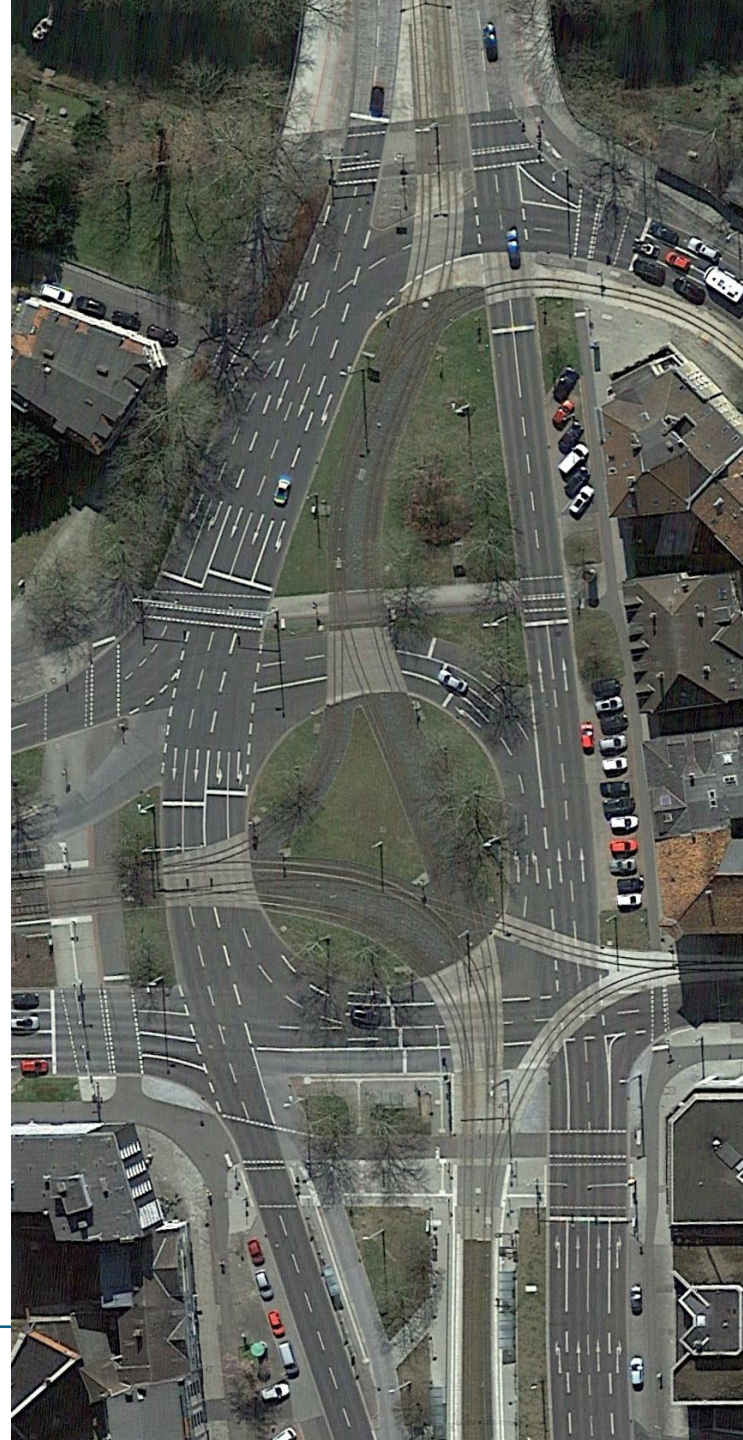
Problem Statement and Basic Idea

Current situation

- ASAM OpenDRIVE is used for scenario-based testing of current ADAS (SAE Level 1 and 2) using small snippets of synthetic road sections
- Next generation of ADAS (SAE Level 3) have more capability and can be used in more complex scenarios
- ADS (SAE Level 4) will operate in urban environments
- Due to complexity, more and more test runs will be demonstrated in virtual environments, samples will be tested in real world conditions
- Virtual testing becomes a critical part of homologation process

Current challenges

- More real-world data get introduced to simulation
  - Complex road layouts not following the modeling concept of ASAM OpenDRIVE (reference line concept)
  - Various road infrastructure and variants thereof
- More information about environment is necessary
  - Represent the whole environment (surface, vegetation, street infrastructure and furniture, buildings, etc.) next to the curbstone
  - Material data for sensor simulation
  - Interaction of traffic participants
- More stakeholders get involved



Basic idea

- Separate road logics from visualization properties
- Link ASAM OpenDRIVE logic with CityGML semantic environment model
- Reduce complexity, increase interoperability and modularity
- Facilitate exchange between overlapping domains
- Still support synthetic *and* geospecific scenarios