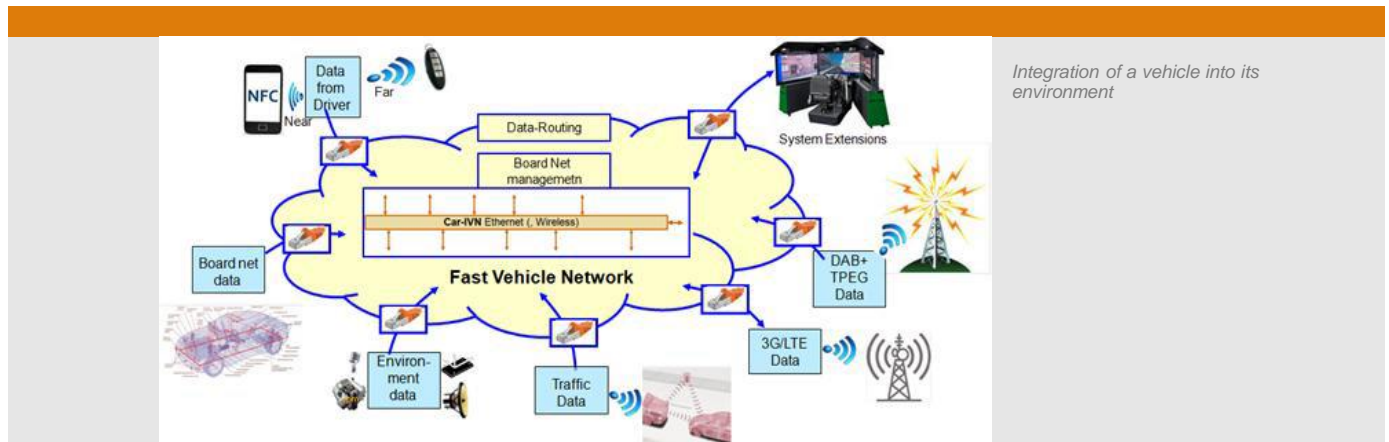


# SADA

## Smart Adaptive Data Aggregation



Traffic infrastructure in cities is equipped with more and more sensors gathering current information about traffic flow, traffic load, or parking space occupancy. Modern cars are moving measuring stations whose sensors observe the behavior of the car and environment parameters. A combined analysis of mobile and stationary sensors promises significant insights. They may optimize the utilization of traffic infrastructure, reduce traffic jams and searches for parking space, decrease the emission of CO<sub>2</sub> and particulate matter, increase driver safety, and support comfort functions. The benefit and the acceptance of electric vehicles in particular may be increased by this development. For example:

- **Optimized Energy Consumption:** range prediction and driving route/style optimization
- **Increased Safety:** situational reaction and active accident avoidance by environment perception
- **Autonomous Driving:** positioning/docking at a loading station
- **Improved Fleet Management:** organization of vehicle fleets, e.g. for car sharing

However, the combination of data from mobile units and infrastructure is hardly practiced today. One reason is that sensors and evaluation procedures, including necessary hardware and software, are developed independently and are not standardized. Therefore, sensors and data logging systems from different manufacturers and application areas cannot communicate with each other.

In the joint research project SADA under the direction of SIEMENS AG solutions are developed for a dynamic integration and processing of data derived from various, non-concerted sensors. The project will demonstrate how data collected by on-board sensors of a car may be combined intelligently and very flexibly with data from an unknown stationary sensor infra-structure. This shall lead to situational implementations of complex new application ideas.

The demonstration platform is EO smart connecting car 2, a highly flexible robotic electric concept car developed by the DFKI. This vehicle may be extended by modules for additional functions. Within the SADA project, this concept is implemented as a range extender, i.e. as a trailer with extra batteries.

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