

HD MAPS

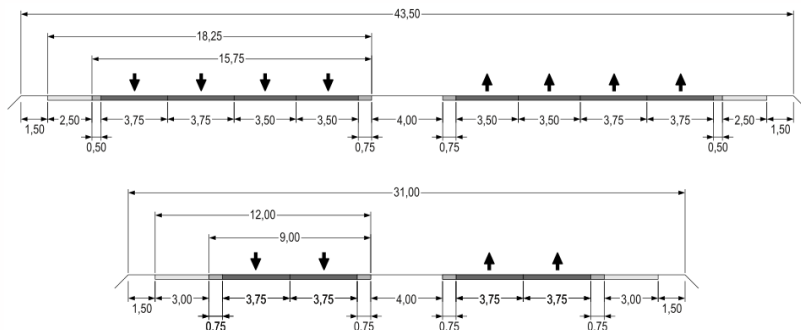


Real and synthetically generated, highly detailed maps for testing.
How do reality-based and scenario-derived roads get into the simulation?

Track generation

For the reproduction of all possible motorway construction types a parameter-based, automated generation is used. Motorway cross-section definitions serve as reference and can be adapted individually regarding road course and road infrastructure.

Result: Creation of all test-relevant motorway sections for the simulation.



Motorway cross-section definitions adapted by parameter-based test track generation.

Track surveying

Kinematic and highly-detailed acquisition of an extensive motorway ring as real-data base. Representation of a widespread object catalogue in analogy to automated test track generation.

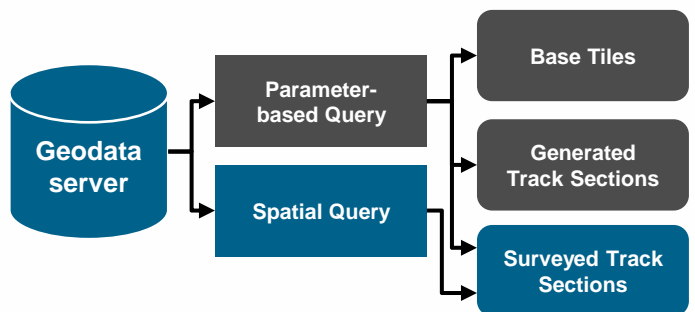
Result: Large-scale HD map based on real geodata for application in simulation and field tests.



Surveyed motorway ring with road infrastructure.

Geodata-Server

Serving of auto-generated and surveyed test tracks in OpenDRIVE via REST services. Surveyed data is provided through OGC-standardized interfaces with spatial query capabilities.



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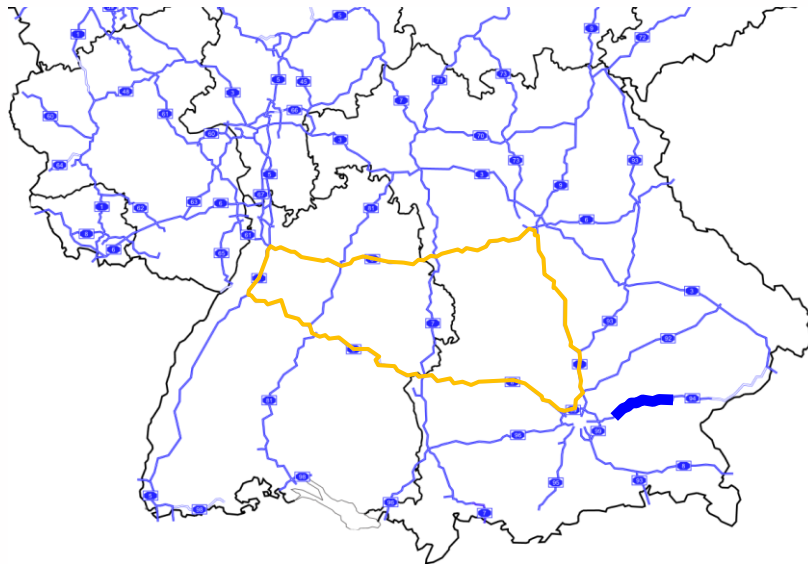
Surveying of different motorway sections as real-data base for additional safeguarding of simulations based on auto-generated data.

Reference track surveying

Kinematic multi-sensor surveying of the road topography and the road infrastructure



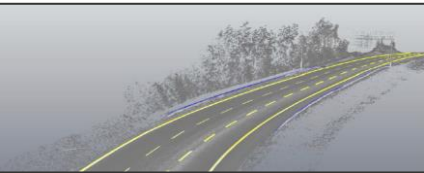
Acquisition of a wide-ranged test area for covering of different road characteristics. For application in simulation and field tests.



Surveyed motorway ring with road infrastructure: A6, A9, A8, A5 (clockwise). Total track length of approx. 700 km per driving direction.

Data processing

- Pass-point-based processing of the trajectories result in high *relative and absolute* coordinate precision.
- Annotation of the pre-processed data regarding road lanes, marks, signals, etc., according to an extensive object catalogue.



Exemplary visualization of a highway intersection after the surveying and data processing into the output format OpenDRIVE.



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