

# Research on the Distributability of Software-Functionalities in a Total-Vehicle-Architecture

## Task

Currently, intense efforts are being made in the automobile industry for the cause of establishing basics for distributability and hardware-independent switchability of particular software-functions over the control units in a vehicle. The desire of the automobile manufacturers as integrators is to purchase functional software, irrespective from the sub-system-hardware and the ability to implement on control-units of their own choice.

The aim of this thesis will be the formulation of an architectural and a technological concept for the distributability and switchability of software-functionalities from different sources of the total-vehicle-architecture along with its exemplary, simulative or prototypical realization. In your concept, the practically relevant requirements must be considered. For instance, the hardware-independence over control-units of different capability, communication between software-functions crossing control-unit borders, real-time ability or safety of 'intellectual property' of suppliers and respectively of manufacturers.

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