for Electromobility

FP7 call TRANSPORT – 2010 TREN -1

43 partners

Project Start: March 2011

New Mobility Forum

St. Veit a.d. Glan, 18. Oktober 2012

Speaker: Dr. Norbert Vierheilig
Siemens AG



24 Mio € funded by:



1. Project basics
2. Our demo regions
3. What we do
4. What we have achieved so far
5. Stakeholder Forum

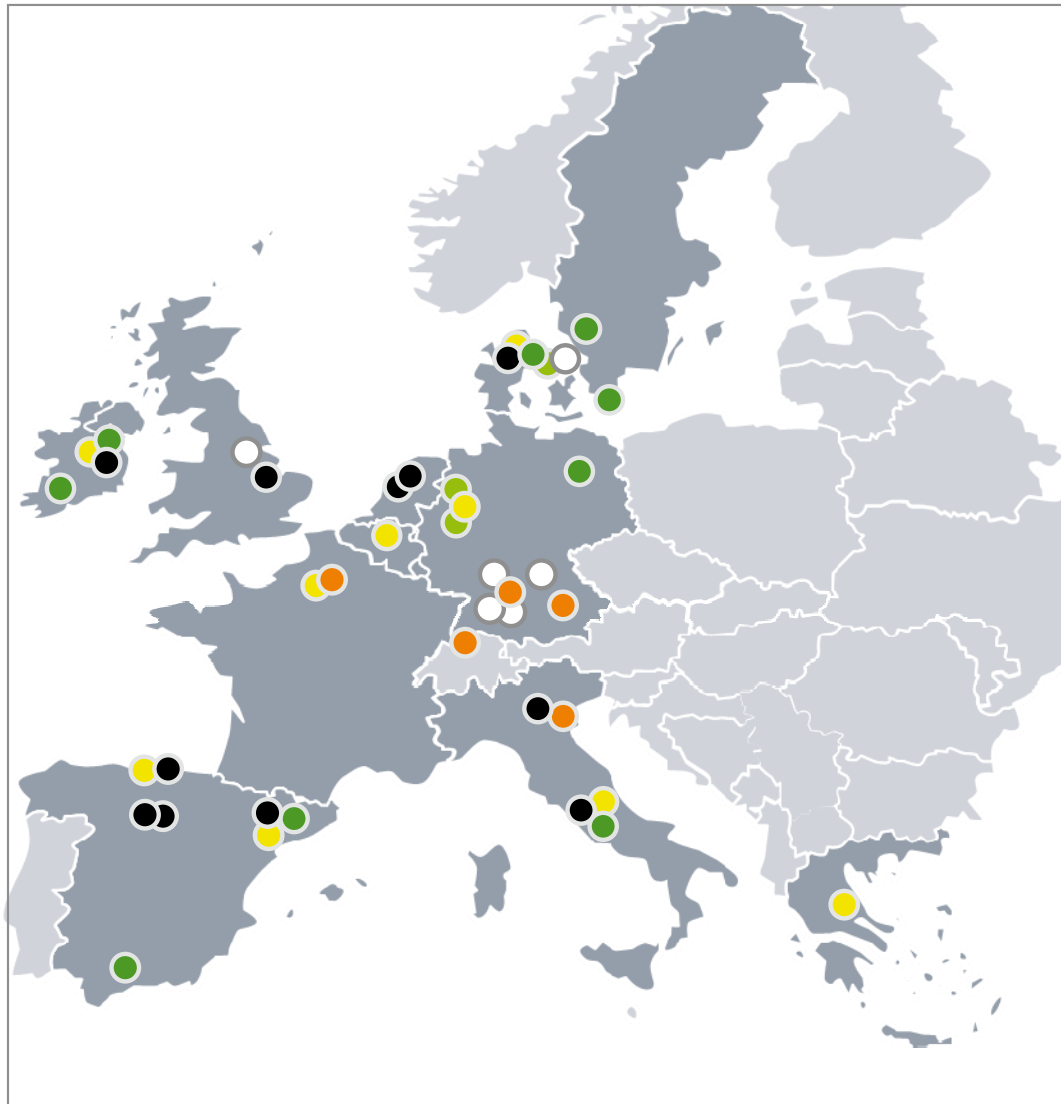


Will I be able to charge my eCar anywhere in Europe?



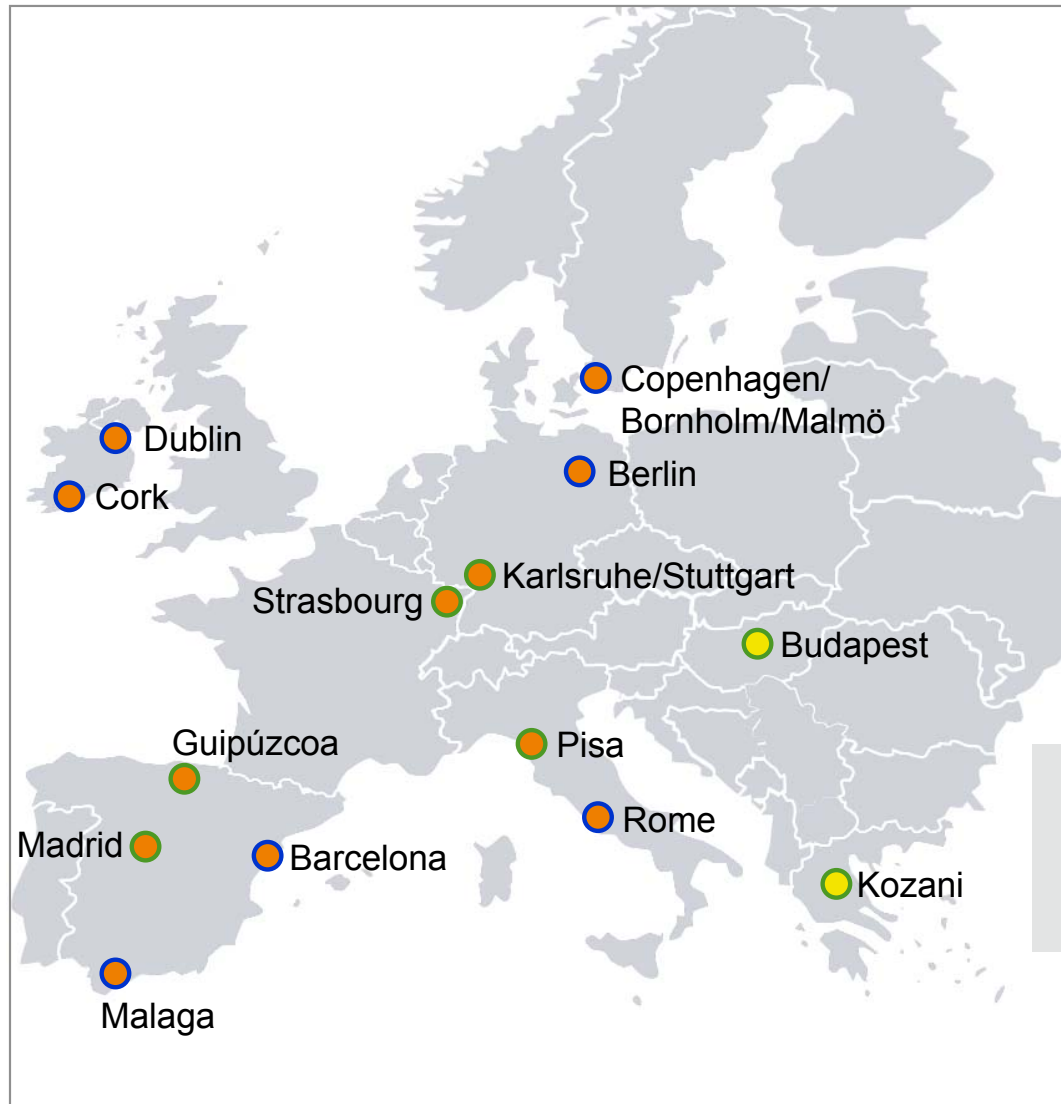
takes care that you will be e-mobile throughout Europe

Green eMotion with 43 Partners



- **Industries:**
Alstom, Better Place, Bosch, IBM, SAP, Siemens
- **Utilities:**
Danish Energy Association, EDF, Endesa, Enel, ESB, Eurelectric, Iberdrola, RWE, PPC
- **Electric Vehicle Manufacturers:**
BMW, Daimler, Micro-Vett, Nissan, Renault
- **Municipalities:**
Barcelona, Berlin, Bornholm, Copenhagen, Cork, Dublin, Malaga, Malmö, Rome
- **Research Institutions and Universities:**
Cartif, Cidaut, CTL, DTU, ECN, Imperial, IREC, RSE, TCD, Tecnalia, TNO
- **EV Technology Institutions:**
DTI, FKA, TÜV Nord

Green eMotion – Demonstration Regions



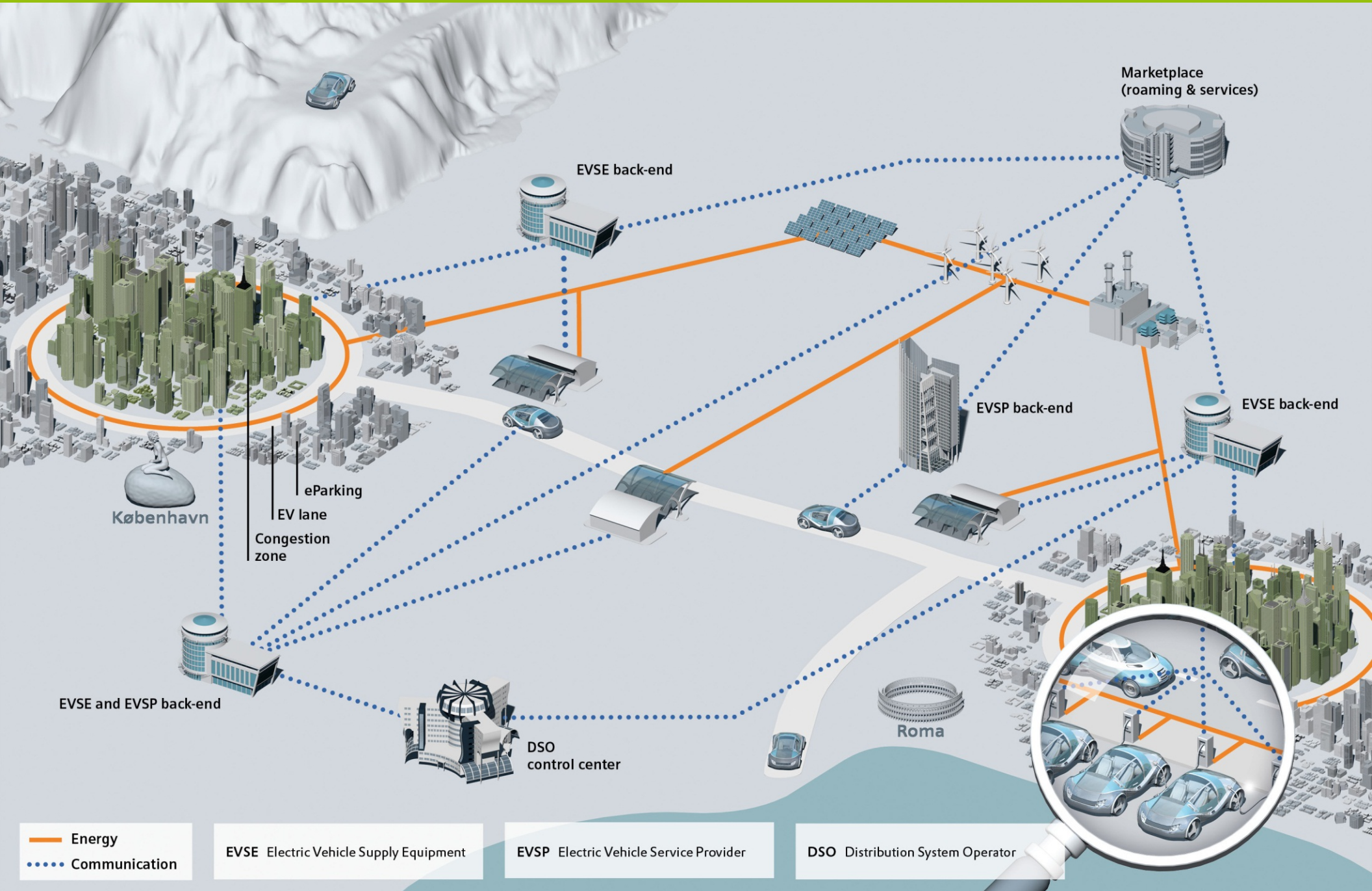
In the Green eMotion demo regions roughly 2,000 EVs were driving end of 2011 and more than 2,500 charging points were installed to supply electricity for them.

This will increase to around 70,000 EVs and more than 80,000 charging posts in 2015.

In total more than 380 Mio € are spent in funded projects within these demo regions (plus private investments by Green eMotion partners).

- Existing demonstration region
- Replication region
- Municipalities involved in Green eMotion

European electromobility – the big picture



Defining the Framework for Electromobility in Europe

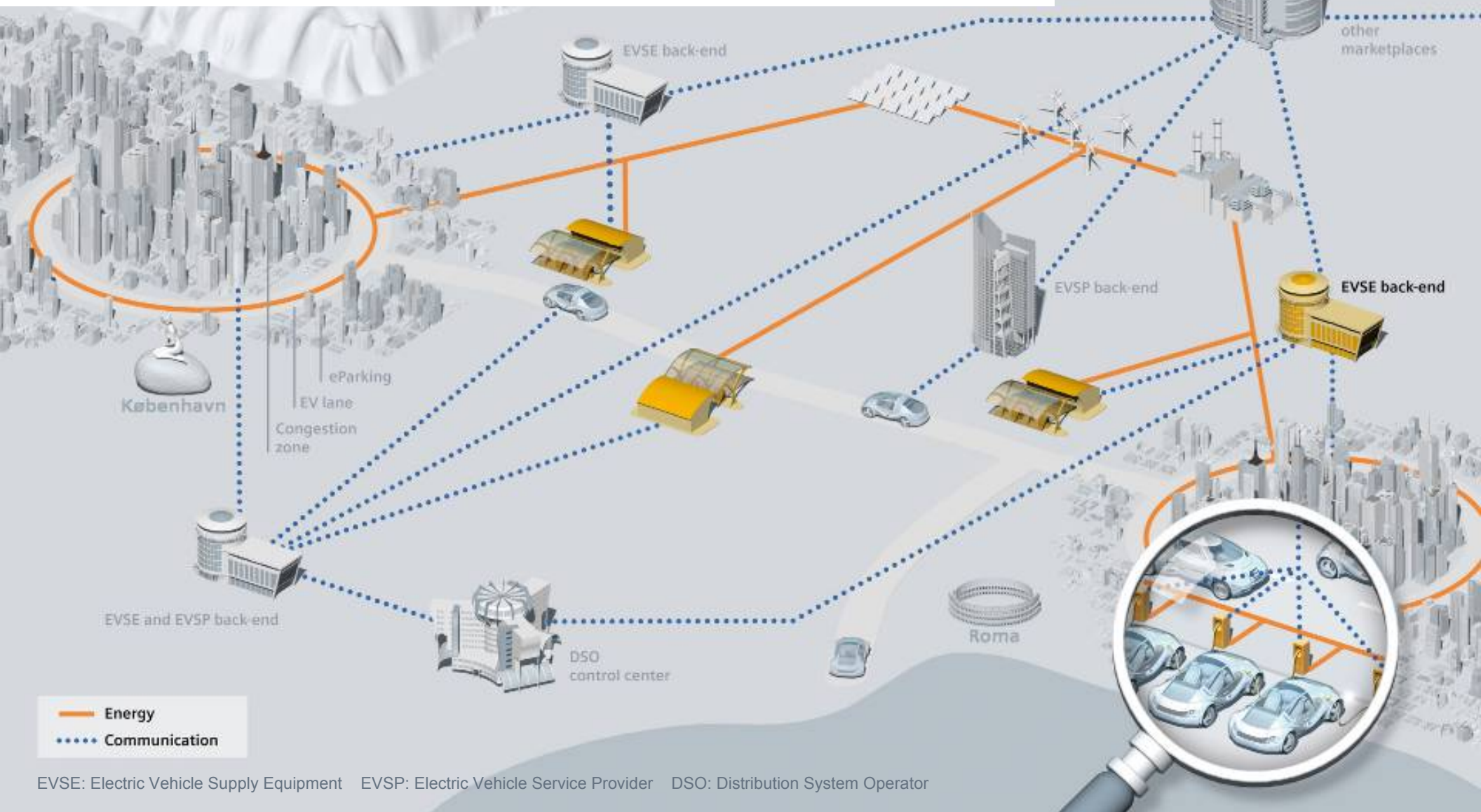


- Green eMotion tests and demonstrates the **interoperability** of an electromobility system in selected demo regions
- Green eMotion analyses the operability of electric cars under **real life conditions** and develops recommendations for the implementation of the mass market (to increase user acceptance)
- Green eMotion recommends ways to an optimised grid and charging **infrastructure**



Electromobility stories 1

EVSE operator wants to install charging infrastructure:
 Which type (AC/DC/swapping)? How many?
 Where (considering the lowest grid connection costs)?



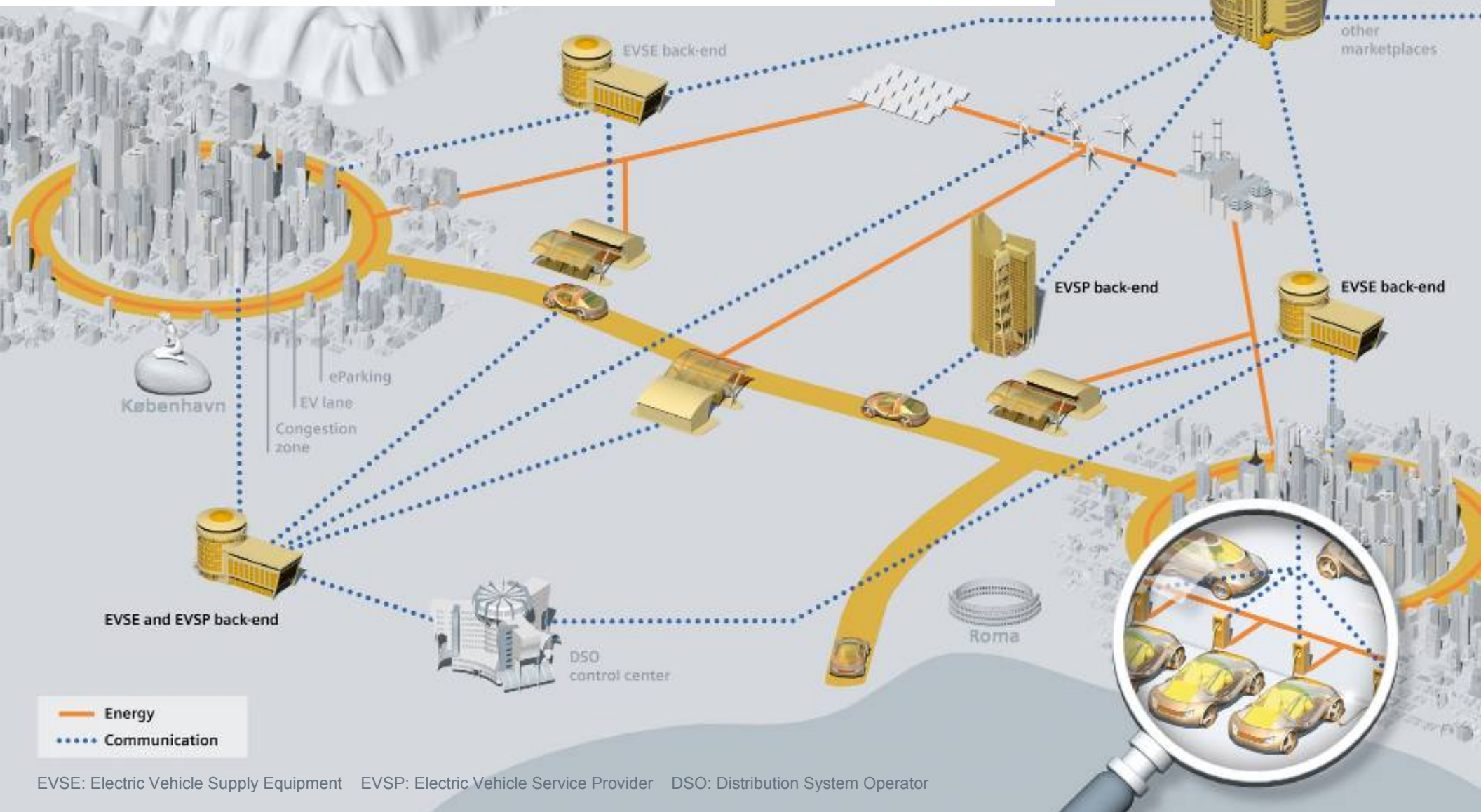
- Green eMotion recommends selected **standards** for an interoperable electromobility system (de facto standards for Europe)
- Green eMotion adjusts the proposals and results in discussion with a broad **stakeholder** base
- Green eMotion defines the IT architecture for a European **marketplace** including interfaces which allows competition in implementation



Electromobility stories 2



Driver wants to use an e-car everywhere in a convenient way:
Compatible plug/interfaces, identification, authorisation, billing;
Find and reserve charging posts, eco-routing, cost-value ratio



What we have achieved so far – city solutions

- **Vision, strategy and policy** of the Green eMotion municipalities:
 - reduce emissions and noise in the cities by promoting the use of EVs with
 - tax incentives, grants for buying an EV, e-parking, installation of public charging infrastructure, free parking for EVs and municipal EVs.

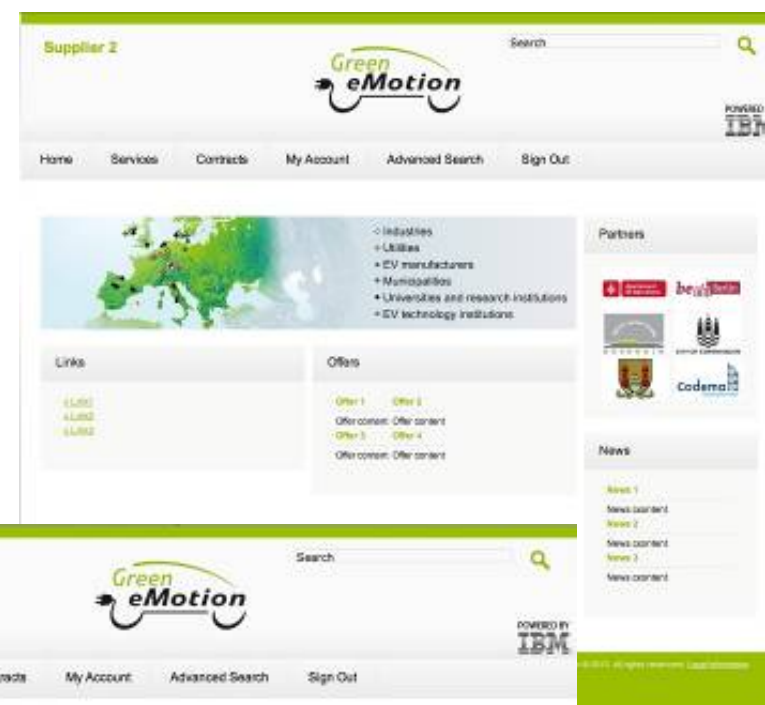
- -> D 2.1 public on www.greenemotion-project.eu/dissemination

- In preparation (available May 2013):
 - A report describing the various hurdles arising at different policy making and implementation stages when rolling out an infrastructure for EVs and how to overcome them.
 - A report describing the key features we experienced that are necessary for a successful rollout of EVs



What we have achieved so far – ICT solutions

- ICT reference architecture for a marketplace system including protocol specifications and service use cases available
- Pilot for first release finished and test started
- Green eMotion Marketplace release 1 (May 2013):
 - Core system (platform)
 - Search EV services
 - Roaming und Clearing (data management for billing)
- Green eMotion Marketplace release 2 (May 2014):
 - Reserve EV services
 - Energy (Load Management)
- For more information check on www.greenemotion-project.eu/dissemination.



What we have achieved so far - standards

- Standards: Which ones are currently in use and gap analysis
 - Green eMotion is focusing on interfaces and identification
- Identification:
 - We need unique identifiers for Europe
 - for supply equipment, contracts, e-cars
 - has to cover country code, provider, number
- Interfaces:
 - Charge point – Charge Management System
 - Charge Management System - Marketplace
- Green eMotion is actively participating in the industry initiative “eMobility ICT Interoperability Interest Group”
- In preparation:
 - Gaps and recommended actions towards minimal features interoperable charging stations



What we have achieved so far - Infrastructure

- **Overview** on charging infrastructure and how to connect it to the grid
 - D4.1 public on www.greenemotion-project.eu/dissemination
- Analysis of **DSOs needs** regarding charging infrastructure, e.g. balancing, peak shaving, ancillary services
- Measurements of impact on the grid caused by different **charging strategies**, e.g. smart charging, scheduled charging
 - D4.2 public in Nov 2012
- **Outlook:** New features for the existing **grid planning tools** will be developed and public available in autumn 2013 (D4.3)
- For more information check on www.greenemotion-project.eu/dissemination.



External Stakeholder Forum



The Green eMotion Stakeholder Forum gives input and feedback to the results of the project. So the project findings are built on a very broad base and can therefore lead to an interoperable electromobility system that delivers a seamless, integrated experience for end users.

- So far, nearly 200 institutions and companies have signed in as members
- Four meetings held: March 16, 2011, in Brussels, June 20, 2011, in Dublin, November 22, 2011, in Paris and May 10/11, 2012, in Brussels
- Next meeting: November 27/28, 2012, focused on ICT solutions in Ehningen (close to Stuttgart, Germany; host IBM)
- Future meetings:
Full meetings: Brussels, May 2013 and 2014, February 2015
Workshops: Copenhagen Nov. 2013, Barcelona Nov. 2014



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Thank you for your attention.

For more information check
www.greenemotion-project.eu

