

Green eMotion

Development of an European Framework for Electromobility

FP7 call TRANSPORT - 2010 TREN -1

Trends on E-Mobility in the North Sea Region

Hamburg, October 6, 2011

Dr. Heike Barlag, Siemens AG, Project Coordinator



24.2 Mio. € funded by:

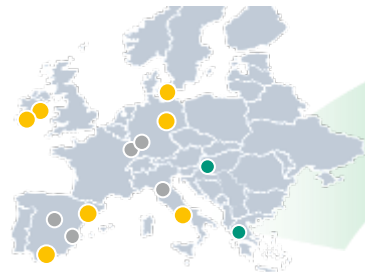




Source: Siemens AG

Green eMotion

Green Cars Initiative of European Economic Recovery Plan



- Connection of national / regional projects
- Market place
- Interoperability and standards

National / regional projects

Proof technology
Test of operation and billing
First business models
Initial local consumer awareness

EU project Green eMotion

Proof of interoperability
Proof of protocols and interfaces
Marketplace and advanced services
Consumer awareness and acceptance

Legislative support

Policies and regulation

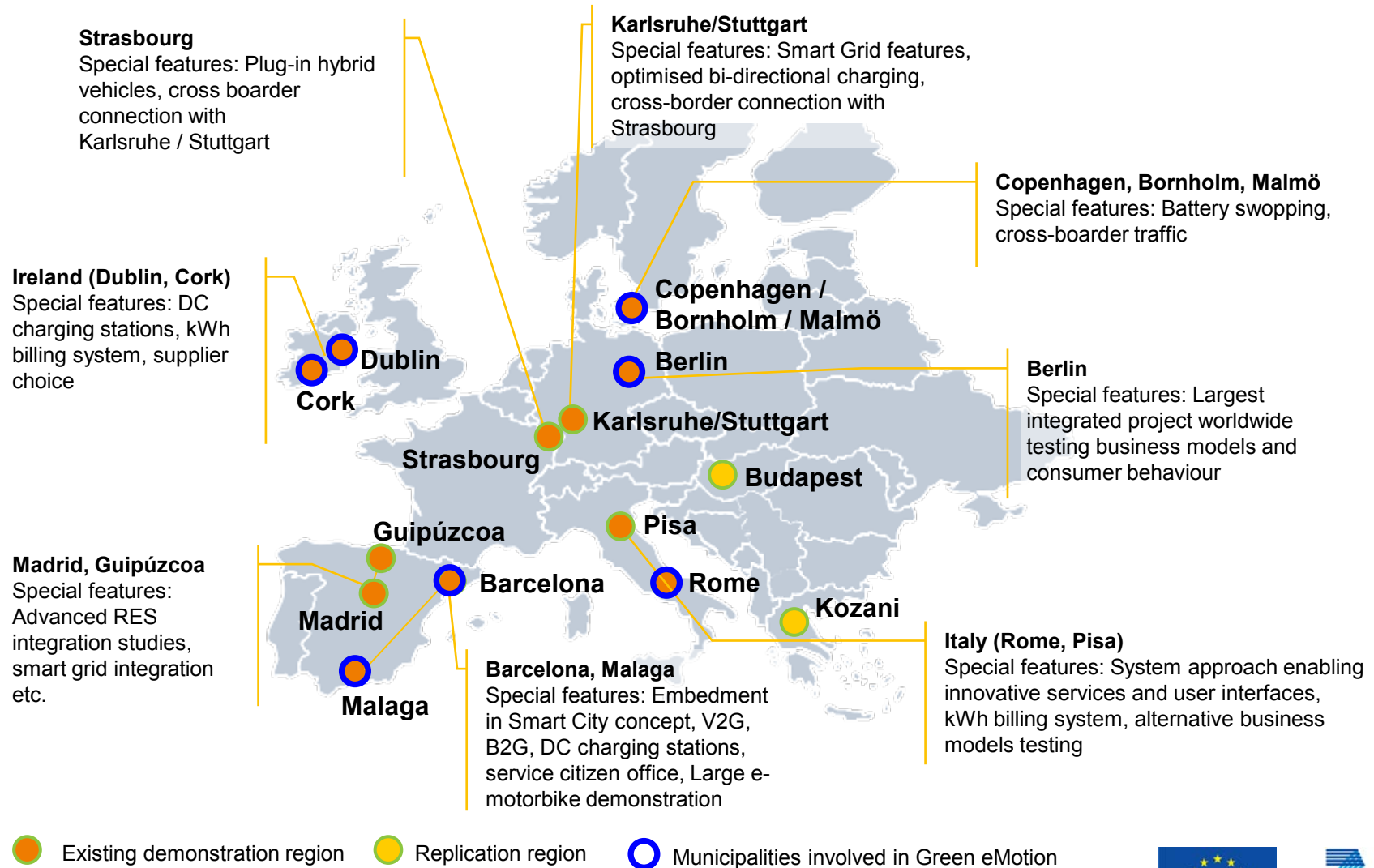
Consumer incentives

Mass market (start)

Standardised solutions for vehicles infrastructure, network and IT applications
Preconditions and user acceptance



Green eMotion – Demonstration Regions (in 2011)



Green eMotion - Overall Goals

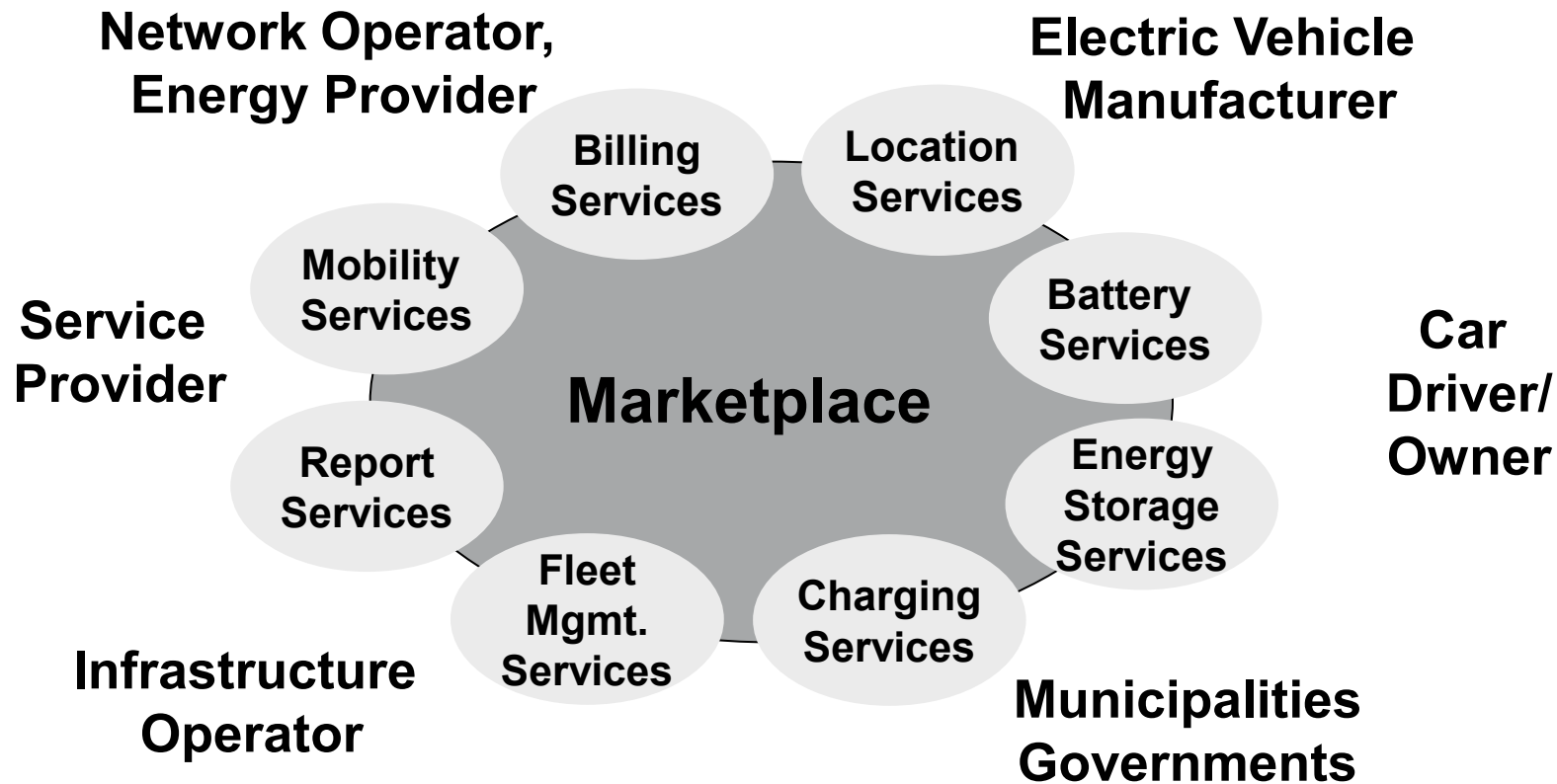


Green eMotion aims at enabling mass deployment of electromobility in Europe, by:

- **Optimizing** existing demonstration activities
- Setting a **framework** for pan-European interoperable electromobility regarding: policies, software architecture, standards
- **Guidelines** for optimized EV recharging infrastructure
- **Validation** of the performance of EV technology
- **Development** of DC, inductive and battery swapping infrastructure

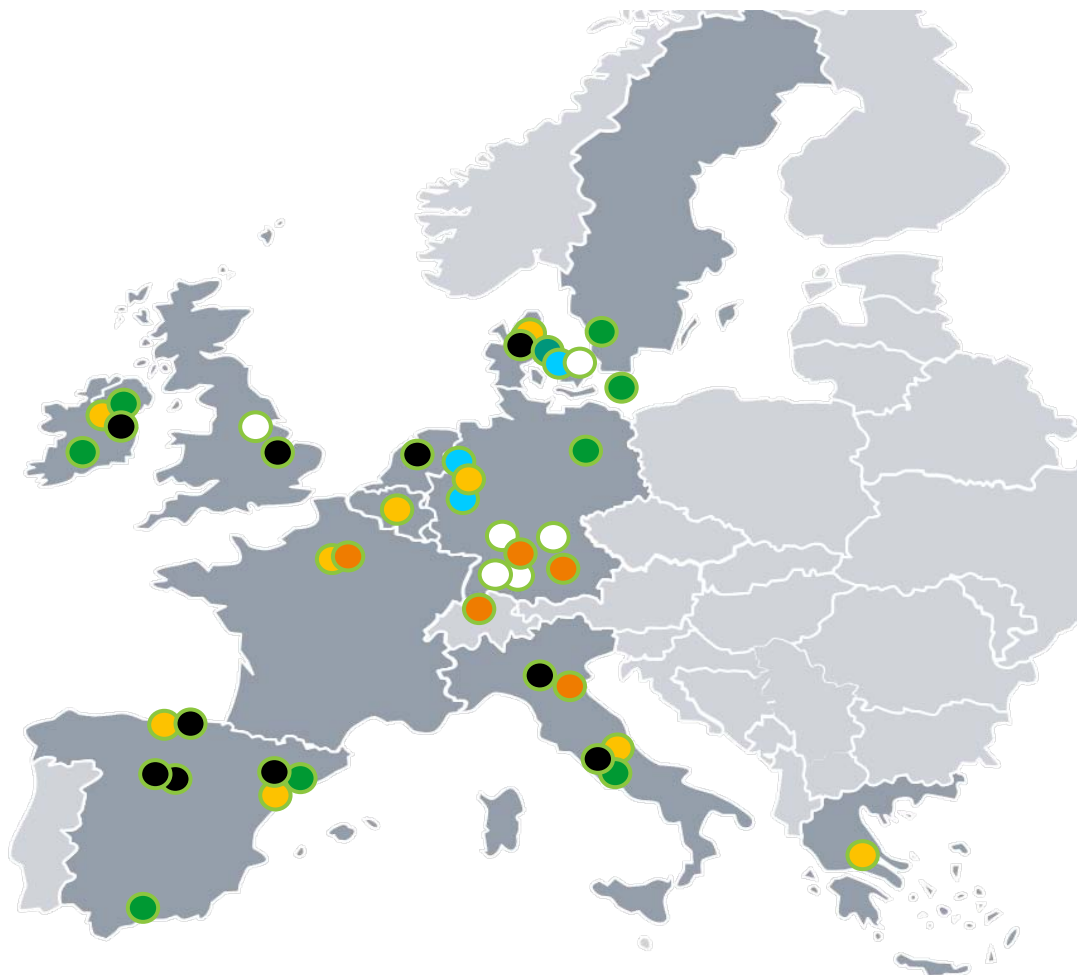
Green eMotion will demonstrate the interoperability of the various demonstration regions





To support the requisite business processes needed for European wide mobility of EV the market place will be public and based on open architecture, common standards and protocols and open standard interfaces with flexible, scalable and state of the art technology

Project Consortium



- 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
- EV Technology Institutions:**
DTI, FKA, TÜV Nord

+ External Stakeholders to facilitate the access to information not held by the consortium, to disseminate Green eMotion knowledge and encourage its application outside the consortium



External Stakeholder Forum



‘The Mission of the Green e-Motion Forum is to accelerate growth in the European market for electric vehicles through the realization of complete infrastructure that delivers a seamless, integrated experience for end users. The Forum will achieve this by enhancing communication and sharing vision, experience and information between the many stakeholders in industry, national Government, the EU and wider public.’

- So far 71 companies have applied for cooperation
- More than 50 additional companies have asked to be in the information loop
- Two meetings held: March 16 in Brussels and June 20 in Dublin
- Next meeting: November 22 in Paris (host Alstom)



eCar Ireland Project



National Roll out of Charging Infrastructure

3,500 Charge Points by end 2011



1500 On Street Charge Points

Dublin & County	500
Cork	135
Limerick	45
Galway	45
Waterford	45

At least one charging point for every town with 1500+ population

30 Fast Chargers

On all major inter urban route

Every 60 km

2000 Domestic Chargers



Charging Infrastructure



HOME / WORK



6 – 8 hours
AC 1Φ 16A Mode 3
Type 2/ fixed cable

PUBLIC



2 - 6 hours*
AC 3Φ 32A Mode 3
Type 2

FAST



80% in 20 minutes
DC 50kW

AC 3Φ 63A Mode 3
fixed cable (Future)

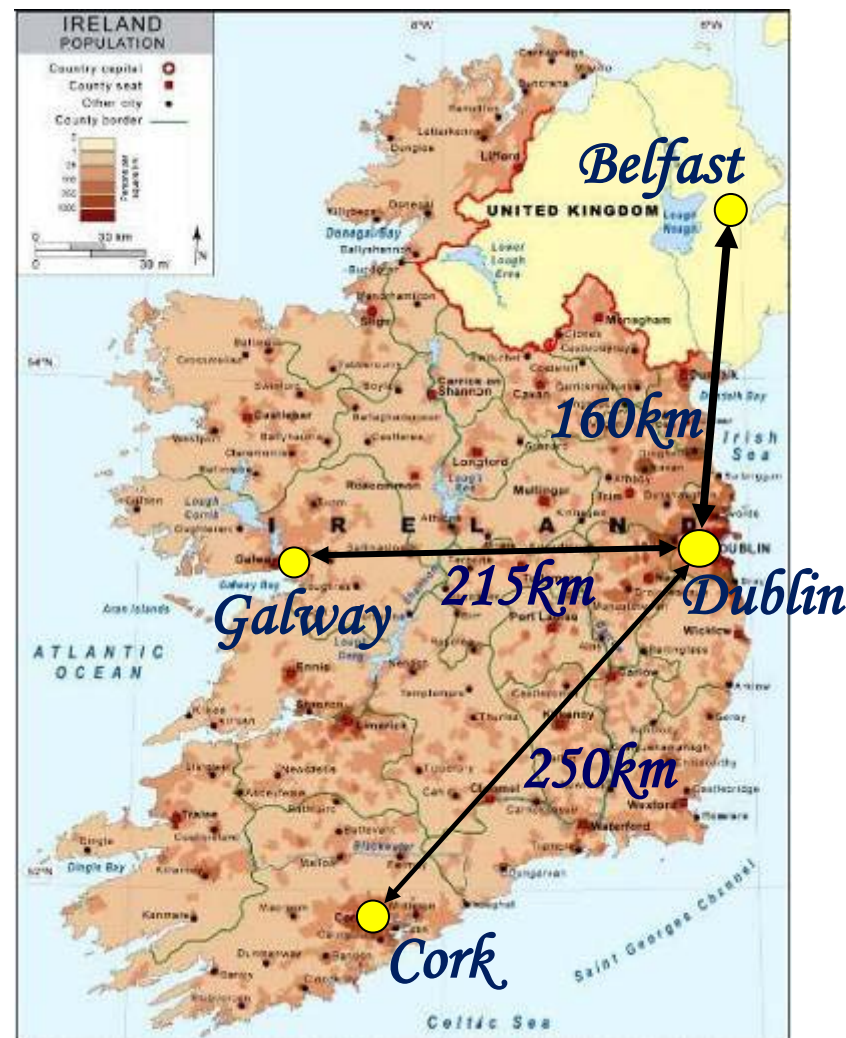
** Depending on car*



All-Island Integration



- Partnering NI Plugged in Places
- Single Wholesale Electricity Market
- Standardization on Charging Points
- “Electric Highways” linking Cork, Dublin, Belfast & other cities
- Roaming systems/ currencies
- EV charging linked to wind generation



Country Wide Infrastructure Deployment:

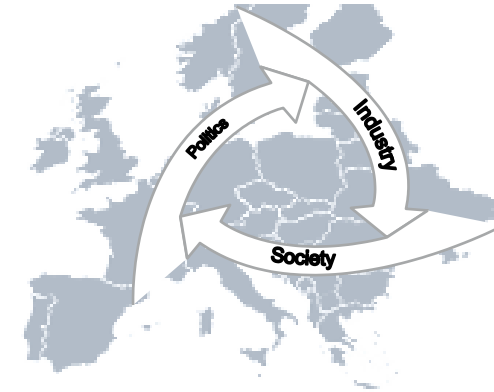
- Charge Spots: Installed at home, office and public locations
- Battery Swap Station: Network enables to drive anywhere in Denmark
- Switching a Battery: Less than 5 minutes
- Smart grid: Smart charging and distributed storage
- Renewable Energy: Full integration of renewable energy, mainly Wind
- Partnerships: Dong Energy, 45 municipalities, others



Green eMotion will answer questions (selected deliverables)



- **Analysis** of existing demo regions / pilot projects
- **Development** of network and charging infrastructure, vehicle technology and ICT solutions
- **Best practice sharing** – Implementation in demo regions and 2 replication regions
- Assess the effects of **social constraints, social impact**, acceptance of the EV usage and of alternative charging strategies
- Proposals for **standardisation** of charging equipment and communication protocols
- Conception of a European-wide **market place** for electromobility services
 - Interoperable processes for billing of energy and value add services
 - Open architecture, common standards and protocols, well-defined interfaces
 - Strategy for service enablement, rollout and mass-adoption



Thank you for your attention.

Contact:

www.greenemotion-project.eu

