Cooperative Mobility

Test facilities for connected driving

Verification and validation of cooperative traffic systems

Testing cooperative systems is even harder than testing traditional driver support systems because of networked interactions with other equipped road users and road side equipment.

TASS International Mobility Centre provides services and facilities for testing in the fields of cooperative mobility, connected vehicle systems, and automated driving.

Our test facilities range from desktop simulation software, indoor laboratory testing to the A270/N270 public highway for large-scale outdoor testing. Our test facilities have been used in 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.

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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

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 is crucial before large scale deployment can proceed.

The TASS International offer facilitates testing, evaluation, and validation of cooperative systems from desktop simulation to indoor laboratory testing and outdoor testing on public roads.

DITCM test site & control center

The DITCM test site is a purpose-built facility for the development, testing and validation of Intelligent Transport Systems (ITS) and cooperative driving technologies.

The DITCM test site is located on the A270 and N270 roads in and between the cities of Helmond and Eindhoven. It 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 placed indoor and includes sensor fusion facilities, application platforms and a traffic management center. The test site is connected to neighboring urban sections and other information sources via a high speed internet connection.

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

Engineering services

TASS International also provides a wide range of engineering and consultancy services for connected and automated vehicle development.

Partner of DITCM

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

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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 your party hardware and software systems for testing

DITCM Control room

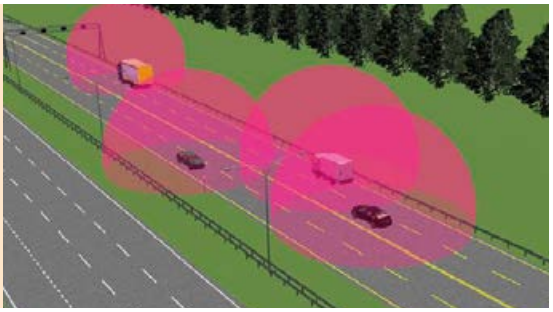
- Test control and monitoring
- Logging, on-line analysis and evaluation
- Control and test third party communication and application units
- Emulation of “Here I am” messages of non-equipped vehicles to increase the penetration rate of cooperative vehicles

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)
- Communication channel emulation

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