

# Galileo / EGNOS Enhanced Driver Assistance



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# Project partner



 Coordinator	<b>VOLKSWAGEN AG</b>	
 Fraunhofer Institut Integrierte Schaltungen		
 <b>INSTITUT DE GEOMÀTICA</b>		

supported by 

# Highlights

## Motivation

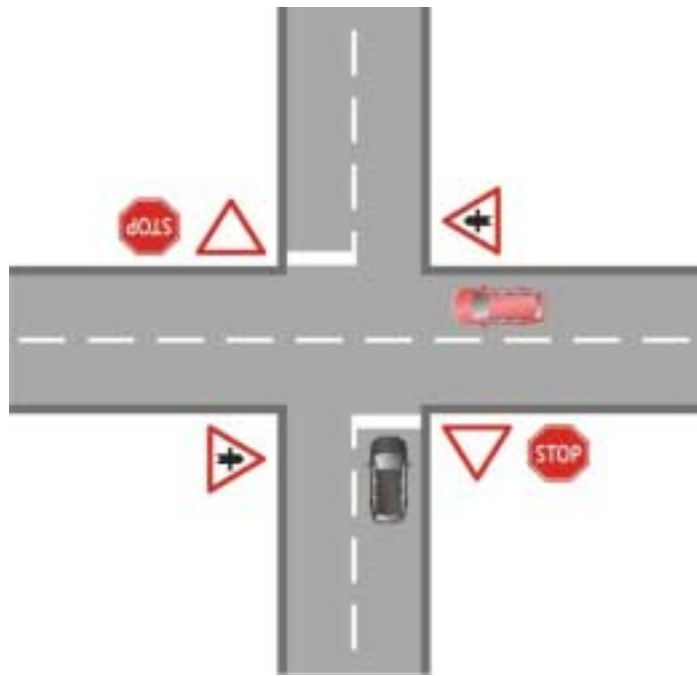
- inner city traffic rush increases
- 94% of all traffic casualties involve vulnerable road users
- assistance systems are more efficient outside cities

## Objectives

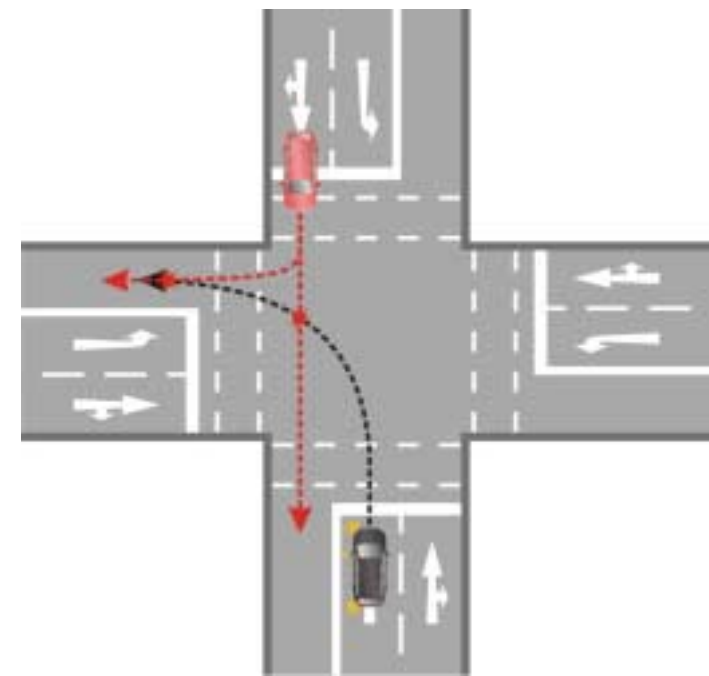
- to develop an innovative application within the context of advanced driver assistance for high precision, reliable and certifiable use
- application will have clear market implementation focus using GNSS (GPS / EGNOS / Galileo) as primary positioning technology
- to disburden the driver in complex traffic situations
- to merge the state of the art sensor/actuator systems most efficiently

# Application scenario

## Urban Assist



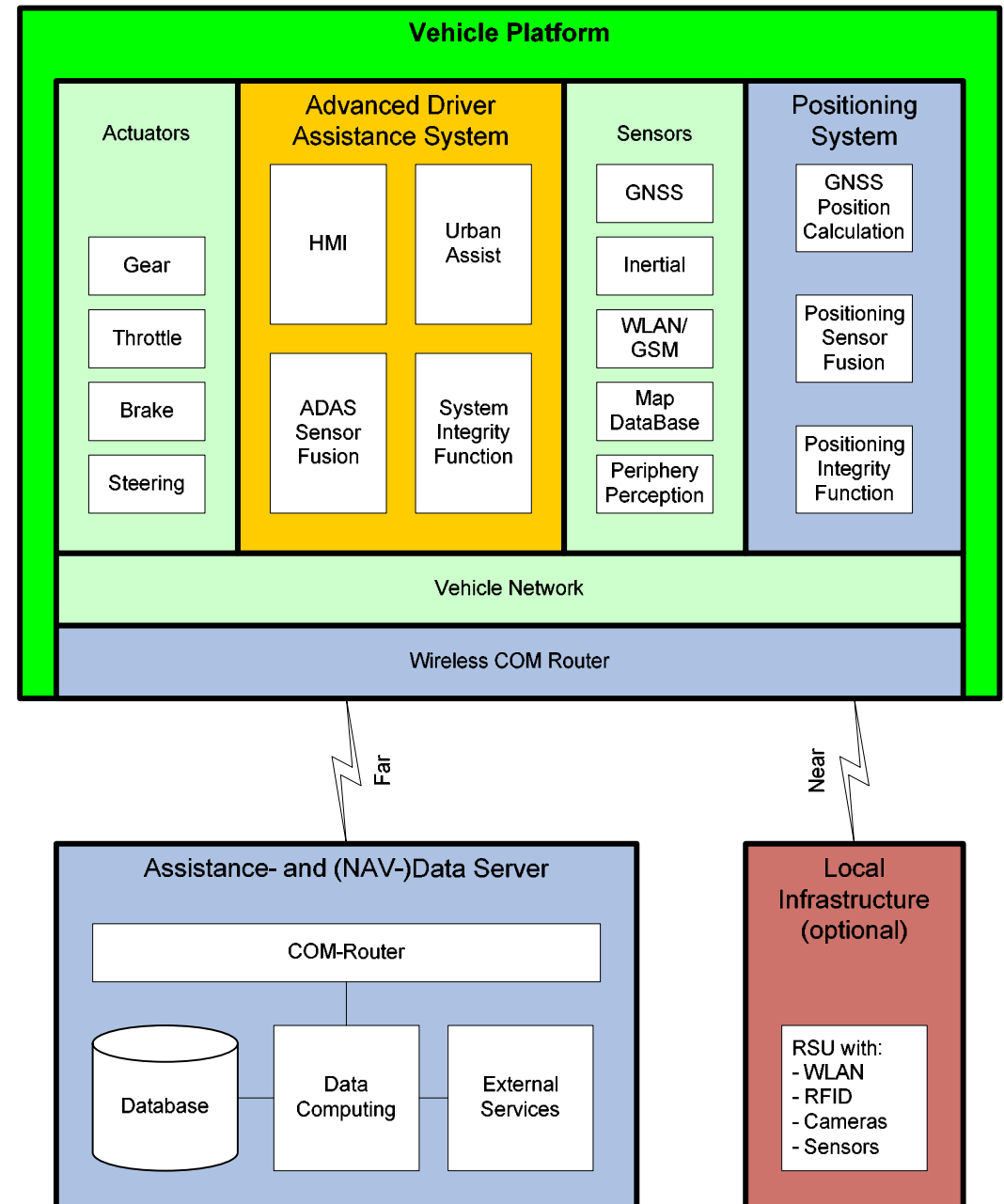
stop line assistance



left turn assistance

# System architecture

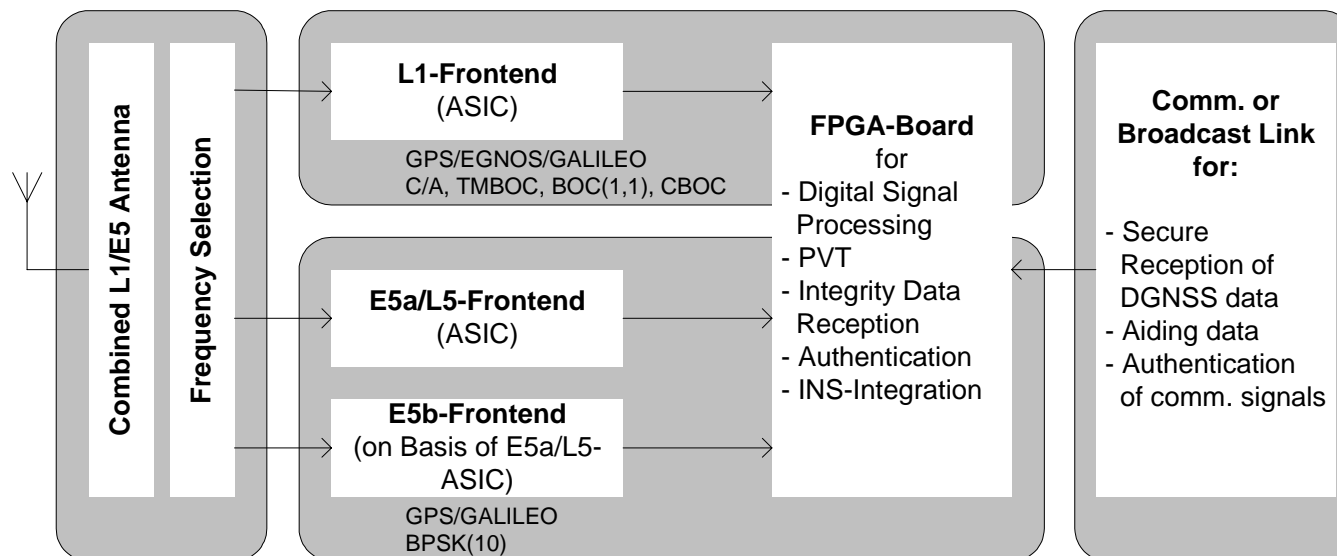
- Vehicle Platform
  - Sensors
  - Actuators
  - ADAS
  - Positioning System
  - Vehicle Network
  - Wireless COM-Router
  
- Assistance- and (Nav-)Data Server
  - COM-Router
  - Data Computing
  - External Services
  - COM-Router
  
- Local Infrastructure (optional)
  - Road Side Units



# GNSS receiver technology

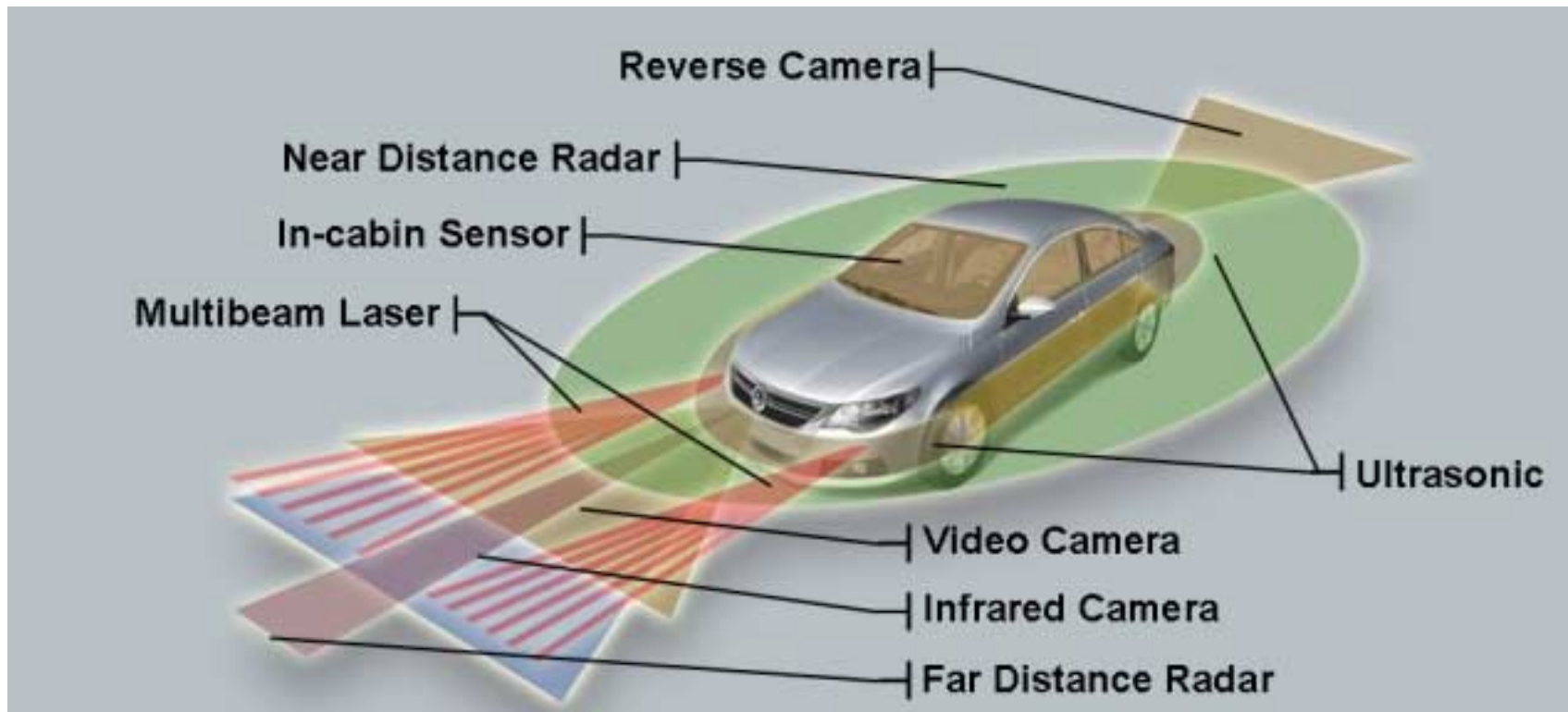
## Characteristics

- High accuracy GPS / Galileo / EGNOS receiver
- Hardware platform suited for cars (temperature, shock resistance, ...)
- Interface to the vehicle and to sensors (inertial, ...)
- Modular communication interface
- Low-cost system design



# Application scenario

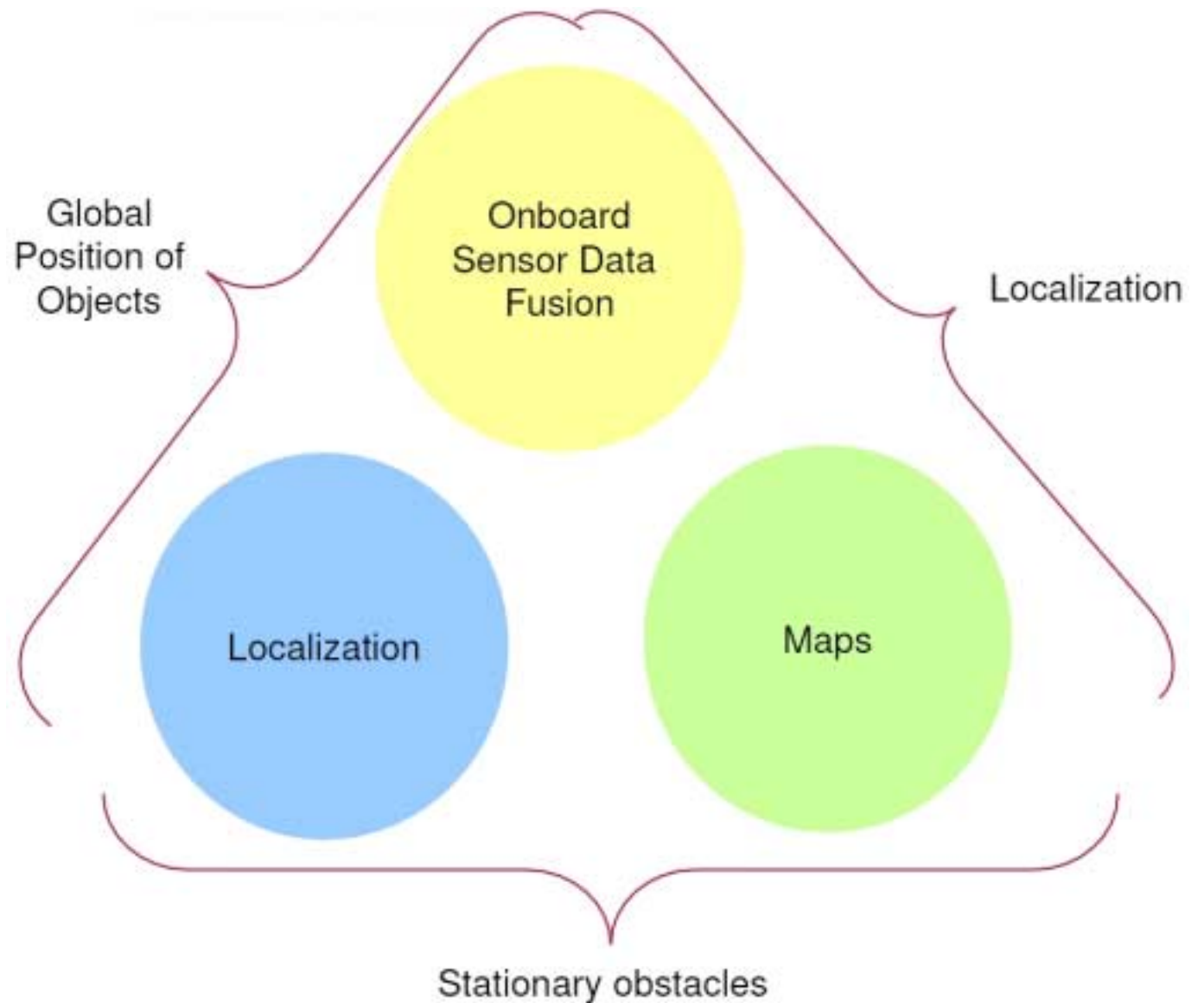
## Sensor Data



# Safety and Certification aspects

Sub-system cross check is possible to get

- higher reliability
- less false alarms





# Summary

The Goal of GENEVA is to disburden the driver in critical traffic situations

- high accuracy positioning
  - with innovative GNSS technology
  - car sensor fusion
  - adaptive Local Dynamic Map (LDM)
  - integrity monitoring
- high up-to-date-database
  - permanent connection to Assistance- and (Nav-)Data Server
  - fast update on construction site

# Thank you for your attention!

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**Project Website: [www.geneva-fp7.eu](http://www.geneva-fp7.eu)**