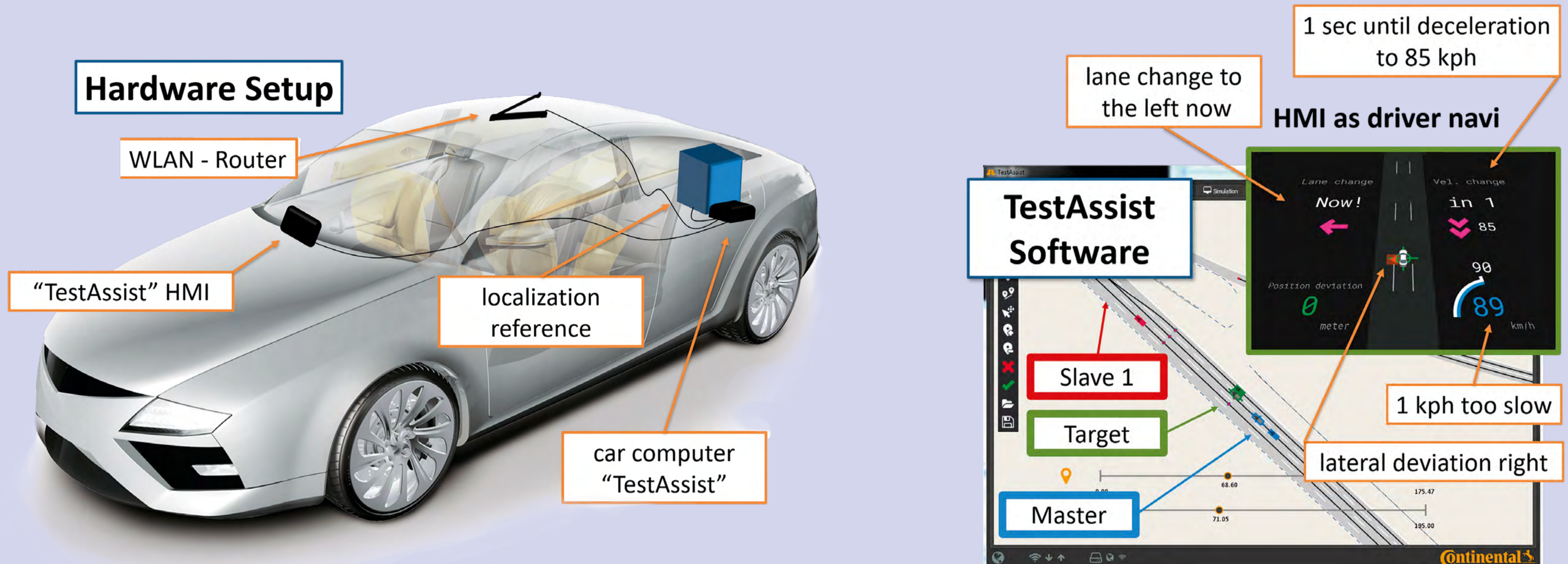# Coordination Tools for HAD-System Testing

GOAL

- Reproducible system tests in real scenarios with company vehicles
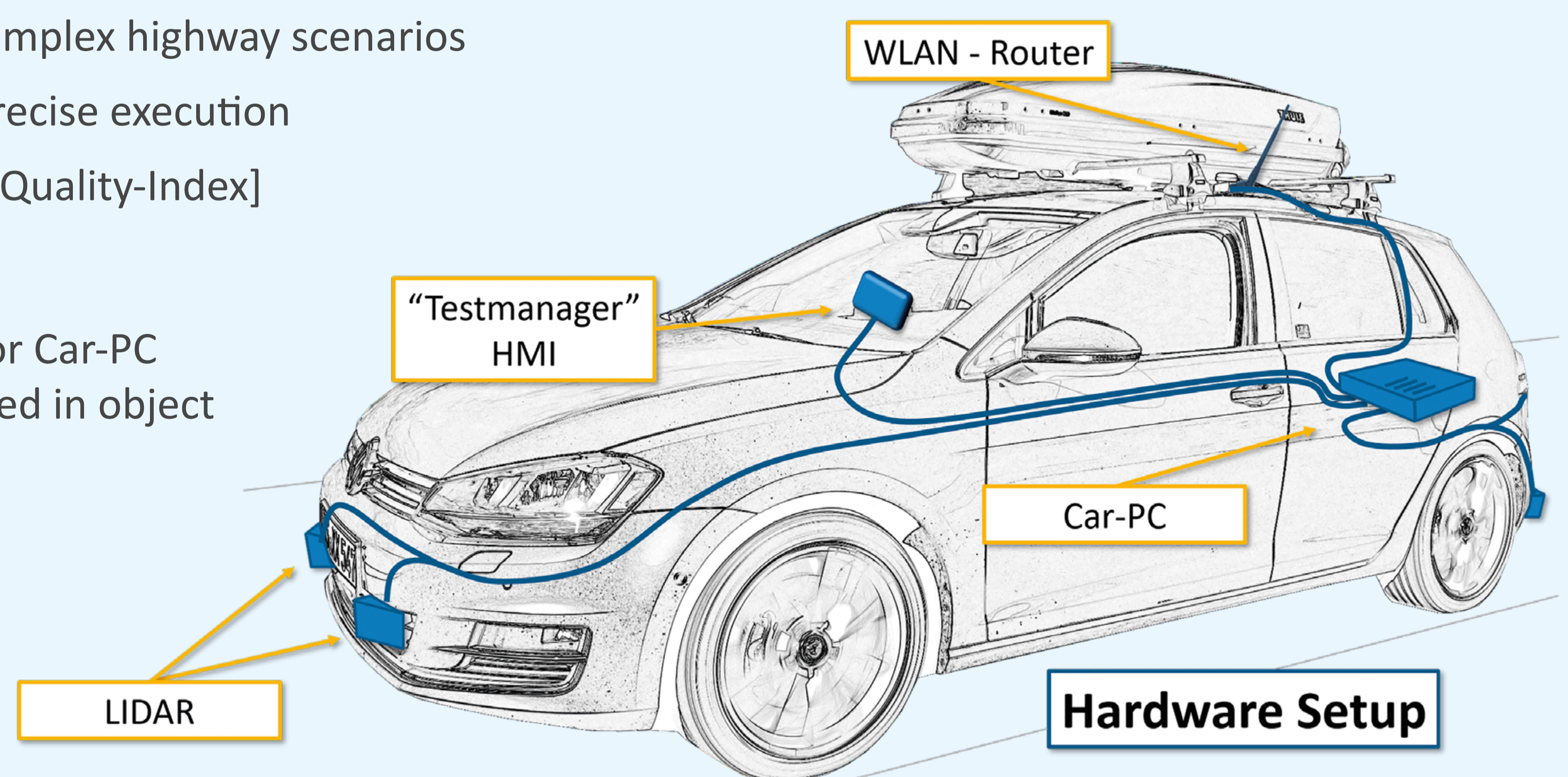- Evaluation-reference data from test and company vehicles

TOOL „TESTASSIST"

- Planning scenarios for each vehicle (Target, Master, Slave 1 and 2)
- A high accurate map is used (OpenDrive)
- Simulation of planned scenarios with moving vehicles – useful for:
  - Briefing test drivers
  - Optimizing the test case
- Definition of the test case is saved in a "json" file
- Positioning & moving data from a test run are saved in a "Logging" file (10 to 20ms step)
- Replaying of test runs and comparison real vs. planed test cases

→ **Related to absolute positions based on topographical surroundings**

Hardware Setup

WLAN - Router

"TestAssist" HMI

localization reference

car computer "TestAssist"

1 sec until deceleration to 85 kph

lane change to the left now

HMI as driver navi

TestAssist Software

Now!

Slave 1

Target

Master

1 kph too slow

lateral deviation right

Continental

TOOL „TESTMANAGER"

- Tool-Chain for the observance of test parameters and precise test execution in reality
  - Planning and Definition of complex highway scenarios
  - Test Instructions for a high precise execution
  - Evaluation of run test-cases [Quality-Index]

- Visualization via mobile device or Car-PC
  → no additional hardware needed in object vehicles.

- Based on LIDAR-Sensors and WLAN Communication

→ **Related to relative positions of object vehicles**

WLAN - Router

"Testmanager" HMI

Car-PC

LIDAR

Hardware Setup

Scenario Setup

Object1

Object2

Δx [m]

$v_{object1}$ [km/h]
$x_{object1}$ [m]

$v_{object2}$ [km/h]
$x_{object2}$ [m]

Observed char. parameters

VuT / Master

LIDAR coverage

www.ko-haf.de