

## Description

- *Organisation:* Technical University of Berlin
- *Department:* DAI-Labor
- *Nature:* Academic Institution
- *Country:* Germany
- 60 Researchers + 60 Student Research Assistants
- Testbeds for Smart Home, Autonomous Security, Beyond 3G Networks, Cloud Computing
- Six Competence Centers
  - Agent Core Technologies, Next Generation Services, Network & Mobility, Security, Information Retrieval & Machine Learning, 'Cognitive Architectures
- [Info at: www.dai-labor.de](http://www.dai-labor.de)



## Objectives

- Demonstration project for decentralized, intelligent energy loads and resources
- Distributed ICT- and software systems for intelligent control of electricity consumers, including electric vehicles
- Control and ownership models for Smart Grid Services

## Deliverables

- Energy Data Warehouse for ENode data aggregation and future research at the interface of electric transport and electric grid
- Virtual Power Plant with mainly private vehicles and premises plus some commercial fleets and buildings
- Extension of Virtual Power Plant through simulation
- Suggestions and evaluation of control and ownership models at the interface of electric transport and electric grid - business model perspective

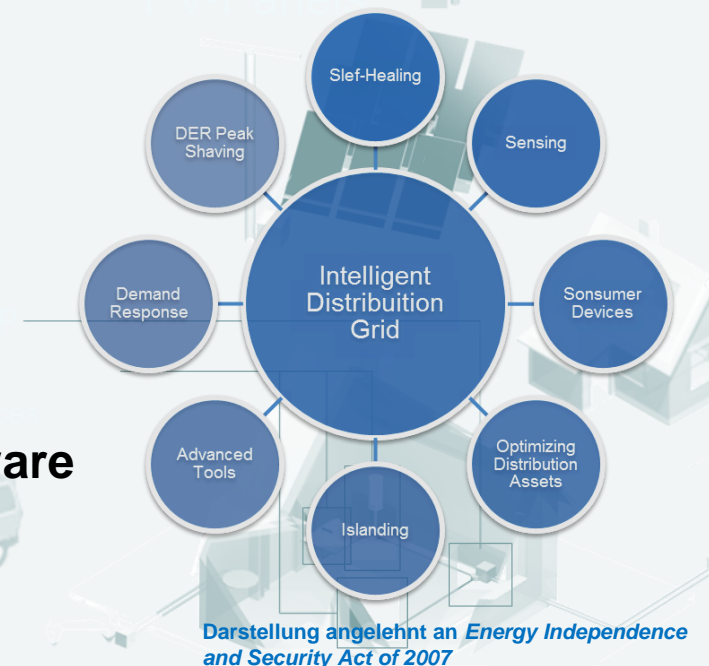
# ENode Partners Sought

Partners in current and past projects comprise among others:

Alcatel Lucent, Aperto Networks, Audi, bea, BIBA, BMW, Cisco, Daimler, cycos, Deutsche Telekom, Deutsche Telekom Laboratories, T-Systems, Infineon, Motorola, Navtel, ProSyst, Reuters, Siemens, Sonus, Tibco, Wik Consult, DPA, Bitkom, infoRoad

## Partners Sought in the ENode Project

- **Grid operators and grid management institutions**
- **OEMs in battery- and storage manufacturing**
- **Electric vehicle manufacturers**
- **OEMs of grid control equipment/hardware**
- ...

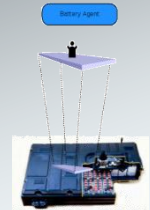




- Design of a unified landscape of user interfaces to access the infrastructure
- Development of services and processes to support the usability of novel mobility concepts based on electric transportation

## He-Lion

- Development of a new generation of batteries and intelligent battery management systems that are suitable for e-mobility applications.



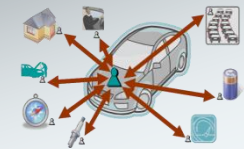
## Intelligent Charging for Electric Mobility



- Using electric vehicles as a virtual power plant
- Simulation of user behavior and infrastructure parameters
- Maximizing wind energy usage in electric mobility
- Advanced AAA-Architecture for mobile electricity customers

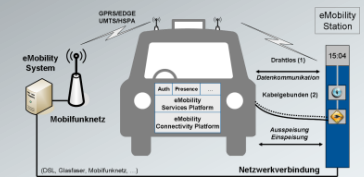
## Service Centric Car

- Development of a Smart Energy Assistant for light duty vehicles, analogous to the Smart Home Energy Assistant for apartments.

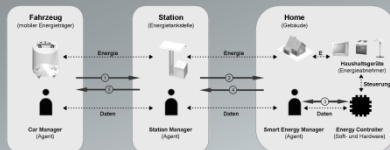


## Vehicle-to-Grid

- Development of an intelligent approach for the use of mobile energy storage in the low voltage distribution network, to serve the needs of utilities and vehicle owners.



## DEASYS



- Integration of mobile battery energy storage into the electricity grid and home electricity circuit.

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### General:

DAI-Website:

<http://www.dai-labor.de>

### Applications Centers:

Application Center Mobility

Application Center Energy

[http://www.dai-labor.de/application\\_centers/transport\\_traffic/](http://www.dai-labor.de/application_centers/transport_traffic/)

<http://www.dai-labor.de/anwendungszentren/energy/>

### Projects:

BeMobility

He-Lion

Gesteuertes Laden V2.0

MiniE powered by Vattenfall

Service Centric Car

DEASYS

[http://www.dai-labor.de/ngs/laufende\\_projekte/bemobility/](http://www.dai-labor.de/ngs/laufende_projekte/bemobility/)

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