Die Autobahn

C2I Communication

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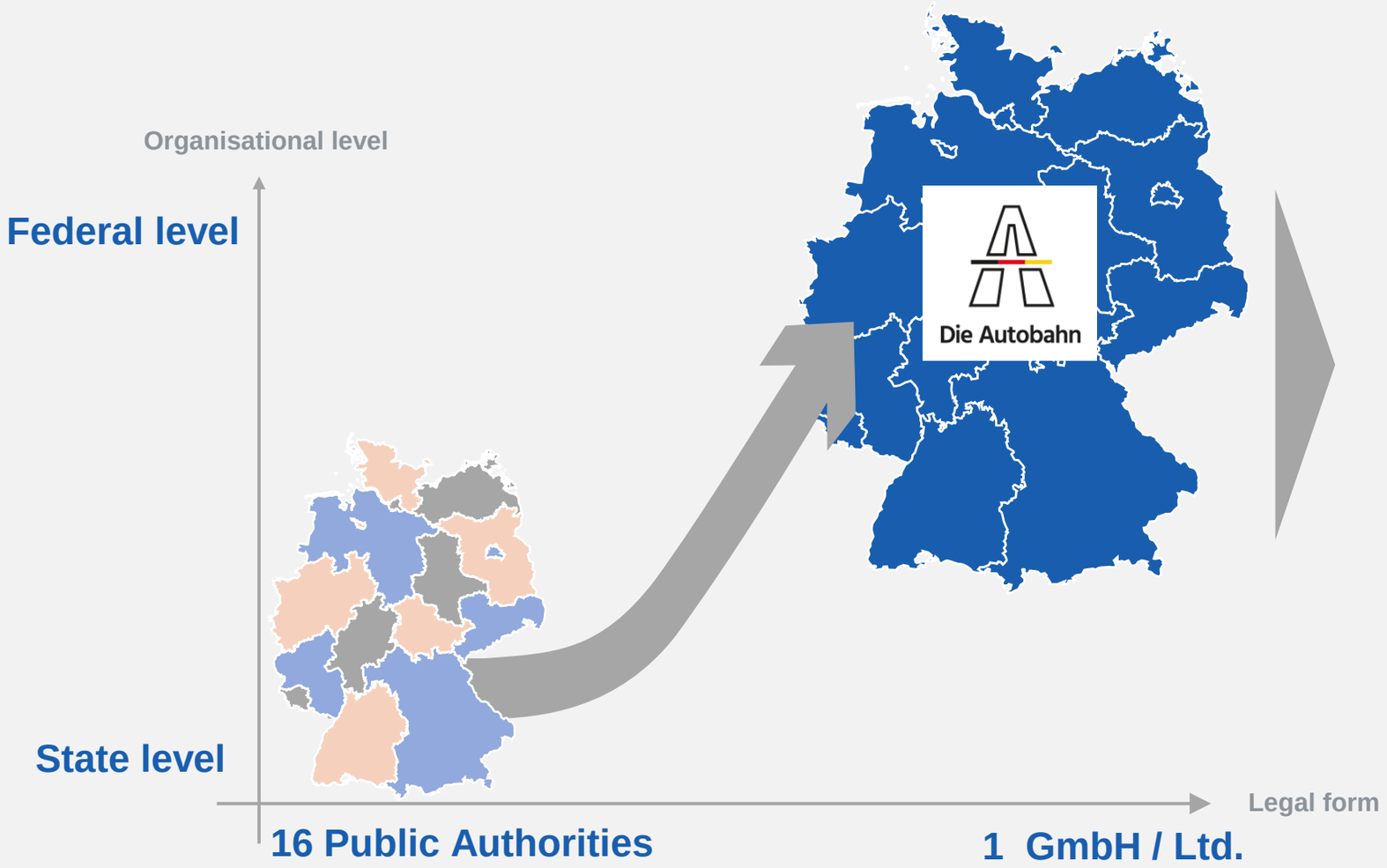
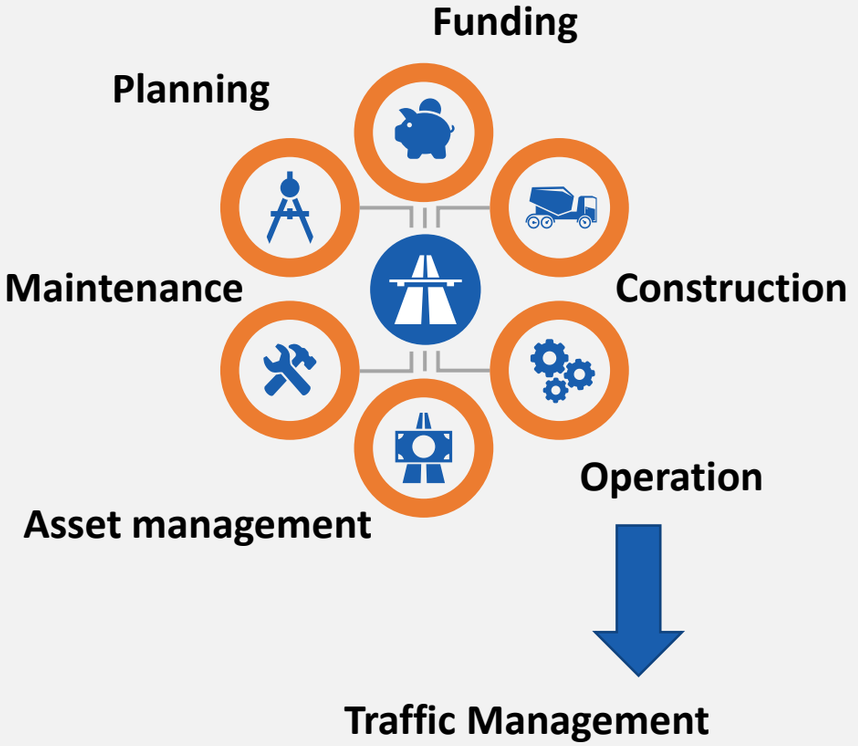
Die Autobahn

The transformation of Germany’s motorway authority: From 16 to one.





Die Autobahn GmbH des Bundes - Overview

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No.1 Autobahn:
Shortest average distance to the highway worldwide

Over **6,300 projects** are currently being planned or completed

1,300,000
trucks are on the German highways every day

13,000 km is the length of the German highway network

Over **28,000 bridges** and **550 tunnels**

41
Branch Offices

189
Highway maintenance centres

Over 300 locations nationwide

Estimated value of the German highway network:
200 billion euros

Around **11,000 employees** work for Autobahn GmbH

10
Regional Branches

9
Traffic control centers

USER ORIENTATION AND NETWORKING

Intelligent traffic management, which aims to ensure high availability of the motorways, to use the existing infrastructure optimally and to offer users **safe, comfortable and reliable mobility**, is of central strategic importance for Autobahn GmbH.

For the first time, a **Germany-wide approach** can be pursued under the umbrella of Autobahn GmbH. The aim here is to network the Verkehrszentrale Deutschland (TC Germany) and the Autobahn traffic centers in the metropolitan areas both with one another and with the regional traffic control centers in the metropolitan areas.

The development of **strategies and technologies for the networking** of vehicles with the infrastructure or of vehicles with each other and for the **automation** and **electrification** of traffic also serve to secure mobility in the future.

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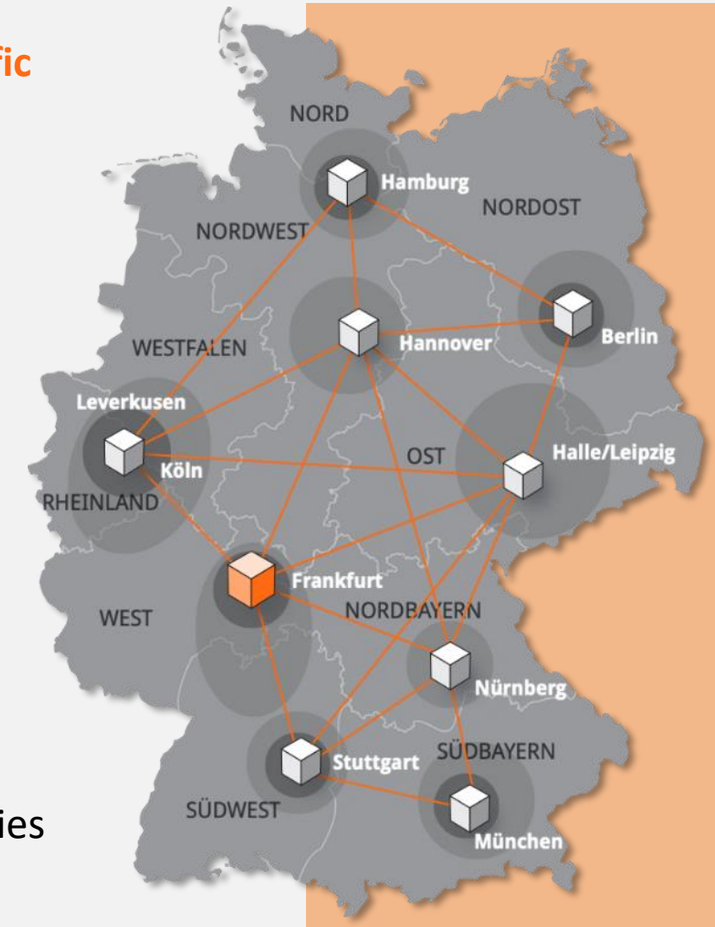
COMPETENCE NETWORK TRAFFIC CENTERS

The **Verkehrszentrale Deutschland (Traffic Center Germany)**, based in Frankfurt, is directly assigned to the headquarters of Autobahn GmbH and

- organizes the networking of all traffic centers of the Autobahn GmbH
- coordinates the nationwide traffic management on the overarching corridors
- realizes pilot and lead applications; initiates and coordinates the deployment of new technologies in the motorway sector
- develops innovative future technologies together with industry, research and science.



The **Autobahn GmbH Traffic Centers** in the metropolitan regions

- are the regional competence centers for traffic management (in the motorway network and beyond)
- plan, build, operate and optimize the traffic telematic systems
- ensure the effectiveness of traffic control and management
- work together with municipal traffic control centers and other modes of transport in the regional network.

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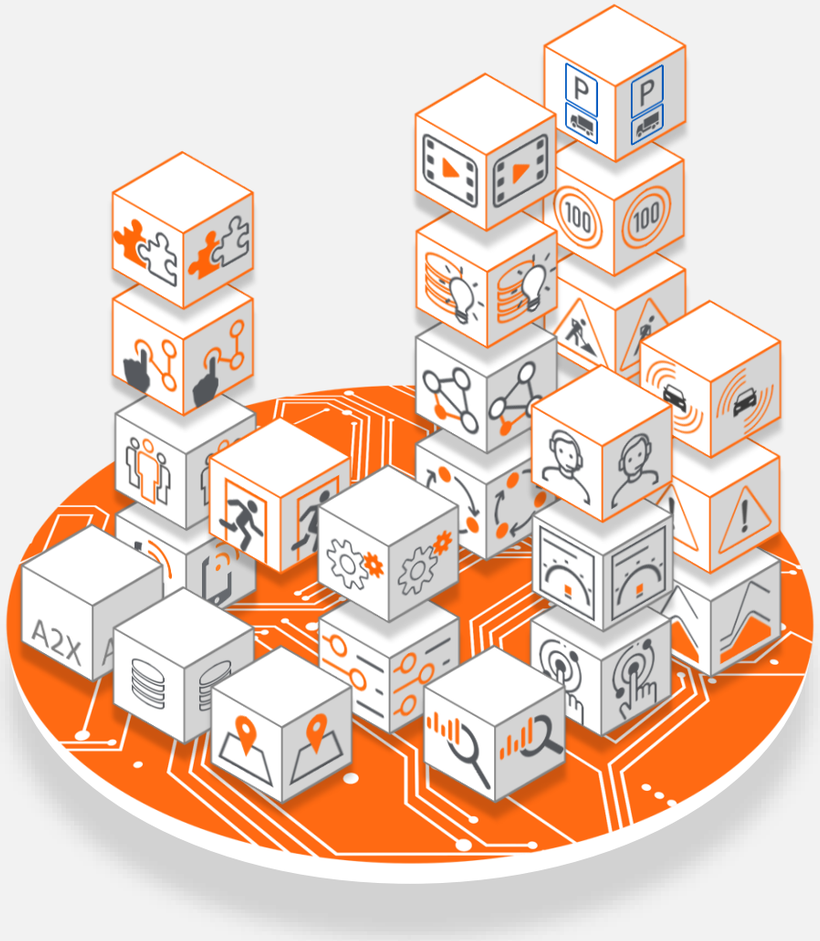
System platform with a wide range of applications

Basic Applications in future

Restructured subcentres
Tunnel Management interface
Interface Operational Service

current Basic Applications

Geoservice
Offline database
User management
A2X
Telematics platform



Specialised Applications in future

Knowledge database
Site management
Event management
Incident management
OperatorView
Truck Parking Management
Video Management

current Specialised Applications

Workflow Management
Operations Management
Corridor Management
Cooperative Systems
Traffic Situation Analysis
Dynamic network control Application
Time variation curve workstation
Traffic Situation Germany/Dashboard

C-ITS at a glance

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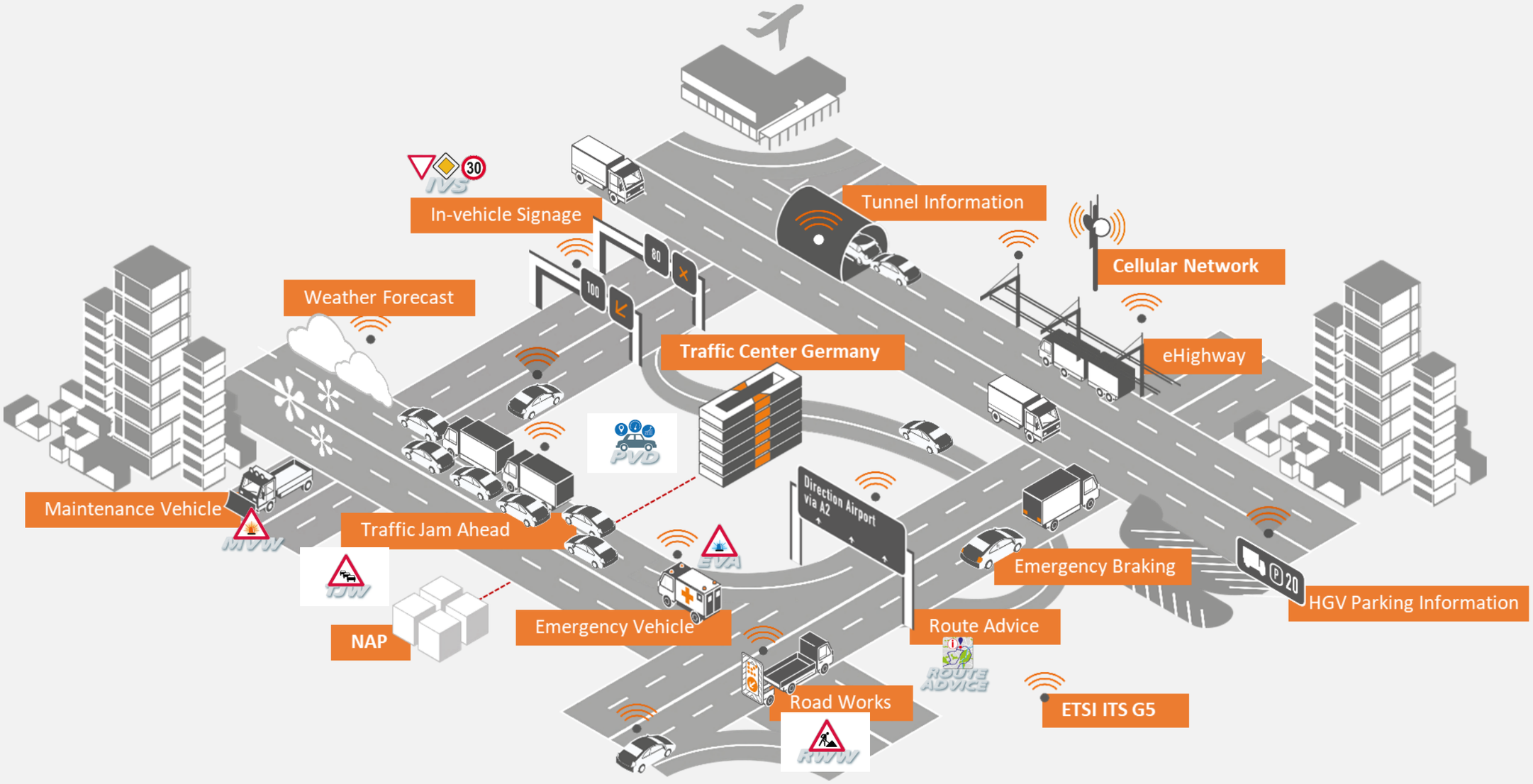

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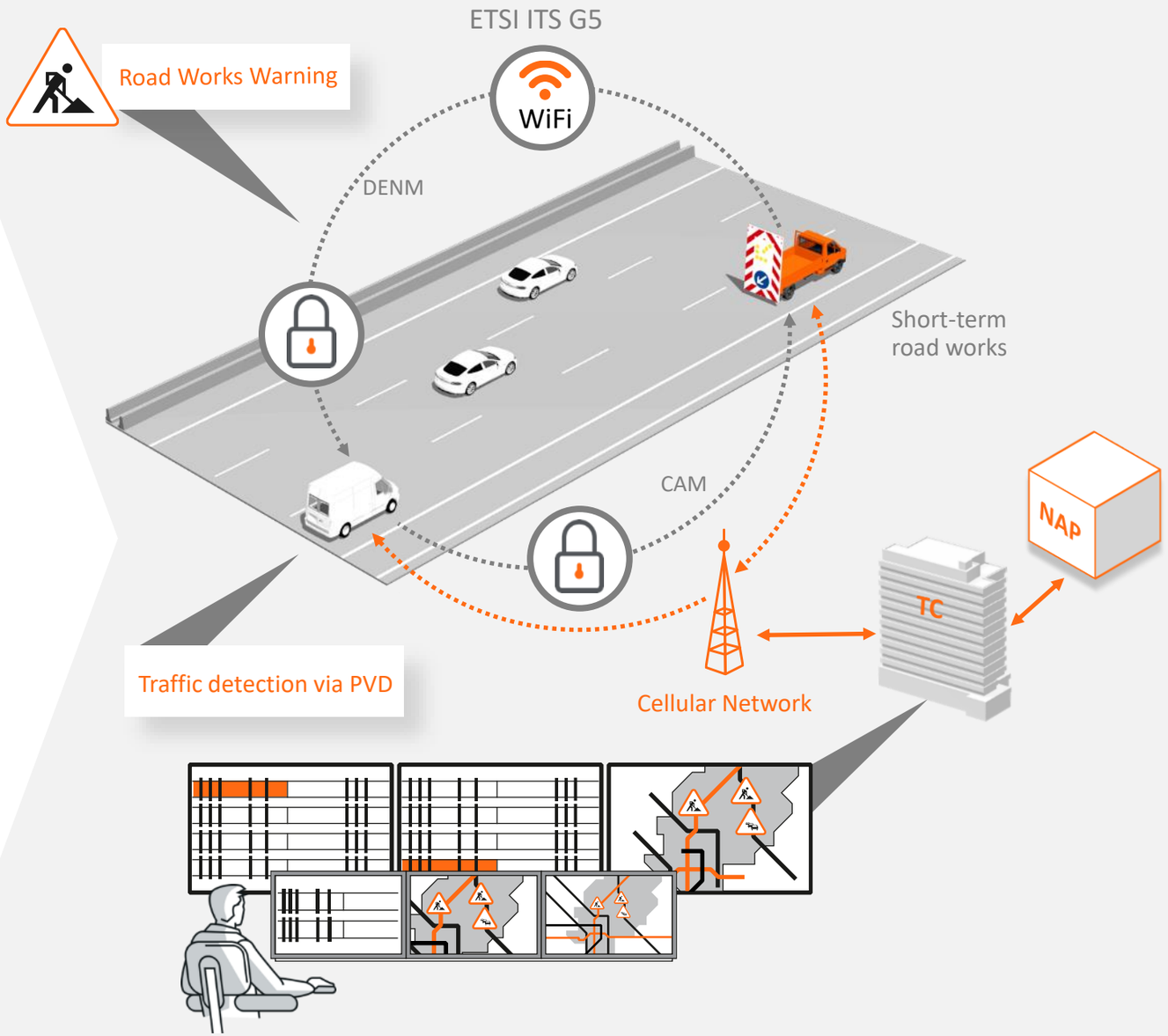
First step towards connectivity between infrastructure and cars

- Mobile safety trailers at short-term roadworks are equipped with a combined application and communication unit for vehicle-infrastructure communication, so called ITS Roadside units, via ETSI ITS G5.
- Vehicles approaching short-term roadworks are warned or informed directly by information via in-vehicle display systems.
- The exact position of the safety trailer is also transmitted to the traffic centre (TC) via an integrated GPS unit, in order to be able to react more quickly in the event of traffic jams, for example.
- Hybrid communication approach: Information is also made available to third parties/other service providers via Cellular Communication and the national access point (NAP).
- Vehicles send their status to our IRS for better possibilities in traffic management.



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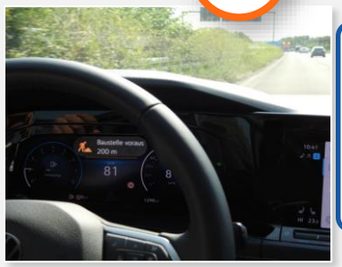
Let's use today's technologies to build the connectivity of the future!

Virtualisation of roadside infrastructure

Bring dynamic data from the road directly into cars



Today:
via ETSI ITS G5 (short range) and cellular (long range) communication

We need to think about…

New stakeholders

Interoperability

IT Security

Adaption of operational as well as standardisation and harmonisation processes and data.

Data privacy

Legal basis

New services require new approaches!

What is still to come?

- New message types
- Functional safety
- HD Maps
- Car as a sensor
- NTN

For exchanging highly dynamic information between infrastructure and vehicles

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Division Traffic Management, Operations and Transport

Department Cooperative, connected and automated mobility

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www.autobahn.de