

Collaborative Sensing in Automotive Scenarios: Enhancement of the Vehicular Electronic Horizon through Collaboratively Sensed Knowledge

Scenario and Motivation

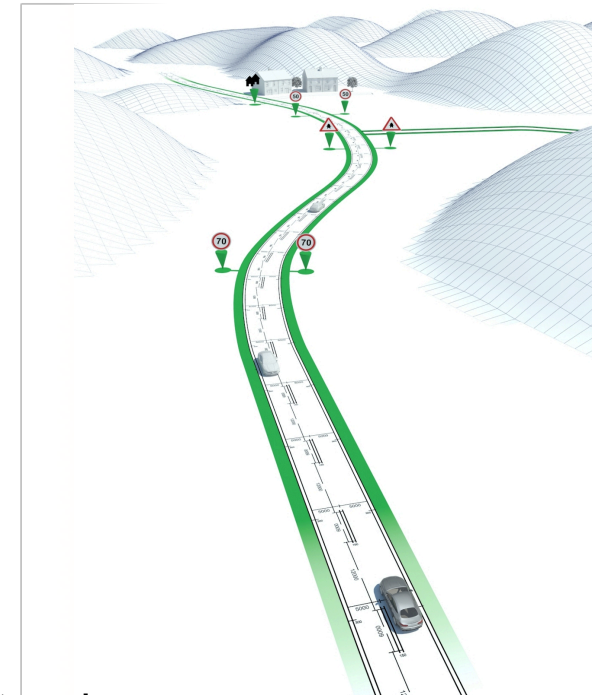
- Increase view for assisted driving
 - Increase drivers comfort, energy efficiency and safety
- Use of collaborative knowledge of other vehicles

Challenges

- Low bandwidth for ad-hoc communication
- Transmission costs for cellular communication
- High mobility of nodes

Contributions

- Classification model of information demands in vehicular networks
- Probabilistic sensing: Mechanism for efficient collection of low dynamic information
- Remote eHorizon: Mechanism for efficient provision of long range information view
- Tracking with prediction: Mechanism to reduce ad-hoc channel load to enable multi-hop propagation of perception knowledge



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