Model Regions E-Mobility in Germany
the Stuttgart Region Approach

Dr. Reha Tözün
Wirtschaftsförderung Region Stuttgart GmbH

Content

- Vision and objectives
- Time scale and first steps
- Demonstrators and pilot projects
- Large scale projects in and near Stuttgart Region
- Contact
1. Vision and objectives

The framework

- Structural change of the automotive sector has high impact of Stuttgart Region's economy and wealth.

- WRS supports the automotive cluster in Southwest Germany to prepare Stuttgart Region for the era of e-mobility.

- Overall ambition is to keep automotive value creation in the region.
Stuttgart Region – a lead market for green mobility

- Holistic approach for market preparation
- Regional showcase for integrated e-mobility solutions
- Pilot projects and demonstrators for
  - infrastructure
  - inter-modal hubs
  - (locally) emission free city logistics
  - billing and roaming models
  - variety of vehicles and usage

Further Cooperation Projects
B-W / National / EU

Lead Market E-Mobility Stuttgart Region
Model Region Funding / BMVBS

Market preparation
Technology preparation
Market development

2009 2010 2011 2020
Measures in Stuttgart Region

- Fleet tests (pedelecs, scooters, cars, light trucks, buses)
- Planning and installation of charging infrastructure (private and public charging points)
- Preparation of integrated sustainable urban and regional mobility concepts through pilot projects
- Round tables e-mobility (regional planning, municipalities, energy providers, OEMs, suppliers, crafts, services and users) to prepare and agree the regional master plan
- Development of reference models for transfer of results
- Establishment of a Competence Centre E-Mobility as triple helix approach
Model Region E-Mobility - Partners

- Municipalities und urban transport (e.g. SSB)
- Daimler, EnBW, Bosch, SAP
- Suppliers throughout Baden-Württemberg (Mahle, Eberspächer, Dietz Automotive, Huber, Heldle, ...)
- Fraunhofer institutes
- University of Stuttgart and FKFS
- University of Karlsruhe / KIT
- University of Applied Science Esslingen
- Wirtschaftsförderung Region Stuttgart / Cluster Automotive Region Stuttgart as regional project management and clearing point
## Advisory board

<table>
<thead>
<tr>
<th>Category</th>
<th>Member / representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEM</td>
<td>Dr. Thomas Behr / Daimler AG</td>
</tr>
<tr>
<td>Supplier (MNE)</td>
<td>Kerstin Mayr / Robert Bosch GmbH</td>
</tr>
<tr>
<td>Supplier (mid size and SME)</td>
<td>Volker Schiek / Kompetenznetzwerk Mechatronik BW e.V.</td>
</tr>
<tr>
<td></td>
<td>Andreas Genesius / GETRAG</td>
</tr>
<tr>
<td>Energy provider</td>
<td>Lars Walch / EnBW AG</td>
</tr>
<tr>
<td>Universities &amp; research institutes</td>
<td>Günter Hörcher / Fraunhofer IPA</td>
</tr>
<tr>
<td>Public transport &amp; vehicle fleets</td>
<td>Markus Wiedemann / SSB AG</td>
</tr>
<tr>
<td>Municipalities</td>
<td>Günter Stürmer / City of Stuttgart</td>
</tr>
<tr>
<td>Stuttgart Region</td>
<td>Dr. Jürgen Wurmthaler / Verband Region Stuttgart</td>
</tr>
<tr>
<td>State of Baden-Württemberg</td>
<td>Dr. Markus Decker / Wirtschaftsministerium Baden-Württemberg</td>
</tr>
</tbody>
</table>

### 2. Time scale and first steps
Projects overview

„First round“ (running)
- Fleet test with hybrid buses in public transport.
- Fleet test scooters to analyse user profiles and charging behaviour.
- Installation of charging infrastructure.
- Fleet test full electric light trucks in city logistics.

„Second round“ (in preparation)
- Integration of E-Mobility in urban planning.
- Vehicle fleet test in public and social use.
- Electric vehicles at Stuttgart Airport.
- Round Tables and Competence Centre.
- [...]

Milestones (State: March 2010)

- Implementation of roadmap results
- Final event (included in f-cell conference)
- Delivery of scenarios / roadmap
- Status report / round table
- Further proposals
- Advisory board / round tables
- Start pilot projects und demonstrators
- 1st delivery of project plans
- Coordination office installed
- Kick-off / Definition pilot projects
3. Demonstrators and pilot projects

Test drivers wanted...
**Interplay e-scooter usage – infrastructure – mobility portal**  
*(lead: EnBW AG)*

- Project started in September 2009
- Pilot project for private use of electric vehicles
  - 700 scooters with tracking systems
  - 500 private and 200 public charging points
  - mobility portal
  - analysis of patterns of use / charging needs / user acceptance / ...
  - test bed for billing and roaming models
- Partners: EnBW AG, Robert Bosch GmbH, Dornier Consult
- Closely related and linked to MeRegio mobil (additional charging points within and outside the region) and Call-a-Bike Pedelec Stuttgart

**S-HyBus** *(lead: SSB AG)*

- Project started in September 2009
- Trial operation of 5 articulated buses with serial hybrid drive
  - recuperation
  - reliability (engines and batteries)
  - life cycle assessment
  - cost analysis
- Partners: SSB AG, TÜV Nord and PE International
IKONE – integrated concept for sustainable e-mobility (lead: Daimler AG)

- Project started in January 2010
- Fleet test and validation of 50 electric light trucks
  - different profiles of services
  - city logistics / craftsmen / ...
  - recuperation potential, reliability, maintenance
  - user analysis / patterns of use
- Partners: Daimler AG, TÜV Süd, EnBW AG, Fraunhofer IAO

Projects in preparation

- E-drive modul für hybrid light trucks (ELENA)
- Integrated city models for e-mobility
- Call-a-bike pedelec
- E-mobility showroom
4. Large scale projects in and near Stuttgart Region

Large scale projects in the heart of Europe
„MeRegioMobil“ – Content
Funded by BMWi

- Initial planning and installation of an open infrastructure platform for E-Mobility in Baden-Wuerttemberg until 2011
- Test infrastructure with 40 EVs from Daimler (smart & A-class) & 3 EVs from Opel (converted 42G Meriva) as of middle of 2010 (other OEMs are welcome and highly appreciated)
- Improve acceptance of E-Mobility by using and testing intelligent charge spots (250 public, 250 semi public, up to 100 private)
- Connection of EVs via intelligent charge spots to the home energy management system („Smart Home“)
- Intelligent management of charging phases by bi-directional usage of energy (vehicle to grid, grid to vehicle)
- Billing and roaming between different providers and network operators
- Conceptional testing of new developed location based telematic services

„Future Fleet“ – Content
Funded by BMU

- 100 EV integrated in SAP & MVV company car fleets
- Used as
  - long term personally allocated company car with clearing for private usage
  - short term pool cars for ad hoc mobility (to customers or locations)
  - function car for technicians and delivery
- Mobility aspects of EV in company fleet and private usage
- Car Fleet Management for mixed car fleets piloted
- Planning and installation of charging infrastructure on private premises in Mannheim, Walldorf, St.Leon/Rot and Karlsruhe until Q3 2010
- Preparation of interviews and programming of software pilots until Q3 2010
- Fleet test phase from August 2010 until August 2011
„Project Klébér“ – Content
Funded by ADEME

- Fleet test with 100 plug-in hybrid vehicles (Toyota Prius) in the urban area of Straßbourgh
- Participation of public institutions and private companies in the region
- Test and validation of a charging system developed by EDF
- Analysis of users’ acceptance

5. Contact
Contact details

Wirtschaftsförderung Region Stuttgart GmbH
Cluster Automotive Region Stuttgart (CARS)
Friedrichstr. 10 - 70174 Stuttgart

Holger Haas        + 49 – 711 – 228 3514
                    holger.haas@region-stuttgart.de

Rolf Reiner        +49 – 711 – 228 35824
                    rolf.reiner@region-stuttgart.de

Elke Gregori       +49 – 711 – 228 3558
                    elke.gregori@region-stuttgart.de

Reha Tözün        + 49 – 711 – 228 3543
                    reha.toezuen@region-stuttgart.de

Thank you for your attention!