ERSCP 2012: Workshop Design Sheet

Title of Workshop *
Outside the Box Approaches to Electric Mobility

Subtitle
Unconventional innovations that may bring about a large scale transition to electric mobility

Objectives
Identify key technological and societal innovations to enable the widespread adoption of personal electric mobility. Create an expert network.

Short Description of Workshop Outline (max. 2000 characters) *
Various governing bodies have set highly ambitious goals to bring about the widespread adoption of electric vehicles for personal transport. E.g., according to the Austrian Federal Environmental Agency 3.9% of all cars in Austria will be plug-in hybrid or fully electric vehicles*. The high efficiency, the high power-to-weight ratio, the mechanical simplicity, and the superior torque of electric motors combined with electricity generation from renewable sources make a striking case for electric vehicles. However, current batteries with their relatively low energy density and long charging cycles constrain the widespread deployment of electric vehicle. The workshop targets groundbreaking innovations beyond incremental improvements in battery technology.
This workshop will be held at the illwerke vkw premises, from where VLOTTE, one of the largest electric mobility projects in Europe is managed. We will take a close look at the lessons learned from VLOTTE and attempt to chart possible courses for the future of electric mobility. The workshop aims at stimulating the debate on unconventional technological and societal approaches that will facilitate the widespread adoption of electric vehicles for personal transport. After two introductory presentations and test-driving electrical vehicles, workshop participants will break up into two groups to discuss technological and societal innovations respectively. Technological approaches that may be discussed are (i) in-drive power supply and charging via contact lines or induction coils and (ii) flow batteries and the associated infrastructure for electrolyte replacement, etc.
Societal innovations and trends of relevance are (i) shift in perceived prestige of car ownership, (ii) integrated mobility concepts, (iii) urbanization, etc.
At the end of the workshop, each group will present 2-3 innovations or trends that may serve as game-changers towards the widespread adoption of electric vehicles for personal transport. The workshop aims at establishing an expert network and knowledge base on outside the box innovations in electric mobility under the auspices of the illwerke vkw endowed Professorship for Energy Efficiency at FHV the Vorarlberg University of Applied Sciences.

Expected Outcomes and Results
- 2-3 key technological innovations that may bring about the widespread adoption of electric mobility,
- 2-3 key societal innovations and trends that may bring about the widespread adoption of electric mobility
- An expert network for outside the box innovation in electric mobility with an associated database, hosted at FHV the Vorarlberg University of Applied Sciences.