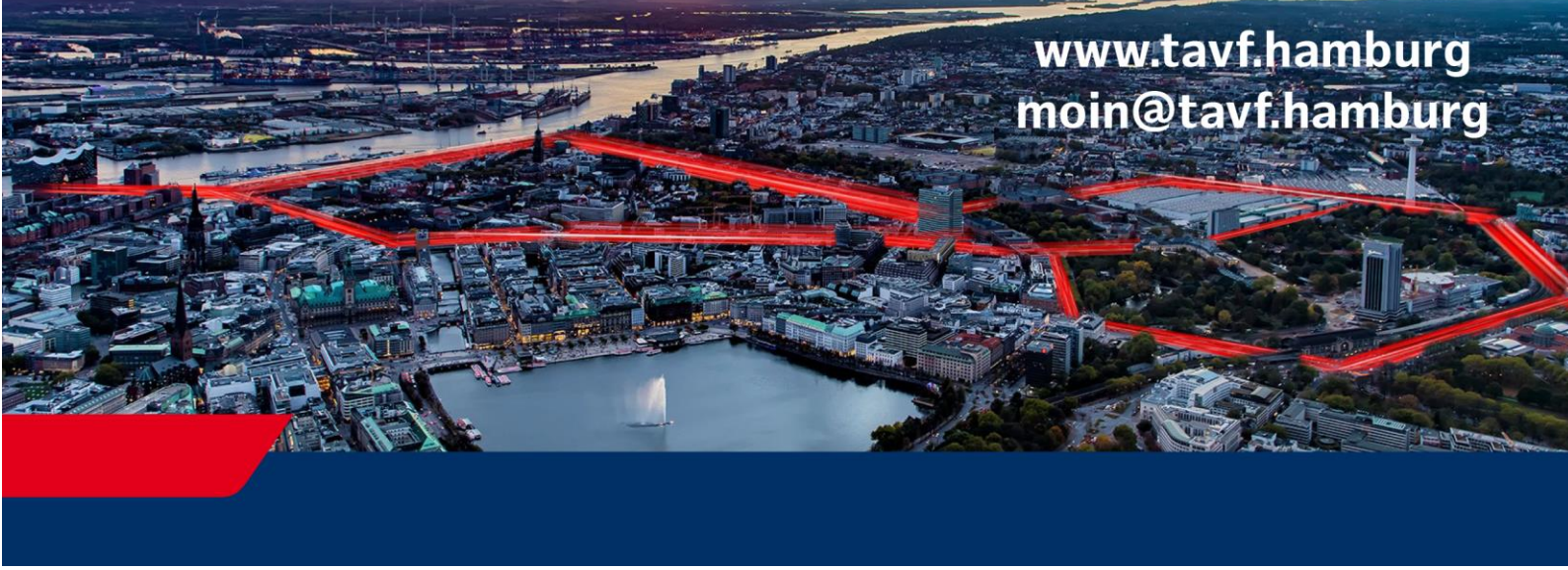


TAVF Test track for automated and connected driving in Hamburg

In Hamburg City, a test track for automated and connected driving of about nine kilometers is currently being built and will be fully equipped in 2020. The Free and Hanseatic City of Hamburg is gradually upgrading traffic lights for the infrastructure-to-vehicle (I2V) and vehicle-to-infrastructure (V2I) communication there. 37 traffic lights and a bridge are provided with roadside units which exchange data with passing vehicles wirelessly via WLAN based on the 802.11p standard (ETSI G5). Vehicle manufacturers, technology companies and research institutions can trial innovative mobility solutions, such as automated driving functions, safety assistance systems, or environmental sensors, in real traffic conditions on public roads.

What does TAVF offer?

With the test track, the Free and Hanseatic City of Hamburg offers an open platform for vehicle manufacturers, technology companies, and research institutions to trials applications of V2I/I2V communication as well as of connected and automated driving. Step-by-step, the following features will be provided:

Transmission technology:

- WLAN (ETSI G5, IEEE 802.11p)
- LTE

Road equipment:

- 37 traffic lights and one bridge with road side units
- Thermographic cameras /camera systems
- Intelligent street beacons (in preparation)
- Cooperative environmental sensors (in preparation)

Information provision:

- Open data platform (Hamburg Urban Platform)
- Connection to Mobility Data Market Place (MDM)
- Highly accurate maps (in preparation)
- SPaT/MAP messages at traffic lights which provide information about the signal and the topology of the street/intersection
- Forecast of the signal phase

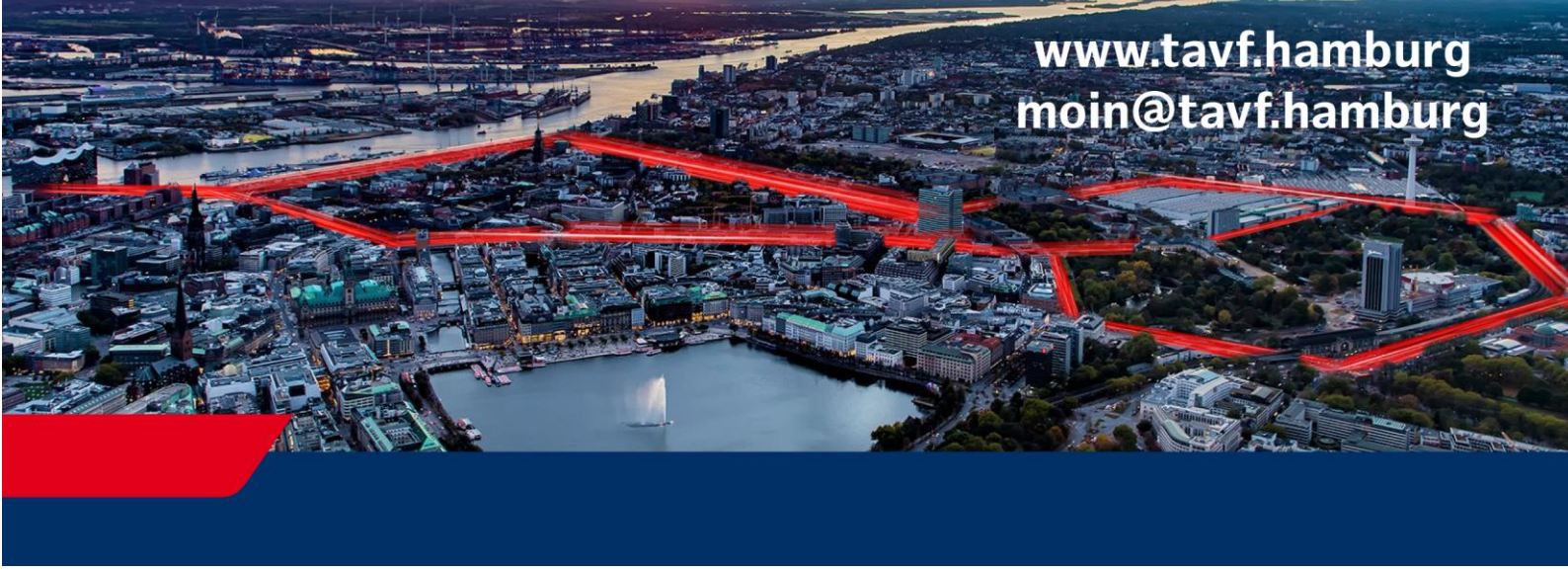
Street categories:

- Urban roads in the city centre of Hamburg
- Bridge
- Intersections with and without traffic lights

Gefördert durch:

Bundesministerium für Verkehr und digitale Infrastruktur

aufgrund eines Beschlusses des Deutschen Bundestages



Focus of the trials:

> Automated driving in urban areas
  - up to Level 4 (Bus, passenger cars)
  - Human-machine-interaction
> Cooperation and Connection
  - Warnings at intersections: approaching, exposed traffic participants
  - Road work warning (daily and permanent road works)
  - Cooperative management at intersections
  - Detection through infrastructure
> Combination of automated and connected driving
  - Intelligent road equipment (Focus on traffic lights)
  - Barrier-free and open data and service platform
  - IT-secure operation of cooperative ITS components (Public Key Infrastructure)
  - New mobility concepts in the context of automated and connected driving (z. B. on demand Services)

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What is special about TAVF?

The Hamburg test track runs on heavily loaded city and district streets in the city centre of Hamburg. As a result, complex framework conditions exist for the trials of automated driving functions, safety assistance systems and environmental sensors, such as

> a high percentage of mixed traffic (private and public transport, freight transport, pedestrians and bicyclists)
> heterogenous and difficult environmental conditions for transmission technologies (metro and city train overpass at intersections, high-rise buildings, tree-lined roads, inner-city bascule bridge)

Become TAVF user

The test track is an open, provider-independent platform for vehicle manufacturers, technology companies, and research institutions to trial innovative mobility services, such as automated driving functions, safety assistance systems or environmental sensors in real traffic conditions on public roads. Interested companies and institutions can contact the TAVF coordination centre via a special contact form at any time. For the selection of potential users, the TAVF coordination centre together with the Free and Hanseatic City of Hamburg assesses the innovation content of the proposed applications as well as their benefit for traffic management, traffic flow optimisation, air quality and traffic safety improvement. In addition, the coordination centre gathers technical as well as data privacy requirements and framework conditions of the applications. As the test track will be operated in the long-term beyond 2020, currently neither an application deadline nor a limitation of the number of users exists.

TAVF

Contakt

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