SHARED FACILITIES

Located at the **Automotive Campus** in Helmond

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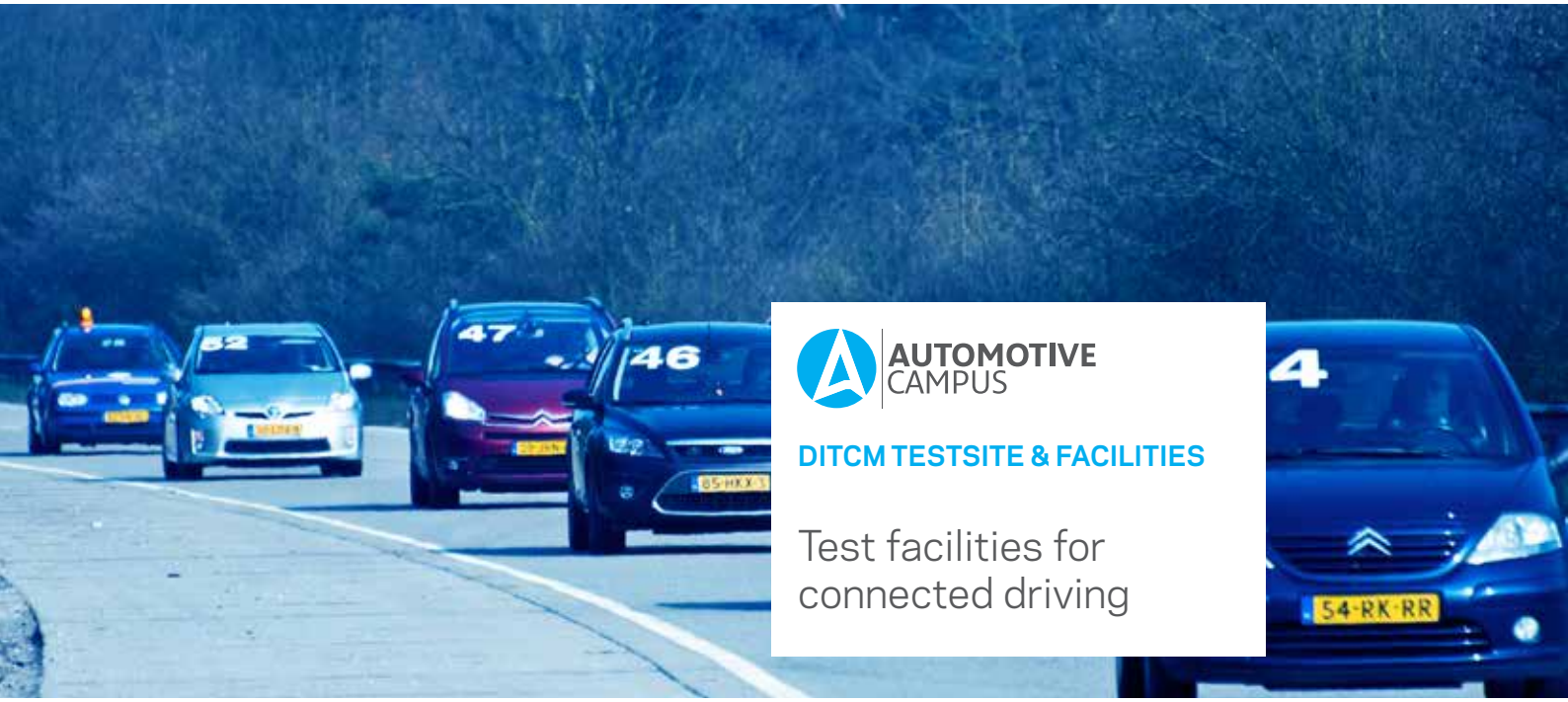
www.automotivecampus.com



AUTOMOTIVE CAMPUS

DITCM TESTSITE & FACILITIES

Test facilities for connected driving

VERIFICATION AND VALIDATION OF COOPERATIVE TRAFFIC SYSTEMS

DITCM Facilities provides services and facilities for physical and virtual testing in the fields of cooperative driving, connected vehicles and smart mobility.

Our test facilities range from desktop simulation software and indoor laboratory testing right up to the A270 public highway for large-scale outdoor testing. Our test facilities have been used in a wide range of Dutch projects such as the Shockwave experiment and SPITS cooperative driving experiment, as well as for European projects such as the Grand Cooperative Driving Challenge (GCDC) and Drive C2X.

EVALUATION OF COOPERATIVE TRAFFIC SYSTEMS

Cooperative systems are being developed for large-scale deployment in the near future. Validation of the performance of cooperative systems and evaluation of the impact of cooperative applications are crucial before large-scale deployment can proceed.

DITCM TEST SITE & CONTROL CENTER

The DITCM test site is located on the A270 and N270 roads in and between the cities of Helmond and Eindhoven. The test site consists of both a motorway and urban environments.

The DITCM test site is 8 km long, with 6 km of motorway. Roadside equipment is responsible for vehicle detection and V2X communication.

All other equipment is located indoors and includes sensor fusion facilities, application platforms and a traffic management center. The test site is connected to neighbouring urban sections and other information sources by a high-speed internet connection.

APPLICATION FIELDS

- Vehicle-to-Vehicle applications
- Vehicle-to-Infrastructure applications
- Shock wave damping
- Cooperative ACC
- Traffic Jam warning
- Road Hazard warning
- Emergency Brake Light Warning
- Emergency Vehicle Warning
- Green Light Optimal Speed Advisory
- Merging Assistance
- Intersection Collision Warning

OFFERING

- Independent test services for evaluation and validation of cooperative systems
- Assessment of impact of cooperative systems on traffic
- Verification of V2X components
- Validation of ITS systems
- Multi-vendor interoperability testing
- Closed track testing as well as public road testing in mixed traffic

DITCM TEST SITE

- 6 km highway, 2 km urban road & 2 traffic light controllers
- 20 ITS G5 roadside units (802.11p)
- 56 cameras for real-time vehicle detection and tracking
- 11 dome cameras
- 3G communication
- Integration of third party hardware and software systems for testing

DITCM CONTROL ROOM

- Test control and monitoring
- Logging, on-line analysis and evaluation
- Control and test third party communication and application units
- Emulation of "Here I am" messages of non-equipped vehicles to increase the penetration rate of cooperative vehicles

DITCM TEST FLEET

- Instrumented vehicles with extendable in-car platforms
- Vehicles with radar, camera, lidar, DSRC, GPS, 3G
- Software toolkit to rapidly create and test application software

SIMULATION TOOLSUITE

- Detailed simulation of connected vehicle systems (PreScan)
- Microscopic traffic simulation of intelligent systems on city-sized road networks (ITS Modeller)

LABORATORY TESTING

- HIL testing of Communication Units and Application ECUs (GRACE)
- Indoor laboratory testing of complete vehicle (VEHIL)
- Channel emulation
- Communication channel emulation

tass international

TASS international is a member of DITCM (www.ditcm.eu)

DITCM

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TASS International is a consolidation of five automotive companies – TASS, TTAI, TNO Homologations, EEMC and TNO Driving Guidance Lab – resulting in a single business entity that supports the transport industry developing safety systems that lead to smarter, safer and greener vehicles. Our services are supported by a unique set of test facilities that enable safety and performance testing of heavy- and light-duty vehicles, their systems and components.