

Torben Schenkel, Autobahn GmbH



# IMAGinE

12 MAY 22

FINAL EVENT



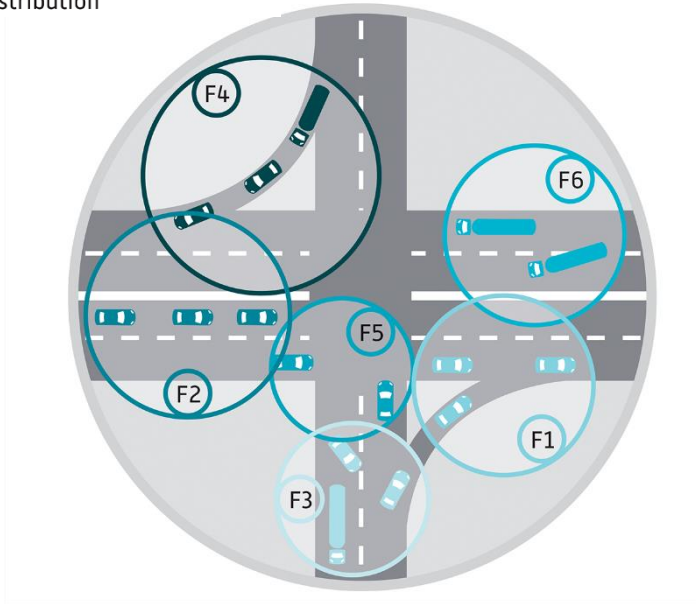
IMAGinE Traffic Distribution Message  
Strategic Support Server

# AGENDA

Cooperative Strategic Traffic Distribution  
Strategic Support Server  
IMAGinE Traffic Distribution Message

# Cooperative Strategic Traffic Distribution Concept

F4 Cooperative strategic traffic distribution



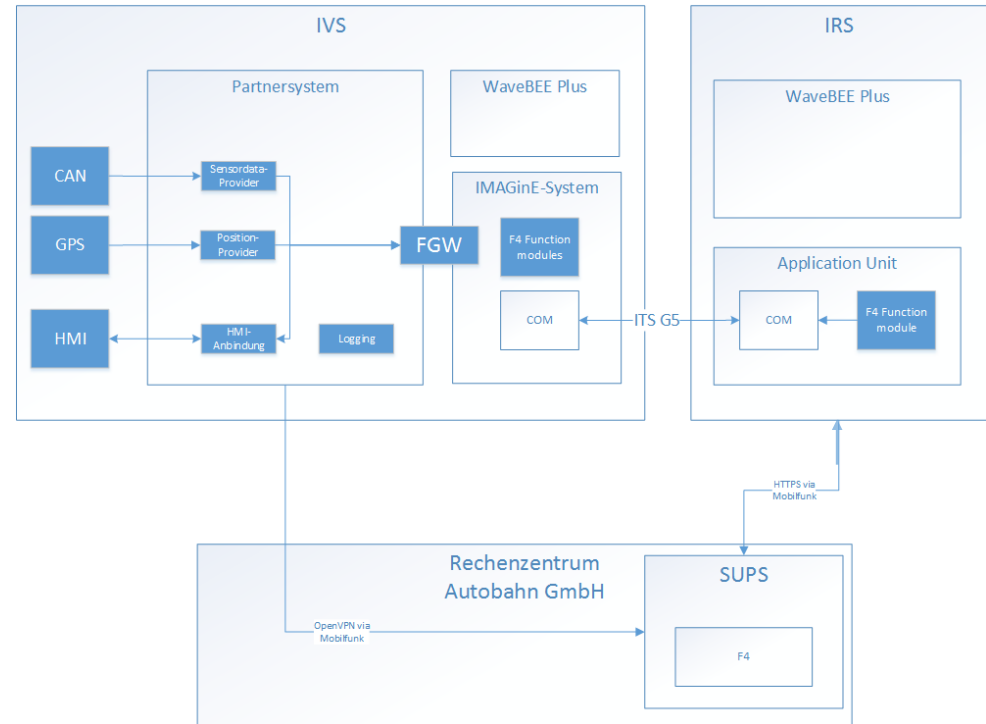
Optimize traffic distribution on the available road network by considering **collective strategies** and **individual cooperative coordination**

New message format required

- for transporting traffic distribution data
- generated by the infrastructure
- coordination between vehicles

# Strategic Support Server Communication Architecture

- Vehicles (IVS) transmit data (CAN) to the traffic center (SUPS) for generating traffic conditions via ITS Roadside Station (IRS)
- Traffic center (SUPS) sends traffic distribution (ITDM) into vehicles (IVS) also via ITS Roadside Station (IRS)
- IVS cooperate and make decision based on comparison of their scores in coordination area



# IMAGinE Traffic Distribution Message

Traffic distribution container (periodic):

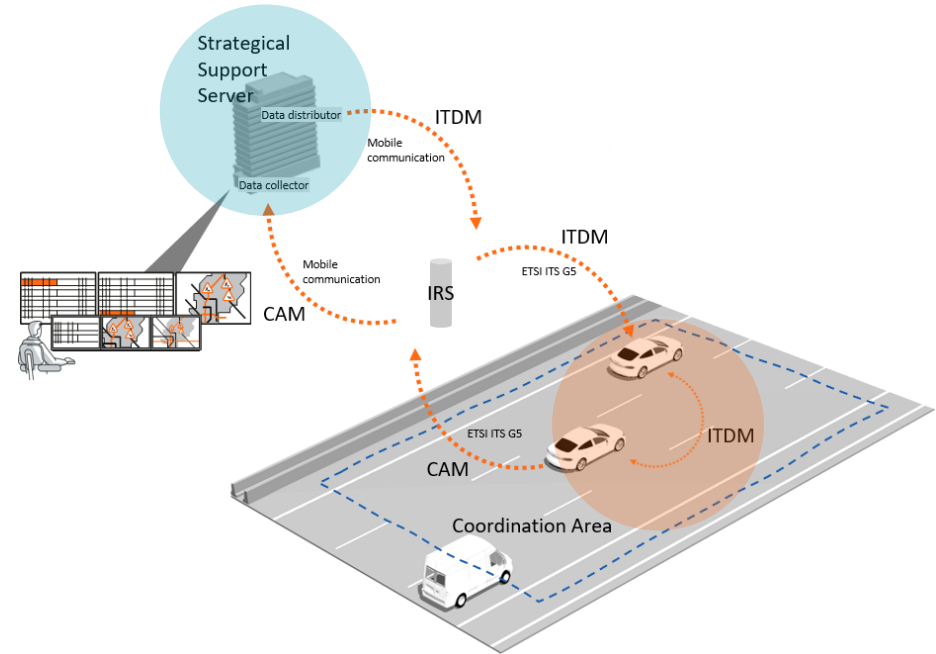
Generated only by infrastructure

- Coordination area geometry
- List of distribution recommendations

Score container (event-based):

Generated only by the vehicles

- Vehicle preferences
- Target route



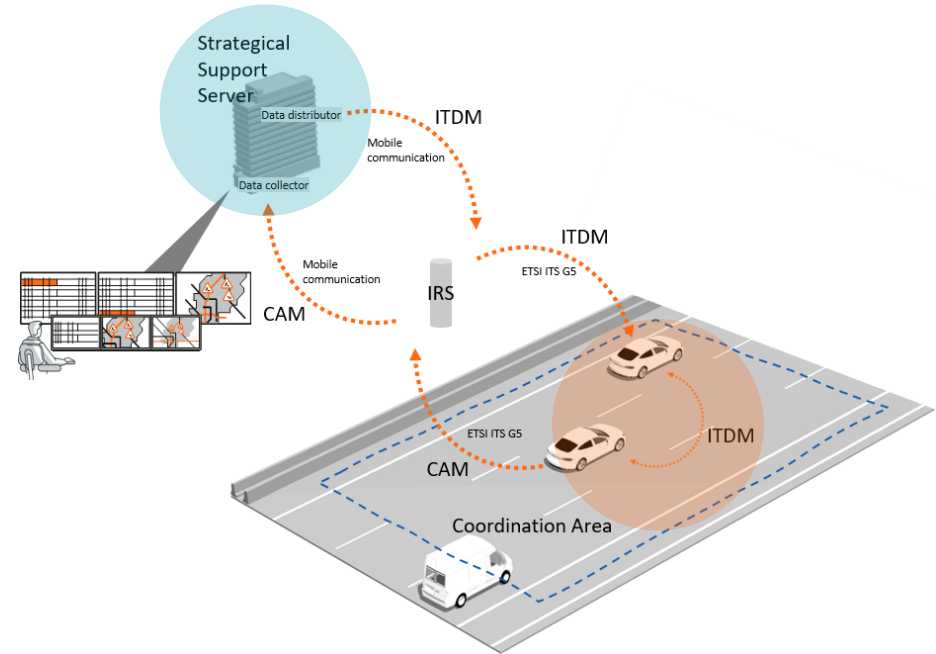
# IMAGinE Traffic Distribution Message

## Strategic

- Traffic distribution recommendations by traffic center to optimize traffic flow
- **Global** optimum in network

## Cooperation

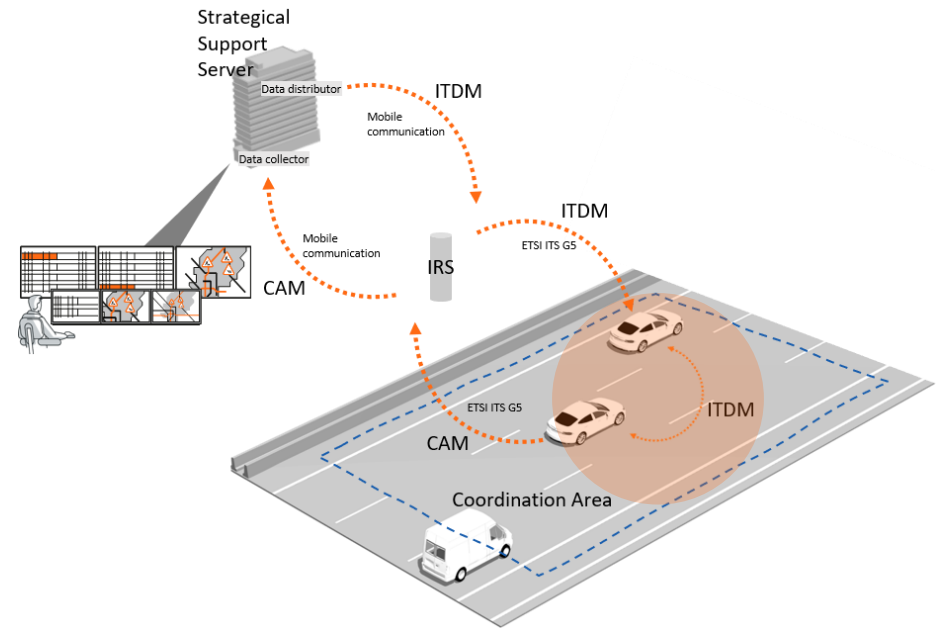
- Information of preferred route for nearby vehicles
- Exchange of **local** preferences of vehicles



# IMAGinE Traffic Distribution Message

The ego score is a percentage indication of how strongly a vehicle prefers the route defined as the main route in the distribution recommendation.

- Calculation is based on numerous criteria from:
  - Driver preferences (can be selected at the start of the journey)
  - Vehicle data (recorded in the system during the journey and is - in part - variable. (e.g.: current lane))
- Criteria are weighted
  - Values between 1 and 10



# THANK YOU

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[www.imagine-online.de](http://www.imagine-online.de)

Images: IMAGinE, Unsplash

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IMAGinE FINAL EVENT

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