IVS-KOM: Communication Technologies for Intelligent Transport Systems

(11/2017 – 11/2020)

Prof. Dr.-Ing. Dr. h.c. G. Fettweis
Vodafone Chair
01062 Dresden, Germany
Tel.: +49 351 463 41000
Fax: +49 351 463 41099
www.vodafone-chair.com

Vodafone Chair contact:
Dipl.-Ing. Richard Jacob
Richard.Jacob@TU-Dresden.de

Part of initiative:

SYNCHRONE MOBILITÄT 2023

Funded by:

Europäische Union
Europa fördert Sachsen. EFRE Europäischer Fonds für regionale Entwicklung

Project Partners:

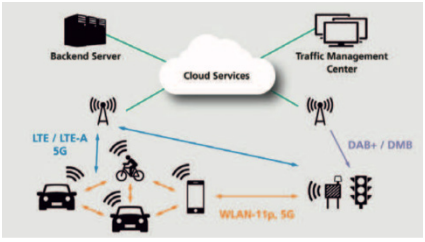
NXP
Fraunhofer IVI
dresden elektronik
INSTITUT FÜR VERNETZTE MOBILITÄT gGmbH
automotive engineering iav
MUGLER
preh car connect
TECHNISCHE UNIVERSITÄT DRESDEN

IVS-KOM KOMMUNIKATIONS-TECHNOLOGIEN

IVS-KOM is developing a detailed specification and implementation of a vehicle communication reference system for connected mobility. Based on largely standardized communication technologies and protocols, extensions for cooperative highly-automated driving will be defined, implemented and tested. Especially the exchange of aggregated sensor information via V2X communication will contribute to cooperative driving.

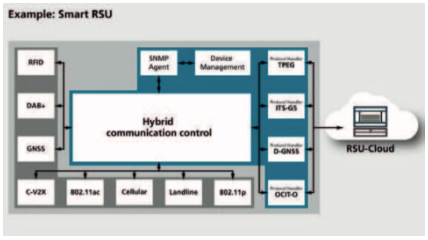
Communications System Architecture

- Definition of an ITS communication architecture
- Deduction of requirements and properties of the communication links
- High reliability due to heterogeneous communication
- Standardized and upcoming V2X messages
- Cloud services for complex ITS use cases



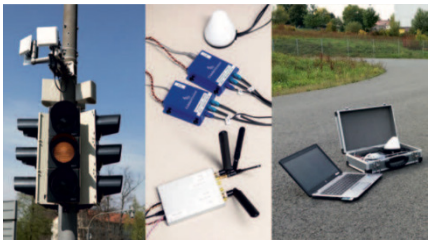
Platform Concepts

- Reference system for "Synchrone Mobilität 2030"
- Fusion of traffic information from different sources using WLAN-11p, LTE/5G-(V2X) and DAB+
- Extension for Cooperative ITS facilities for highly automated driving e.g. new messages types for cooperative perception
- Platform concepts for smart on-board units, traffic lights and roadside units
- Development of a hybrid communication unit to combine different comm. technologies



Implementation and Field Test

- Development of a hardware connectivity box with all supported standards
- Equipment of test vehicles and infrastructure
- Proof of concept in lab environment and dedicated test sites
- Field test on on public V2X corridors
- Used as main communication system within "Synchrone Mobilität 2030"



Vodafone Chair Contribution:

The work of the Vodafone Chair for Mobile Communications Systems, aims at improving the communication systems performance in terms of delay, reliability and throughput. Therefore, we are working on following topics:

- Communication technology selection for hybrid communications
- Semi-persistent scheduling for sidelink communications in vehicular scenarios

VODAFONE CHAIR
MOBILE COMMUNICATIONS SYSTEMS

vodafone

03/2018