



CiViTAS
Cleaner and better transport in cities



Development of the European Framework for Electromobility - Green eMotion

CIVITAS Forum

Dr. Heike Barlag, Siemens AG

24-26 September 2012

Vitoria-Gasteiz, Spain



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION

Interoperability is the clue to Electromobility

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



takes care that you will be e-mobile throughout Europe

Who will work on Interoperability?

Green eMotion will define the Framework for Electromobility for Europe!

FP7 call TRANSPORT - 2010 TREN -1

43 partners

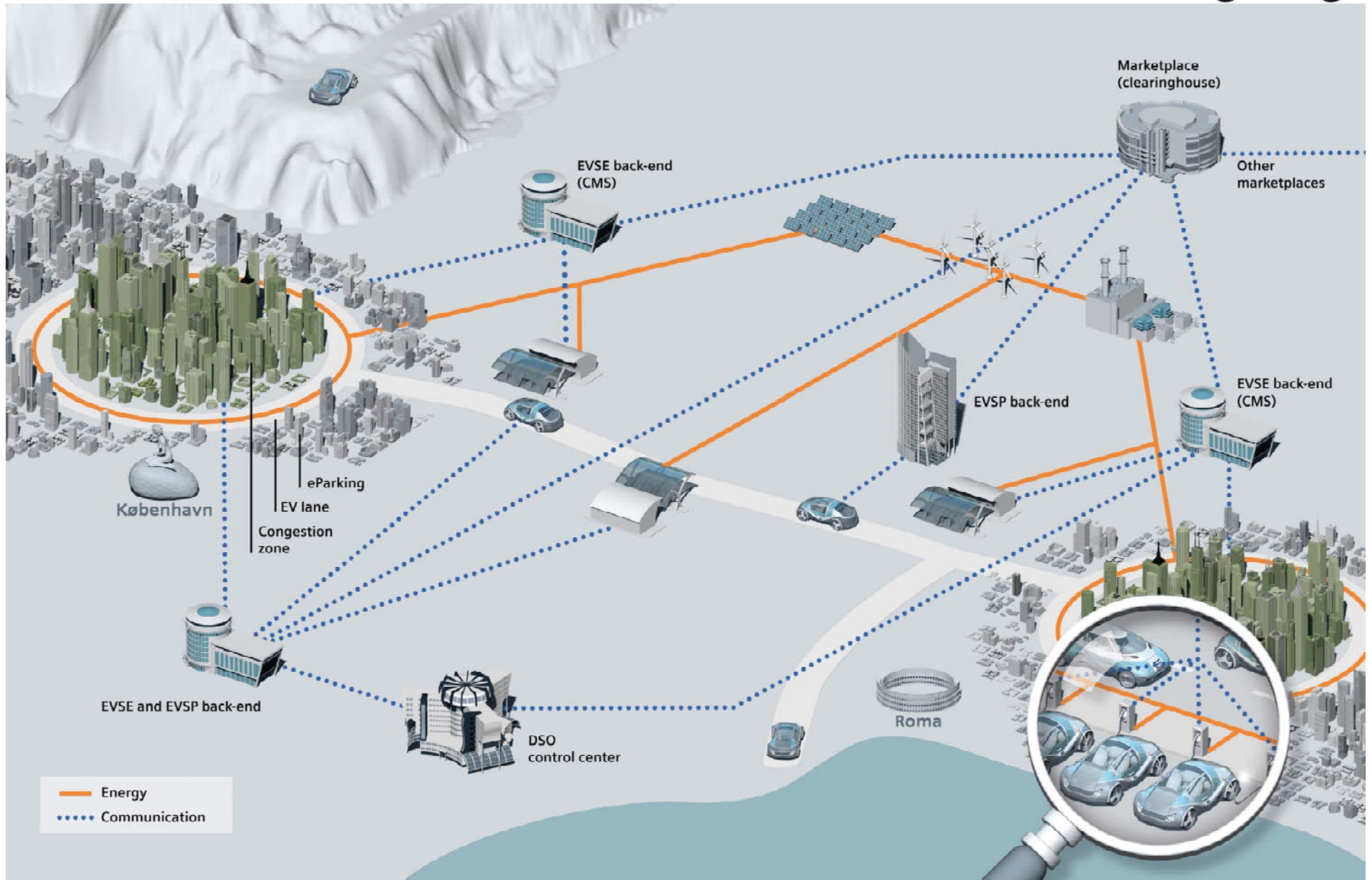
Project Start: March 2011

Project End: February 2015

24 Mio. € funded by:



European electromobility – the big picture






Green eMotion – 14 Demonstration Regions for a start



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

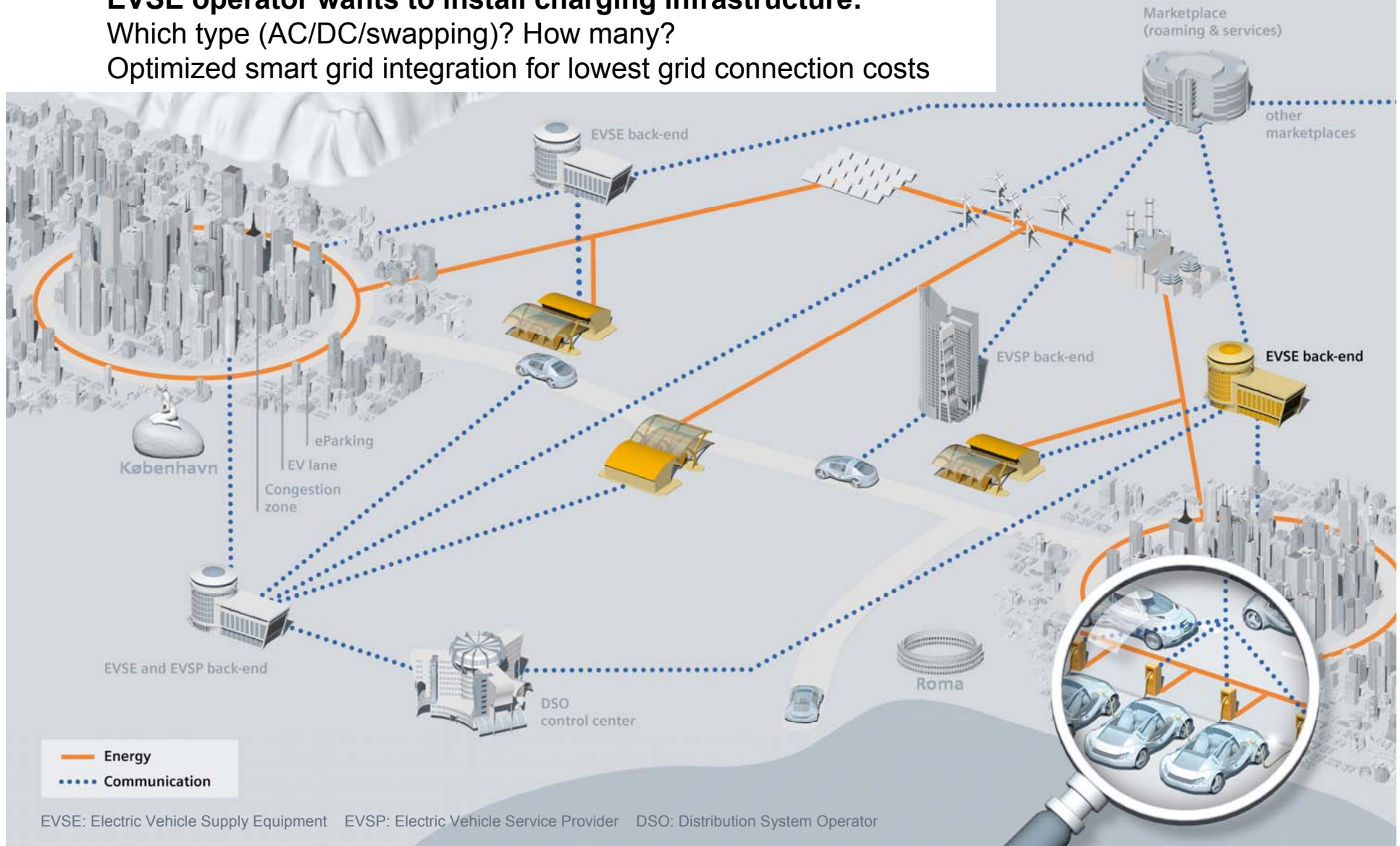
What we have achieved so far – City Solutions

- **Vision, strategy and policy** of the Green eMotion municipalities:
 - reduce emissions and noise in the cities by promoting the use of EVs by:
 - 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 for summer 2013 (D2.2 – D2.4)
 - A report describing the **various hurdles** when rolling out an infrastructure for EVs and **how to overcome** them.
 - A report describing the key features for a **successful rollout** of EVs



The Big Picture of Electromobility - Infrastructure

EVSE operator wants to install charging infrastructure:
 Which type (AC/DC/swapping)? How many?
 Optimized smart grid integration for lowest grid connection costs



What we have achieved so far - Infrastructure

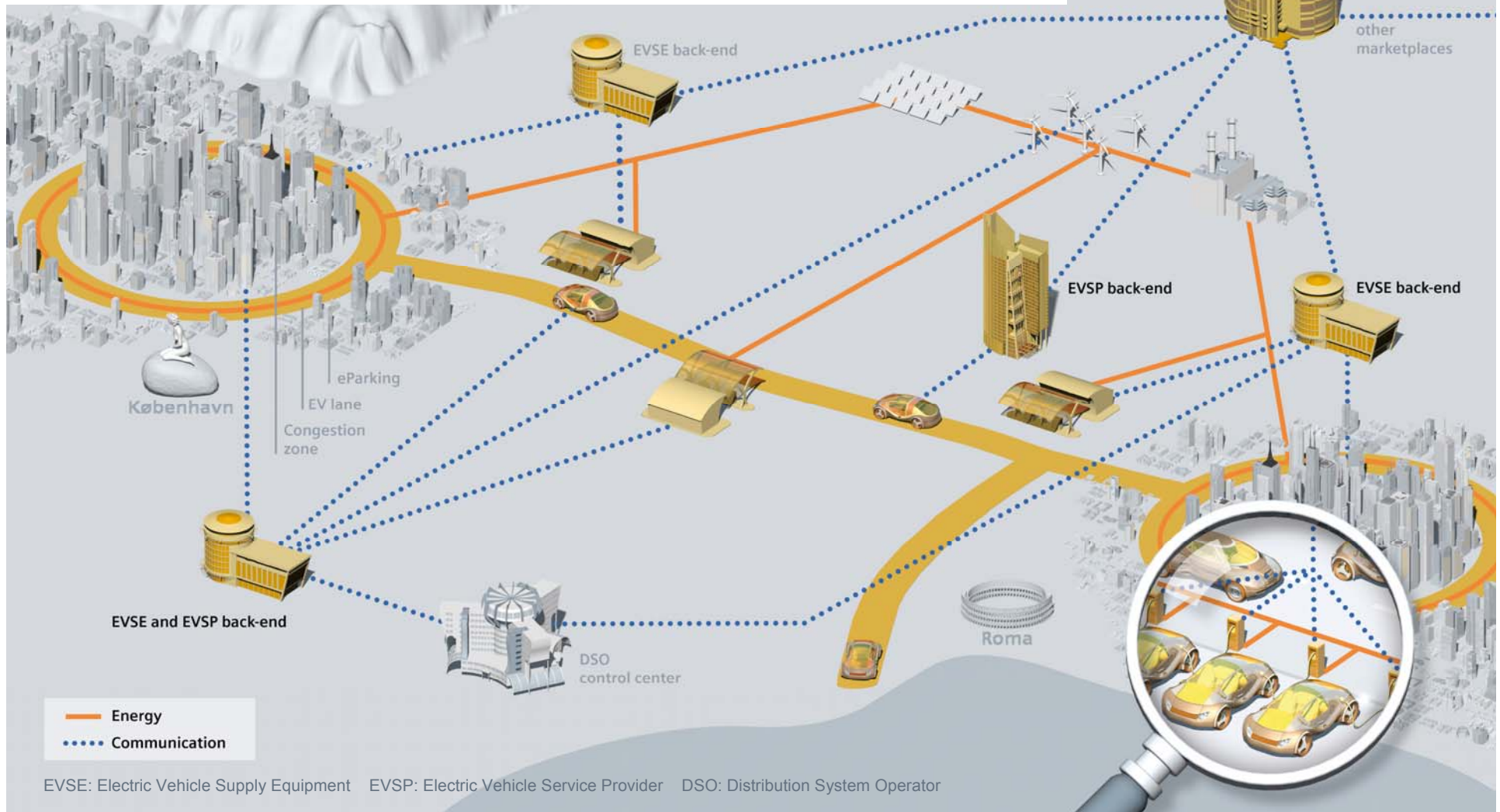
- **Overview** on charging infrastructure and how to connect it to the grid
 - D4.1 public on www.greenemotion-project.eu/dissemination
- Analysis of **DSOs needs** regarding charging infrastructure, e.g. balancing, peak shaving, ancillary services
- Measurements of impact on the grid caused by different **charging strategies**, e.g. smart charging, scheduled charging
 - both D 4.2 public in Nov 2012
- **Outlook:** New features for the existing **grid planning tools** will be developed and public available in autumn 2013 (D 4.3)



The Big Picture of Electromobility – Interoperability

Standards and ICT

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 - 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, provider, consecutive number

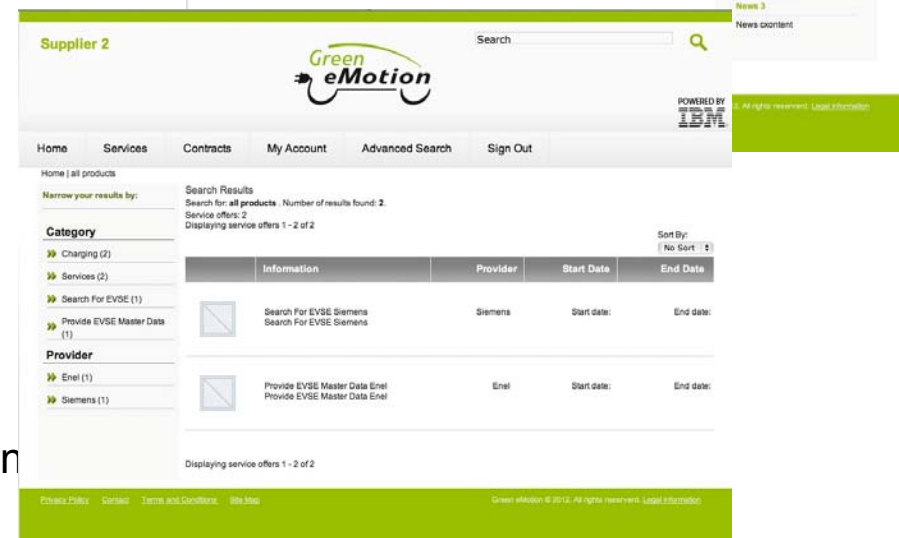
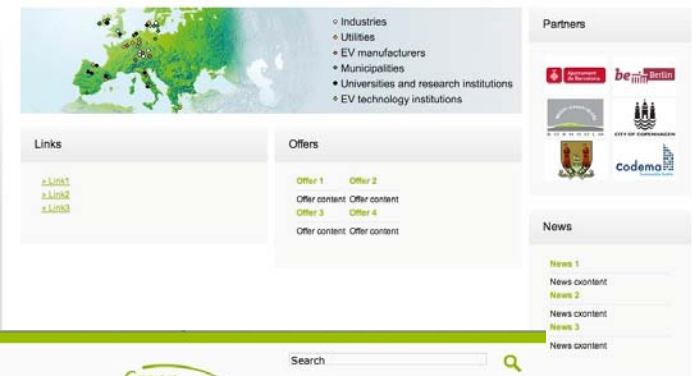
- **Interfaces:**
 - Charge point – Charge Management System
 - Charge Management System - Marketplace

- In preparation:
 - Gaps and recommended actions towards minimal features interoperable charging stations



What we have achieved so far – ICT solutions

- ICT reference architecture for a **marketplace** system including protocol specifications and service use cases
- **Pilot for first release finished**
- Green eMotion Marketplace service groups:
 - Core system (platform)
 - Charging services: **search and reservation**
 - Driving and more (services for driving and e-cars)
 - **Roaming** und Clearing (data management for billing)
 - **Energy** (Load Management)
- More information
D 3.1 – 3.3, 3.5 and 3.9 public on www.greenproject.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 build 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, more than **140 companies** have applied for cooperation
- Four meetings held: March 16, 2011, in Brussels, June 20, 2011, in Dublin, November 22, 2011, in Paris and May10/11, 2012, in Brussels
- **Next meeting:** November 27/28, 2012 focused on ICT solutions in Ehningen (near Stuttgart, Germany; host IBM)
- Future meetings:
Full meetings: Brussels: May 2013 and 2014
Workshops: Copenhagen 11/13, Malaga 11/14



Summary 1/2 - Defining the Framework for Electromobility in Europe

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



Summary 2/2 - Defining the Framework for Electromobility in Europe

- Green eMotion recommends ways to an optimised grid and charging **infrastructure**
- 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)



Thank you!

For further information, please contact:

www.greenemotion-project.eu



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION