



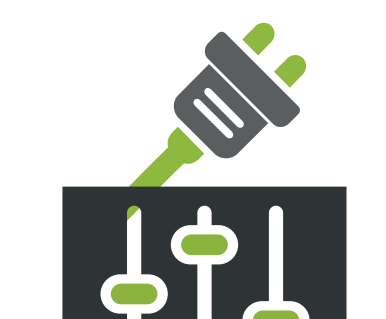
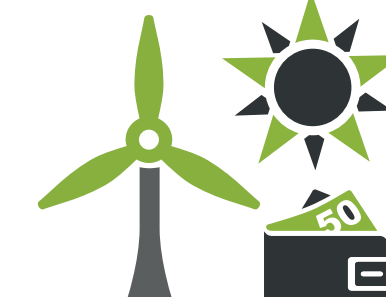
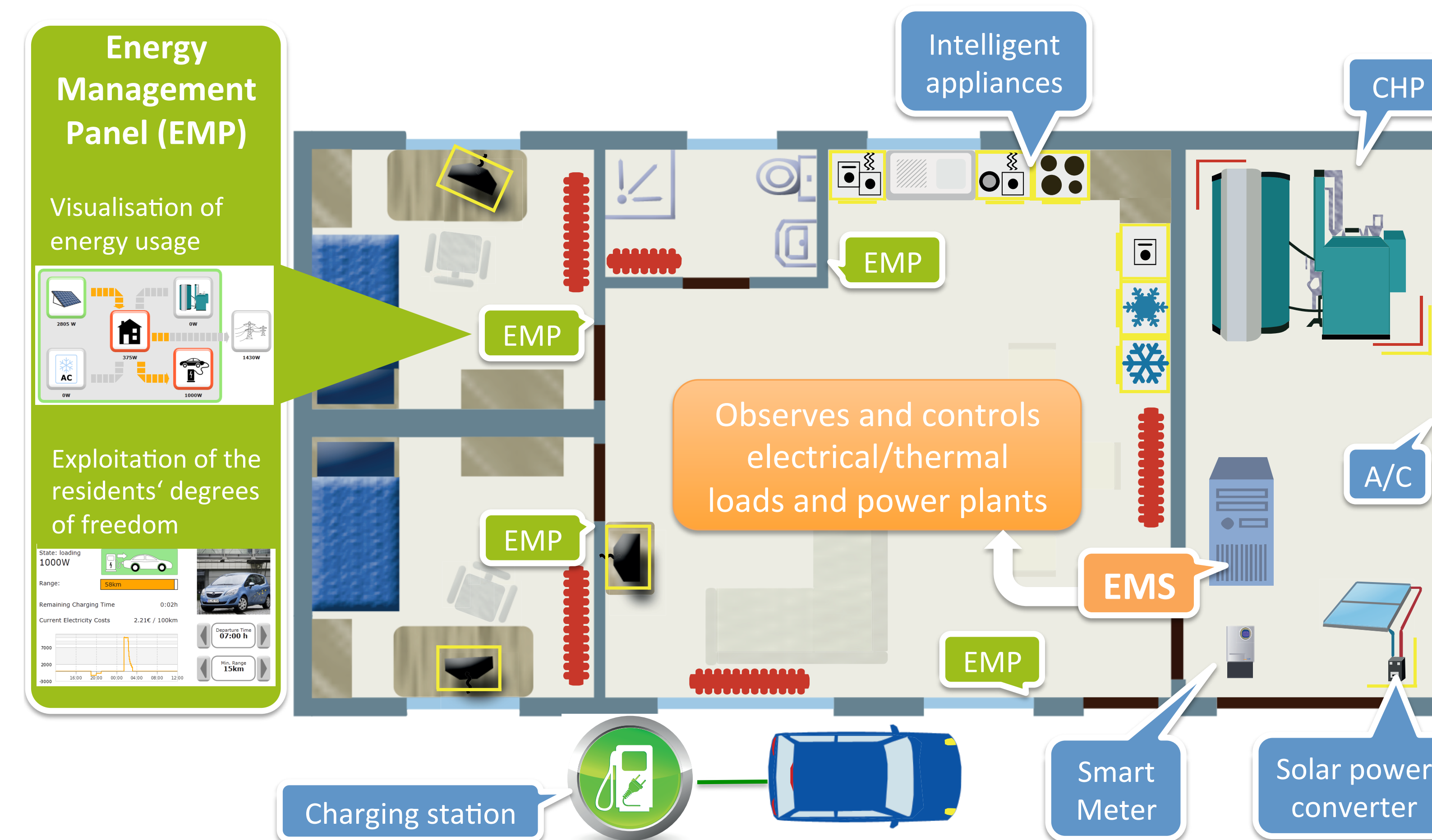


IZEUS - intelligent Zero Emission Urban System

Energy Smart Home Lab

-  Intelligent **charge management** with an **electric vehicle capable of feeding electricity back into the grid** based on the new **ISO/IEC 15118** standard
-  **Optimization of the load profile** by smart control of **electric/thermal household appliances** and an electric vehicle capable of feeding electricity back into the grid based on an adaptive **energy management system (EMS)**
-  **Living phases** to validate optimized and user-friendly EMS approaches, the focus lying on the exploitation of the user's **energy flexibility** and the execution of **acceptance studies**
-  **Fast charging** of electric vehicles without adversely affecting the grid by using additional **stationary energy stores**
-  Development of a **charge current converter** to test **power factor correction** and use of an **H-bridge** for **simulation of several (instable) grid situations**
-  Further development of **incentive concepts** for the optimum use of **renewable energies** in connection with **electric mobility**



Layout of the Energy Smart Home Lab on Campus South of Karlsruhe Institute of Technology

 <http://izeus.kit.edu>

Also visit us at

<http://meregiomobil.forschung.kit.edu>

ICT FOR
ELECTROMOBILITY

Supported by:



on the basis of a decision by the German Bundestag

Objectives of the Fleet Test

-  Development and supply of an **open e-mobility services platform** as an interface and data exchange system for the fleet test
-  Conceptual design and test of various **value-added mobility services**, such as **energy-efficient routing**, finding and **reservation** of nearest **charging stations** or **visualization** of the remaining driving range
-  Development of a **smart phone app** as an interface between users and the services platform for an **interactive participation in the field test**
-  Technical and economic analysis of the energy system and sociological research into **customer acceptance and user behavior in the fleet test (the focus lying on commercial traffic)**
-  Analysis of legal and economic framework conditions in terms of **data protection, calibration legislation, and law of evidence relating to the demand side management of electric vehicles** as well as derivation of **recommendations for action**

