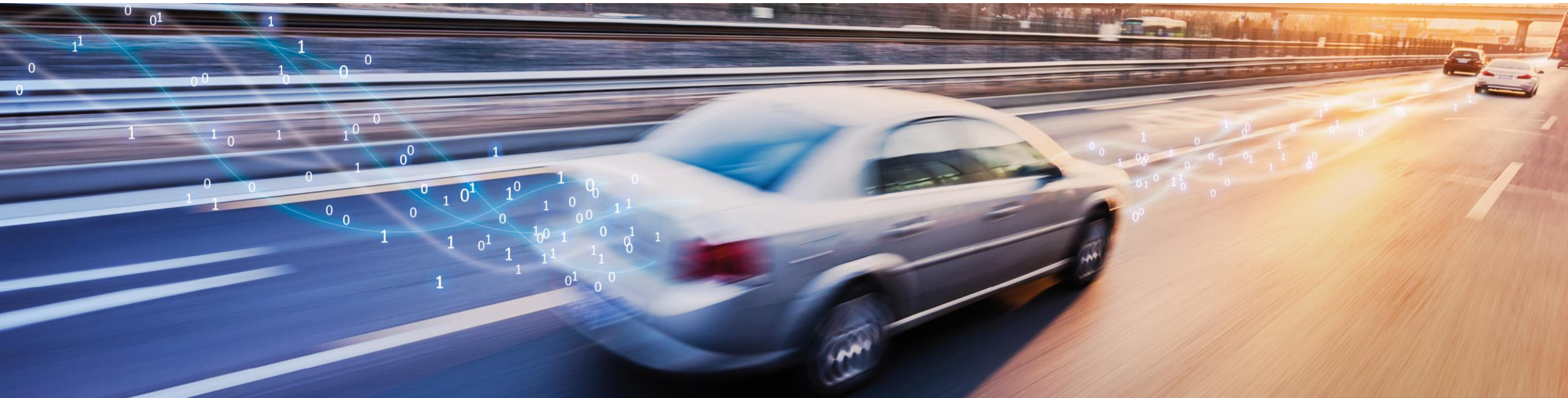


# ASAM OpenDRIVE 1.7.0 Release

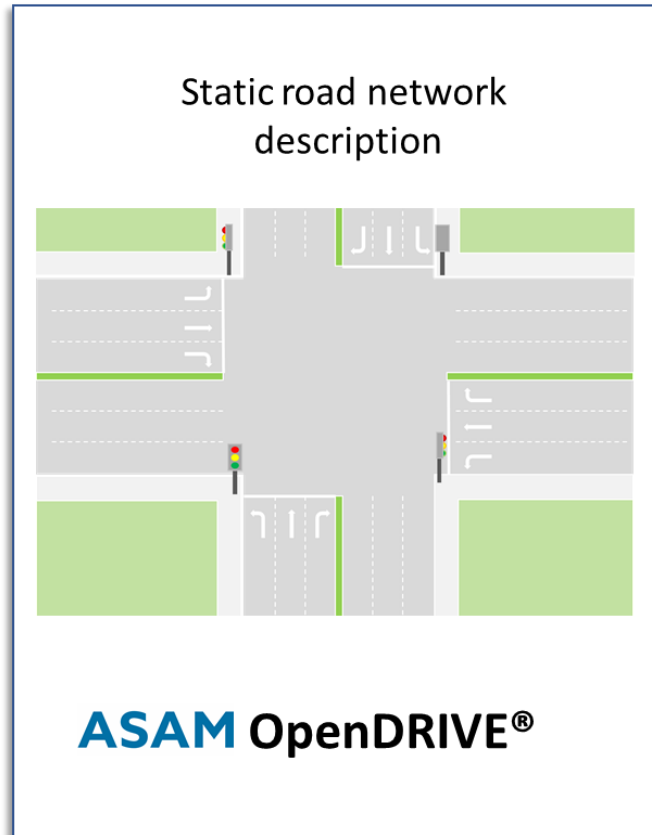
April 15th, 2021



# Agenda

- 1 **Agenda**
- 2 **About OpenDRIVE 1.7**
- 3 **What's new OpenDRIVE 1.7**
- 4 **Release Contents OpenDRIVE 1.7**
- 5 **OpenDRIVE 1.8**
- 6 **OpenDRIVE Conformity Test**

# Motivation of OpenDRIVE 1.7

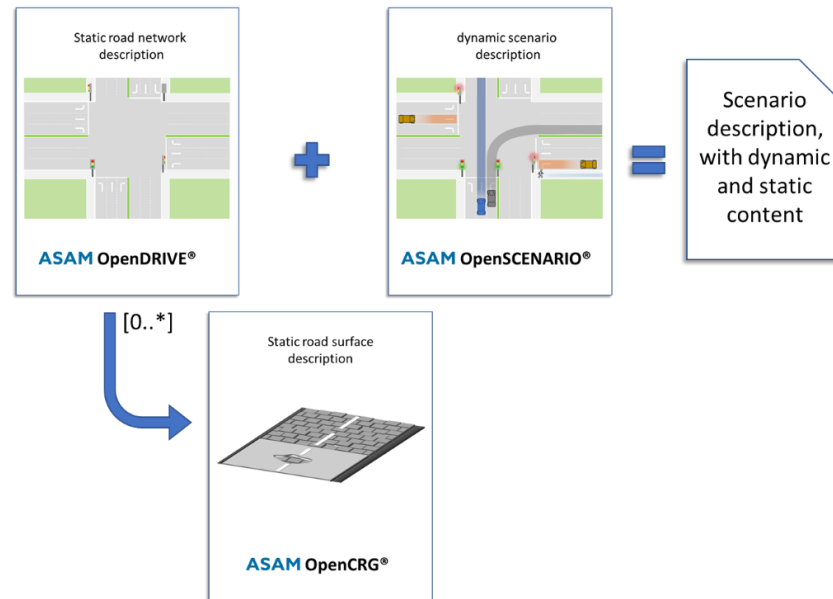


- ASAM OpenDRIVE provides the exchange format specification to describe static road networks for driving simulation applications.
- The primary task of ASAM OpenDRIVE is the road description including objects along the road.
- The OpenDRIVE Specification covers the description on how to model e.g. roads, lanes, junctions.
- Dynamic content like Cars and pedestrians are not covered by ASAM OpenDRIVE.

# Relation to other Standards

## Relation of ASAM OpenDRIVE to OpenCRG and OpenSCENARIO

- ASAM OpenDRIVE defines a storage format for the static description of road networks.
- In combination with ASAM OpenCRG it is possible to add very detailed road surface descriptions to the road network.
- To add dynamic content ASAM OpenSCENARIO is needed.



Combined all three standards provide a scenario-driven description of traffic simulation that contains static and dynamic content.

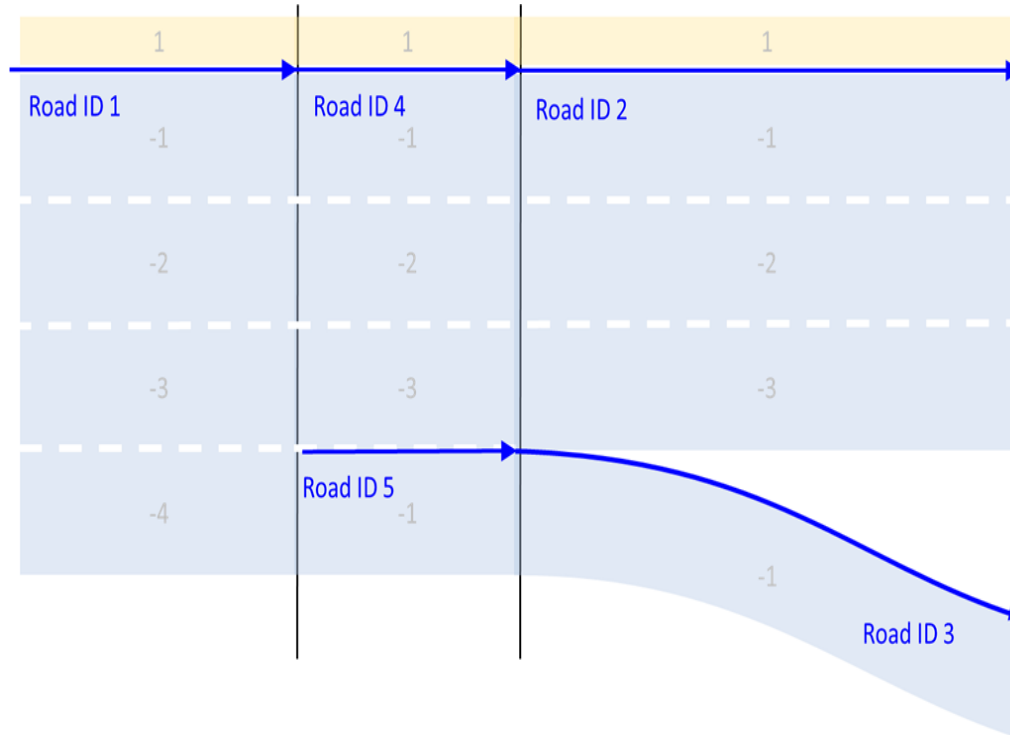
## References to other Standards

- XML 1.0 Schema
- UML 2.5.1 Standard
- ISO 3166-2 for country codes
- ISO 8601 for time / date
- Georeferencing (ISO DIN 19111)

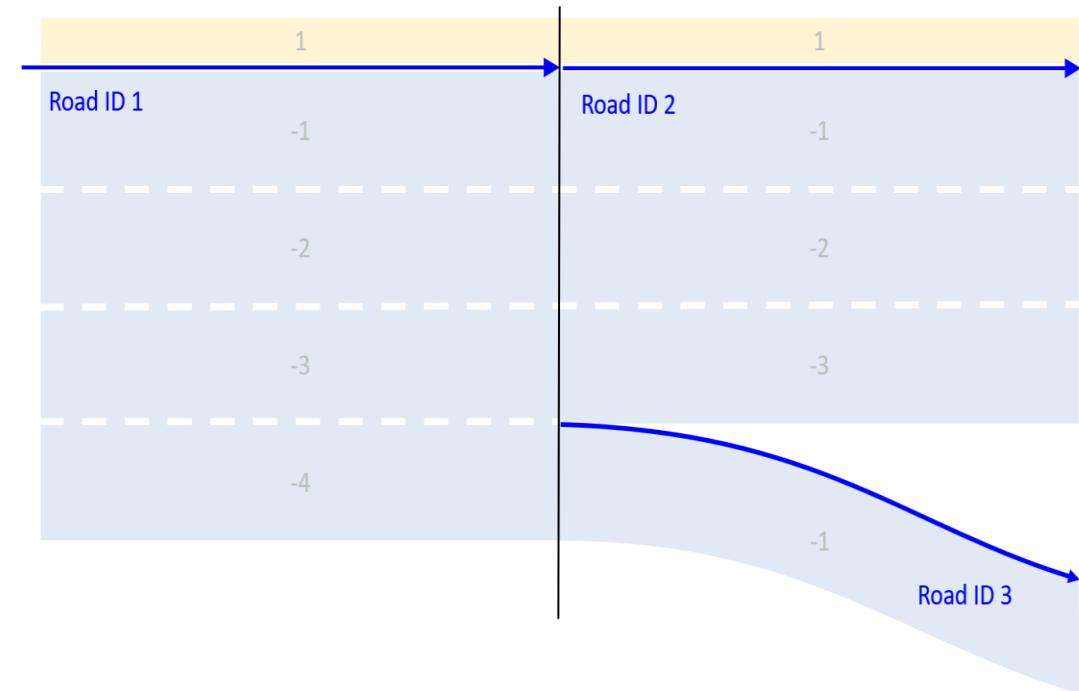
# What's new OpenDRIVE 1.7

## Direct Junctions

used for a typical motorway exit.



OpenDRIVE 1.6

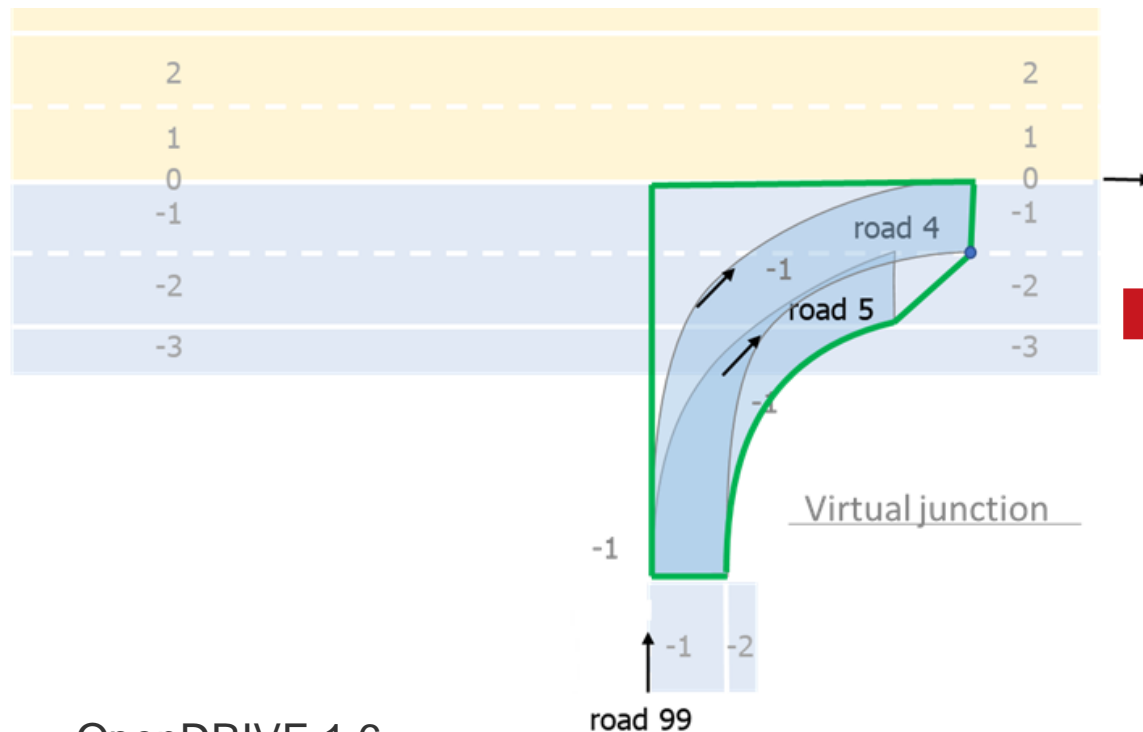


OpenDRIVE 1.7

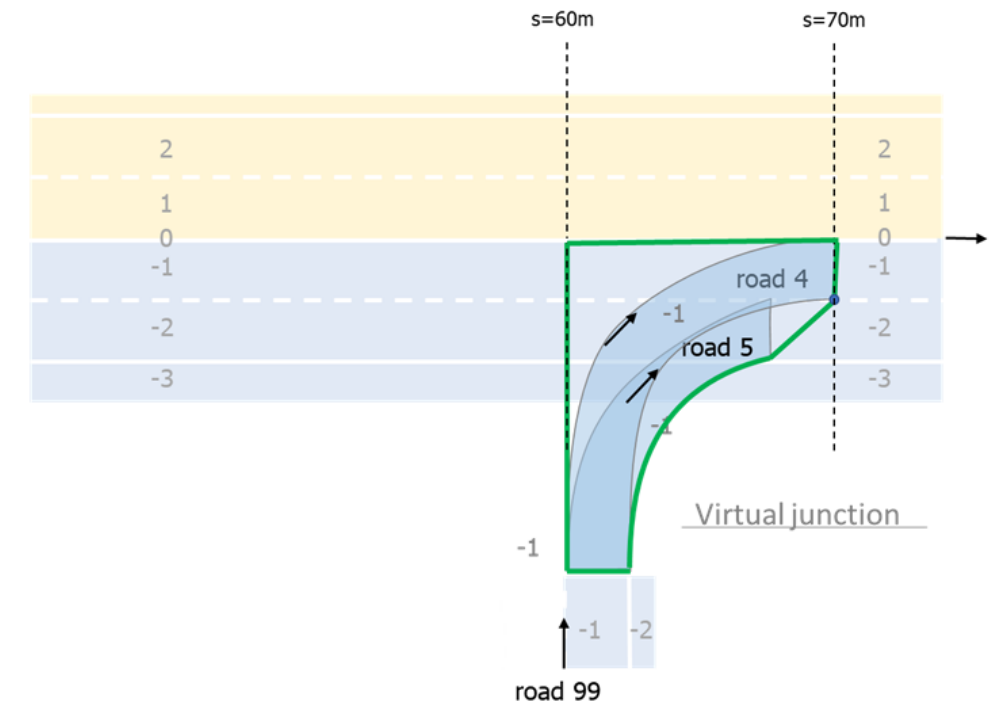
# What's new OpenDRIVE 1.7

## Virtual Junctions

used for driveways and supermarket entries



OpenDRIVE 1.6



OpenDRIVE 1.7

# What's new OpenDRIVE 1.7

## OpenCRG for objects

Required for potholes, manholes, cracks patches

In OpenDRIVE 1.6

- Can have either OpenCRG for the road or openCRG for an object. But not both at the same place.
- No linkage between the objects and the openCRG
- Object with openCRG could not be rotated



Or





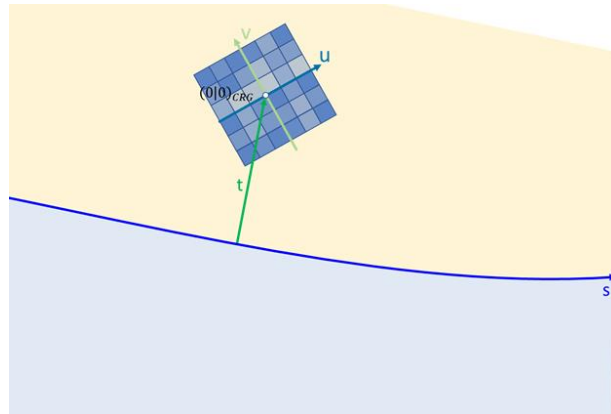
# What's new OpenDRIVE 1.7

## OpenCRG for objects

Required for potholes, manholes, cracks patches

In OpenDRIVE 1.7

- Can have road surface and a pothole at the same place
- It is clear with openCRG belongs to which object
- Object with openCRG can be rotated



# What's new OpenDRIVE 1.7

## Documentation improvements

From OpenDRIVE 1.5 to OpenDRIVE 1.6

- Added UML Model
- Document was still in Word.
- -> Redundancy of contents. Only parts were extracted from the UML Model and added manually to the document.

From OpenDRIVE 1.6 to OpenDRIVE 1.6.1

- Document was moved to asciidoc, html and gitlab.
- -> Redundancy of contents. Only parts were extracted from the UML Model and added manually to the document. Changes had to maintained twice.

From OpenDRIVE 1.6.1 to OpenDRIVE 1.7

- All classes are extracted automatically into the document.
- A lot of the redundancy has been removed
  - class description
  - attribute description
  - attribute types

# Backward Compatibility

- OpenDRIVE 1.7 is backward compatible to OpenDRIVE 1.4 and OpenDRIVE 1.5 OpenDRIVE 1.6.x xml files (not the schema files).

# Deliverables

## Documents

- OpenDRIVE 1.7 Specification:
  - HTML

## Supplementary Files

- xsd schemas
- UML Model as html Export
- Example and use case files
- OpenDRIVE Signal Catalog