PROJECT

SADA

Smart Adaptive Data Aggregation

Funding: National (Germany)

Duration: Feb 2015 - Jan 2018

Status: Complete

Background & policy context:

Modern cars are equipped with an increasing amount of on-board sensors. The expected market penetration of Advanced Driver Assistance Systems, including autonomous driving, will turn future cars and trucks into moving measuring stations. In many cities, also traffic infrastructure has, or is being equipped with, sensors, gathering current information about traffic flow, traffic load, or parking space occupancy. A combined assessment of data from stationary infrastructure sensors and mobile sensors in cars may contribute to optimize the utilization of traffic infrastructure, reduce traffic jams and searches for parking space, and decrease the emission of CO_2 and particulate matter. It can promote safety, and support comfort functions.

For electric vehicles in particular, this evolution creates many opportunities to raise the benefit and the acceptance of such vehicles. For example:

- Range prediction and driving style adjustment for optimized use of energy

- Autonomous driving of the "last stage", e.g. to get to the loading station

- Systematic degradation to increase the range

- Better environment perception for situational reaction, e.g. warning pedestrians through sound, avoiding unnecessary deceleration

- Organized operation of vehicles in fleets, e.g. car sharing, follower function in a platoon

Objectives:

However, the combination of data from mobile units and infrastructure is normally not put into practice today. There are no methods to use the many existing components in a modular fashion and to recombine them flexibly. One fundamental reason for this 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, 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 infrastructure. This shall lead to situational implementations of complex new application ideas.
Under the direction of SIEMENS AG, six partners from industry and research cooperate in the SADA joint research project.

Other funding sources: Federal Ministry of Education and Research BMBF

Partners:

Siemens AG, fortiss GmbH, Baselabs GmbH, NXP, ALL4IP TECHNOLOGIES GmbH & Co. KG, Continental AG

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STRIA Roadmaps:
Cooperative, connected and automated transport, Network and traffic management systems, Smart mobility and services

Transport policies: Digitalisation

Geo-spatial type: Other