



What New Drive Concepts Do We Need?

Vehicles are on the road for a variety of reasons. Environmental data, models and simulations based on our “Virtual Measurement Campaign” (VMC[®]) software solution show which drive is suitable for which application.

A parcel delivery service serves roughly the same area every day, braking frequently and starting up again. Perhaps a messenger also leaves the engine running when he brings deliveries to the front door. Employees of craft businesses usually drive to customers’ homes where the car is parked for a longer period of time. The target persons are often spread over a larger area than those of the parcel deliverers; thus, cross-country trips are presumably also part of the of the vehicle’s usage profile.



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The Best Drive for Every Type of Use

Companies involved in vehicle production want to know at an early stage how to develop their vehicles sustainably and in line with demands of the addressed markets. This applies all the more to alternative drive technologies, for which little experience is yet available. Service providers – craft businesses or parcel services – want to put together an optimal vehicle fleet. In view of increased fuel costs and the prospect of innovative drive systems, such planning is all the more important. When is it worth switching to an electric car? Preferably with a fuel cell? And does the installation of a recuperative brake pay off? This technology, which recovers energy during braking, is already in use in rail vehicles and also plays a role in electric vehicles. However, the regenerative brake costs more than a conventional brake.

These few examples alone illustrate the enormous variety of uses on our roads. Michael Burger’s team is also investigating which drive is best suited for which application. “To make

sustainable drive concepts viable for the future, they must be analyzed and compared under realistic conditions of use. We develop the methods for this and also supply the adequate technology. A major advantage of our offering is that we combine environmental and usage data with analysis and simulation methods to model realistic scenarios for vehicle engineering and development.”

Modeling Based on Many Factors

The researchers incorporate a variety of factors into their modeling: route, vehicle, driving behavior and traffic. The basis here is also our software toolbox “Virtual Measurement Campaign” (VMC[®]). “Our simulation results help public transport operators or freight companies, for example, to put together the optimum drive mix for their vehicle fleet”, Michael Burger emphasizes.

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