



# “URBAN MOBILITY, ROADS NETWORK OPERATION AND ITS APPLICATIONS”



## Safe and Intelligent Mobility Test Field Germany



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### Outline

The research project **sim<sup>TD</sup>** has shaped tomorrow's safe and intelligent mobility in Germany/Europe through research and testing of car-to-car and car-to-infrastructure communication and its applications. **sim<sup>TD</sup>** has put the results of previous research projects into practice. For this purpose realistic traffic scenarios were addressed in simulation (driving and traffic simulation) and a large-scale field operational test that included the infrastructure around the city of Frankfurt am Main. The project paved the way for a political, economic and technological framework to successfully set up car-to-x networking.

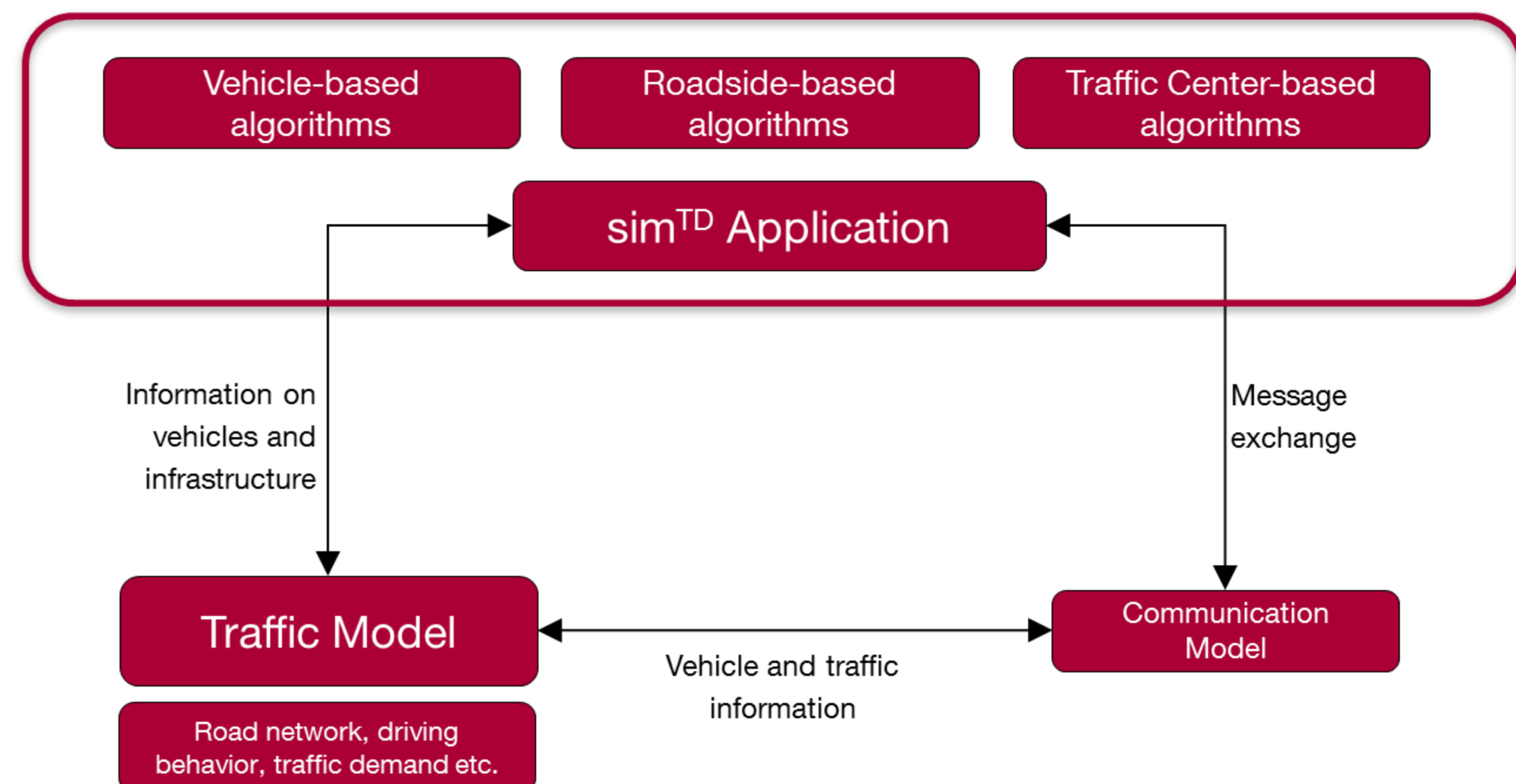
### Objectives

- Increasing road safety and improving traffic efficiency through the use of car-to-x communication.
- Defining and validating of a roll-out scenario for the applications through practice-oriented experiments and field operational tests.
- Developing of test and validation metrics and methods in order to allow measurement and evaluation of the results.
- Consolidating and harmonizing of feasibility and performance requirements as well as ensuring their compatibility.
- Verifying of functions and requirements within the context of individual milestones.

### The **sim<sup>TD</sup>** Test Field



### Components of the **sim<sup>TD</sup>** Traffic Simulation



### Traffic Simulation

In addition to real world tests, the traffic experts from TUM have determined the effects of the **sim<sup>TD</sup>** applications on traffic flow and road safety i.a. by means of traffic simulation. They analyzed the impact of different applications on the traffic system as a whole, particularly for different penetration rates in comparable situations and with well-defined traffic demands.

The results show:

- that **Car-to-X based warnings** have a **positive effect on traffic flow and road safety**.
- With **dynamic routing advices** travel times can be reduced **significantly** and
- that **Car-to-Infrastructure communication** at intersections – i. e. communication with traffic signals – **can improve traffic efficiency**.

### Partners



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