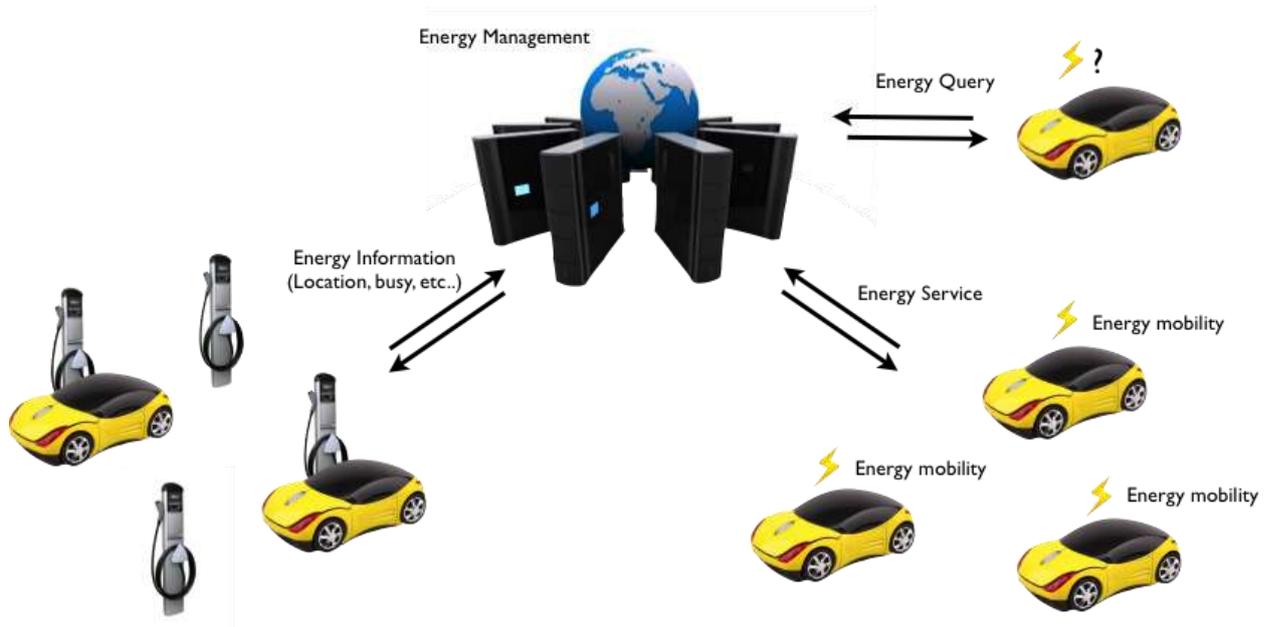


Project: Vehicular IoE	Document: Internet of Energy for electric vehicular mobility
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Internet of Energy for electric vehicular mobility

Future urban scenarios will require to properly accommodating a growing number of electric vehicles, roaming in the urban environment and calling for recharging in private/public stations by optimizing recharging times, electricity request balancing, and so forth. This scenario opens new technical challenges and new relevant opportunities for the synergic management of the smart electric grid depending on mobility patterns, user habits, emerging and repetitive behaviors, etc.



The image shows a conceptual schema of the recharging infrastructure. Electric vehicles and recharge stations share information (e.g. location, energy reserve, etc...) with the system for supporting management and energy service.

The goal is to realize an optimized recharging infrastructure and the associated smart electric grid, based on the dynamically observed characteristics of urban mobility, possibly by engineering citizens' mobility behaviors based on incentives and cooperation.

Related topics of interest include, but are not limited to:

- extraction of urban mobility trends and induction of mobility behaviors;
- cooperative monitoring and opportunistic exchange of monitoring data;
- peer-to-peer epidemic dissemination protocols;
- integrated management of charging stations, electric vehicle smart spaces, and smart electric grids;
- security and accounting for distributed charging stations;
- interoperability and scalability aspects in integrated urban environments.