EXPLOITING POTENTIALS

Dead Reader,

For some, it is the solution to all our problems, while for others it is the buzzword of the new millennium: electromobility. There is no denying that the climate targets for 2020 make good sense. It is also beyond dispute that the constructive potentials need to be consistently exploited. One can spend time arguing whether the German government's declared target for the number of electric cars on the road by 2020 is realistic. But the most important thing is that electric drive systems continue to be developed and tested and that efficient solutions find their way onto our roads.

Concepts for future electric vehicles will in some cases have to differ radically from current vehicle concepts. Wheel hub motors, in which the drive components are located directly at the wheels, offer benefits in vehicle design and construction, opening up great potentials not only in aerodynamics, space economy and vehicle dynamics but also in passive and active safety. This may result in enhanced user comfort, longer driving ranges and therefore a greater acceptance of electric vehicles by the customer – as long as the manufacturers are able to get the costs under control. The additional price of around 10 % forecast by the Fraunhofer LBF for a vehicle with a wheel hub drive system would only be accepted by the market if the prices of electric vehicles were brought down to a level affordable by the masses.

Combined heat and power (CHP) generation is also one of those magic words for an ecologically responsible future. Vaillant, for example, is producing systems for domestic installation. But in combination with mobility, such systems, for example Honda's Home Energy Station, have not yet progressed beyond the field trial stage. Their market launch is being hindered

above all by the considerable costs involved. Much more promising, therefore, is an approach taken by fka and ika, in which small range extender modules in the vehicle not only help to reduce mobility-related CO₂ emissions but can also be connected to a property in order to cut the domestic heating bill. The car with its internal combustion engine therefore performs a secondary function as a (mobile) CHP unit. The advantages, especially for plug-in hybrids and range extender concepts, are obvious. The waste heat from the internal combustion engine can be used to heat the house, and the electricity generated can either be directly used to cover some of the electric power requirements or be stored in a traction battery.

All just a pipe dream? At the present time perhaps, but this technology may well make its breakthrough sooner than we think – as long as its potentials are consistently exploited.

Kind regards,

DR. ALEXANDER HEINTZEL, Editor in Chief
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