

USE CASE

# Real Driving Emissions

RELIABLY SIMULATED WITH PTV VISSIM

In the automotive industry increasingly complex customer requirements, innovative technologies and tighter legislation are all factors that have a significant impact on development time, optimisation and validation. To reduce these time periods, simulation solutions are increasingly being used. Car manufacturers such as Ford, Nissan and Toyota already rely on PTV Vissim for traffic simulation.

## TRAFFIC LIKE IN REALITY

New and ever stricter legislation requires quick and accurate results from the car industry in terms of fuel consumption and emissions. The current regulations on exhaust emission measurements in road traffic - Real Driving Emissions (RDE) - present a new challenge for car manufacturers as conventional test methods becoming inadequate and tests that up to now have been carried out in a laboratory environment must now be measured under real driving conditions. For car manufacturers, different factors such as route profiles, environmental conditions, traffic situations and the related driving behaviour must be taken into account.

This is where PTV Vissim becomes a powerful simulation tool for its ability to realistically simulate real traffic conditions, test different traffic scenarios and provides realistic forecasts.

## THE PREVAILING CHALLENGE: REAL WORLD TESTING CONDITIONS

Long and frequent test drives mean high labour, resource and time costs. Moreover, it is impossible to repeat a real traffic situation under identical conditions time and time again. Measuring inaccuracies must be input into the calculation and create the need for room for manoeuvre between the limit values.

## THE SOLUTION: SIMULATIONS WITH PTV VISSIM

- ▶ PTV Vissim creates realistic traffic flows in a simulation. Emissions by a test vehicle in such a traffic flow can be studied depending on the surroundings.
- ▶ According to your requirements, any traffic situation (e.g. motorway, city traffic) can be represented and simulated whatever the volume of traffic.
- ▶ Whether real or fictitious, you can reproduce any type of test route in PTV Vissim.
- ▶ For example, with PTV Vissim it is possible to run 1,000,000 kilometres „overnight“, delivering results in the shortest possible time. Moreover, in PTV Vissim it is possible to run multiple instances significantly reducing overall run times, especially compared to live operations.

You can also implement any new findings from the simulation in PTV Vissim straight into your product development cycle.  
Are you ready for a test? Get in touch!

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## ADVANTAGES AT A GLANCE

### STAY SAFE AT ALL TIMES

- ▶ Any test route or test section in any environment
- ▶ Realistic traffic flows for any time of day
- ▶ Sample sizes as large as desired: more test cases than is possible on the road
- ▶ Impact of traffic situation on the vehicle
- ▶ Stochastic test reliability – high reliability of results can be achieved in different scenarios

### COST EFFICIENT

- ▶ Fast results without significant technical investment
- ▶ Standard cases and representative traffic networks readily available

### EASY TO USE

- ▶ Standard output format as the basis for further studies
- ▶ Can be read out quickly without knowledge of PTV Vissim
- ▶ Open interfaces for all development software and manufacturer systems

