



Galileo / EGNOS Enhanced Driver Assistance

Project presentation

The research leading to the results of the GENEVA project has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement no°248198 of the European GNSS Supervisory Authority.



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Team



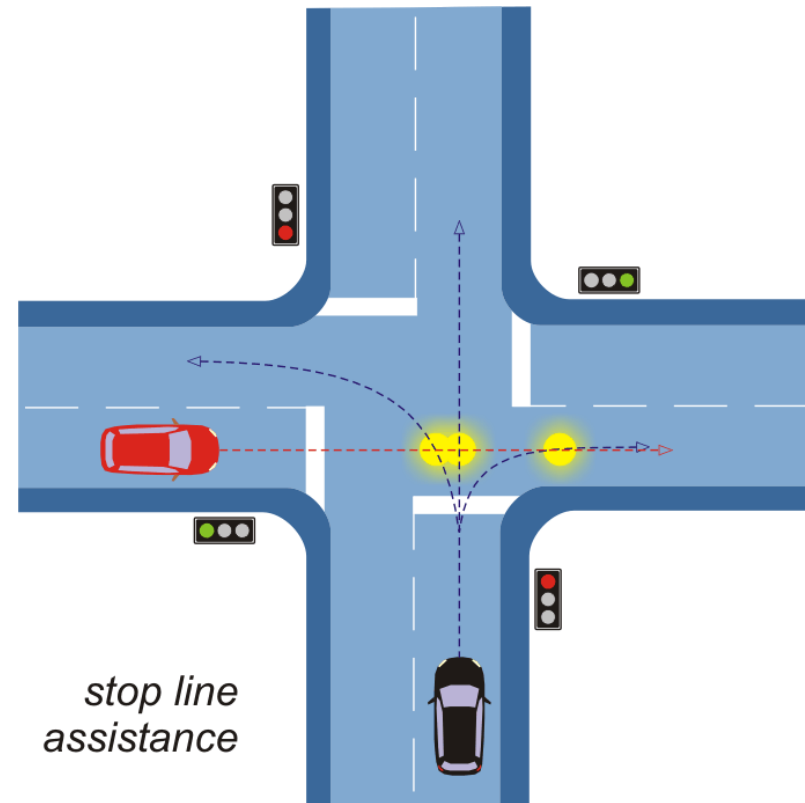
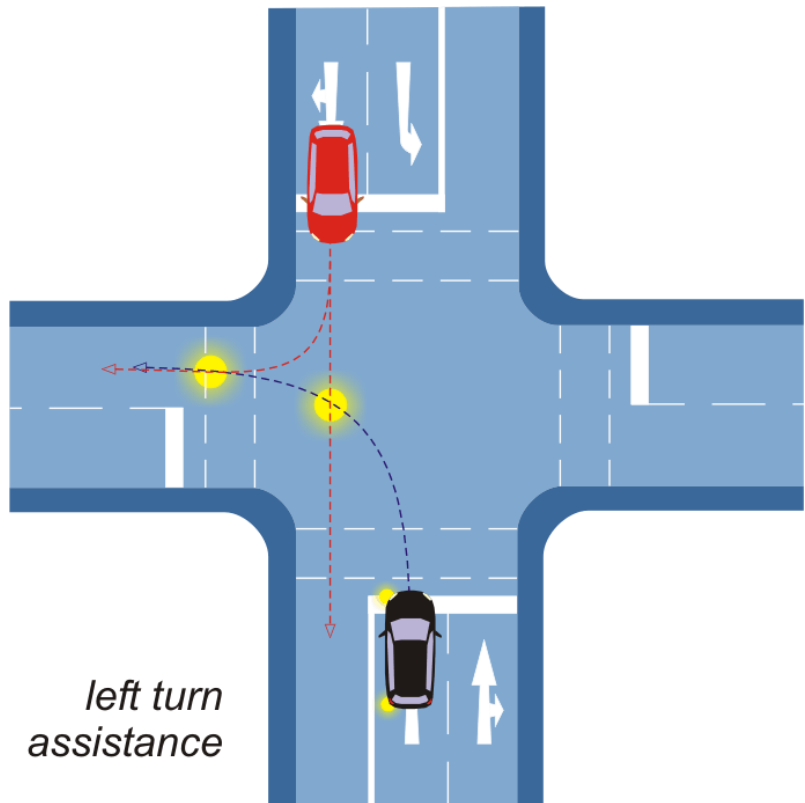
- 9 companies
- 5 EU member states
- Industry, SMEs, and research institutes

The logo for OECON, featuring a green globe with a grid pattern and the word "OECON" in a semi-circle above it.	The logo for VOLKSWAGEN AKTIENGESELLSCHAFT, with the word "VOLKSWAGEN" in a bold, sans-serif font and "AKTIENGESELLSCHAFT" in a smaller font below it.	The logo for NavCert, featuring a blue and purple stylized arc above the text "NavCert".
The logo for Fraunhofer IIS, with the Fraunhofer symbol (four horizontal lines) to the left of the text "Fraunhofer" and "IIS" below it.	The logo for TeleConsult AUSTRIA, with "TeleConsult" in a blue box and "AUSTRIA" in a white box below it.	The logo for Tele Atlas, featuring the text "Tele Atlas" and a stylized black bird icon to the right.
The logo for INSTITUT DE GEOMÀTICA, featuring a grey globe icon to the left of the text "INSTITUT DE GEOMÀTICA" and a small red square with a white "R" to the right.	The logo for The 425 Company Ltd, with the text "The 425 Company Ltd" inside a blue-bordered box.	The logo for IFF, featuring the letters "IFF" in a bold, serif font inside a circular emblem with other text around the perimeter.

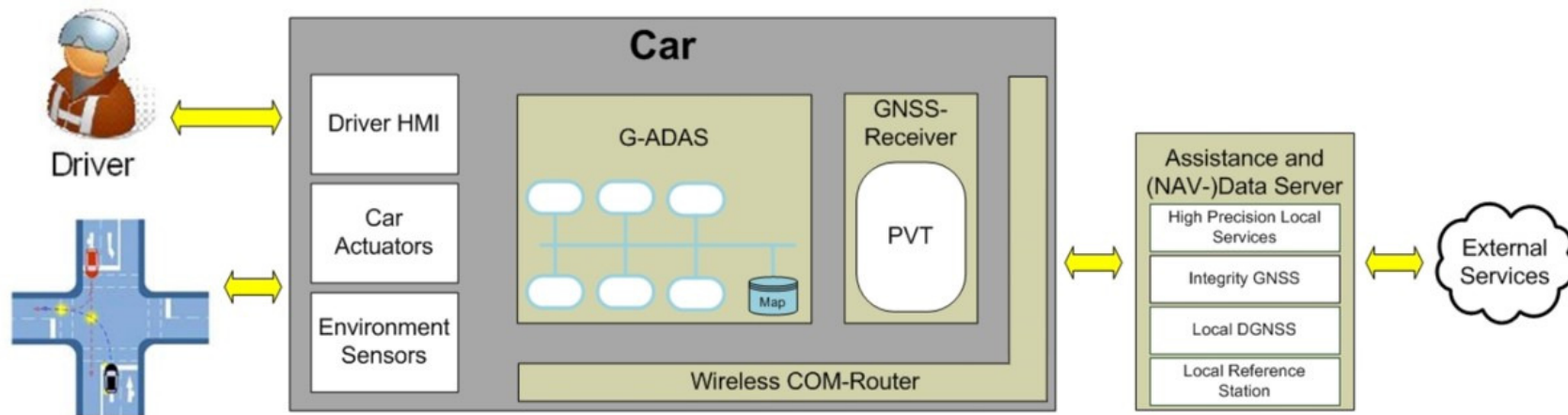


- Motivation
 - inner city traffic rush increases
 - 94% of all traffic casualties involve vulnerable road users
 - assistance systems are more efficient outside cities
- Objectives
 - to develop an innovative application within the context of advanced driver assistance for high precision, reliable and 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 Scenarios



System Architecture

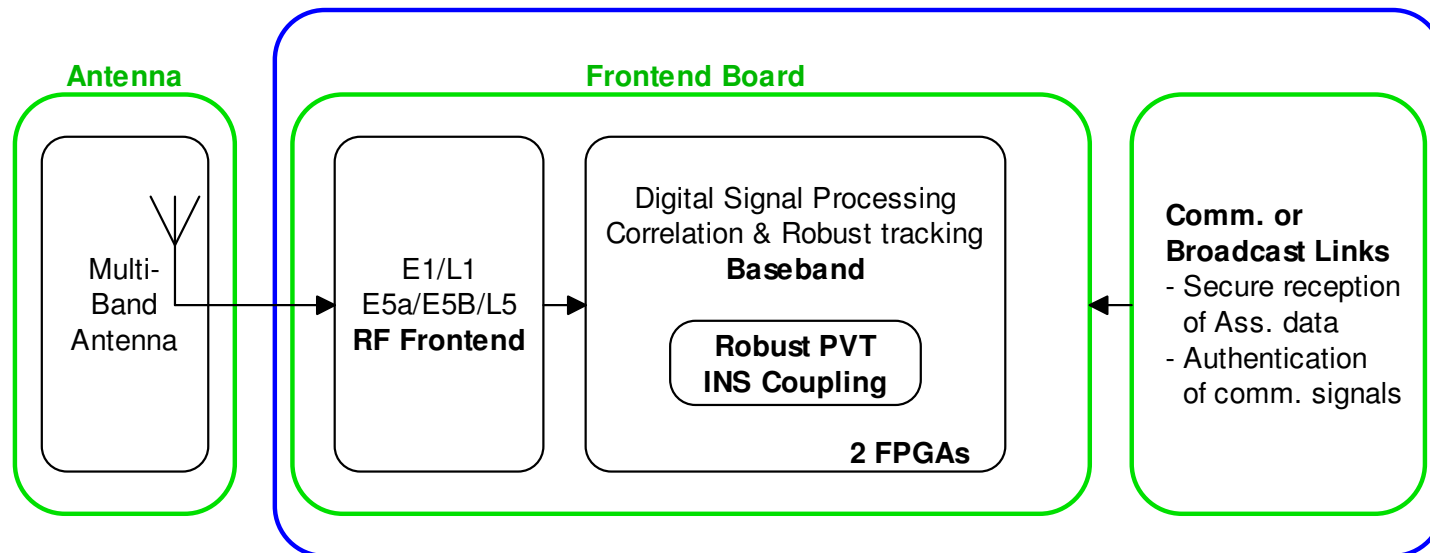


- Vehicle Platform:
 - Sensors
 - Actuators
 - Positioning System
 - Vehicle Network
 - Wireless COM-Router
- Assistance- and (Nav-)Data Server
 - COM-Router
 - Data Computing
 - External Services
- Local Infrastructure

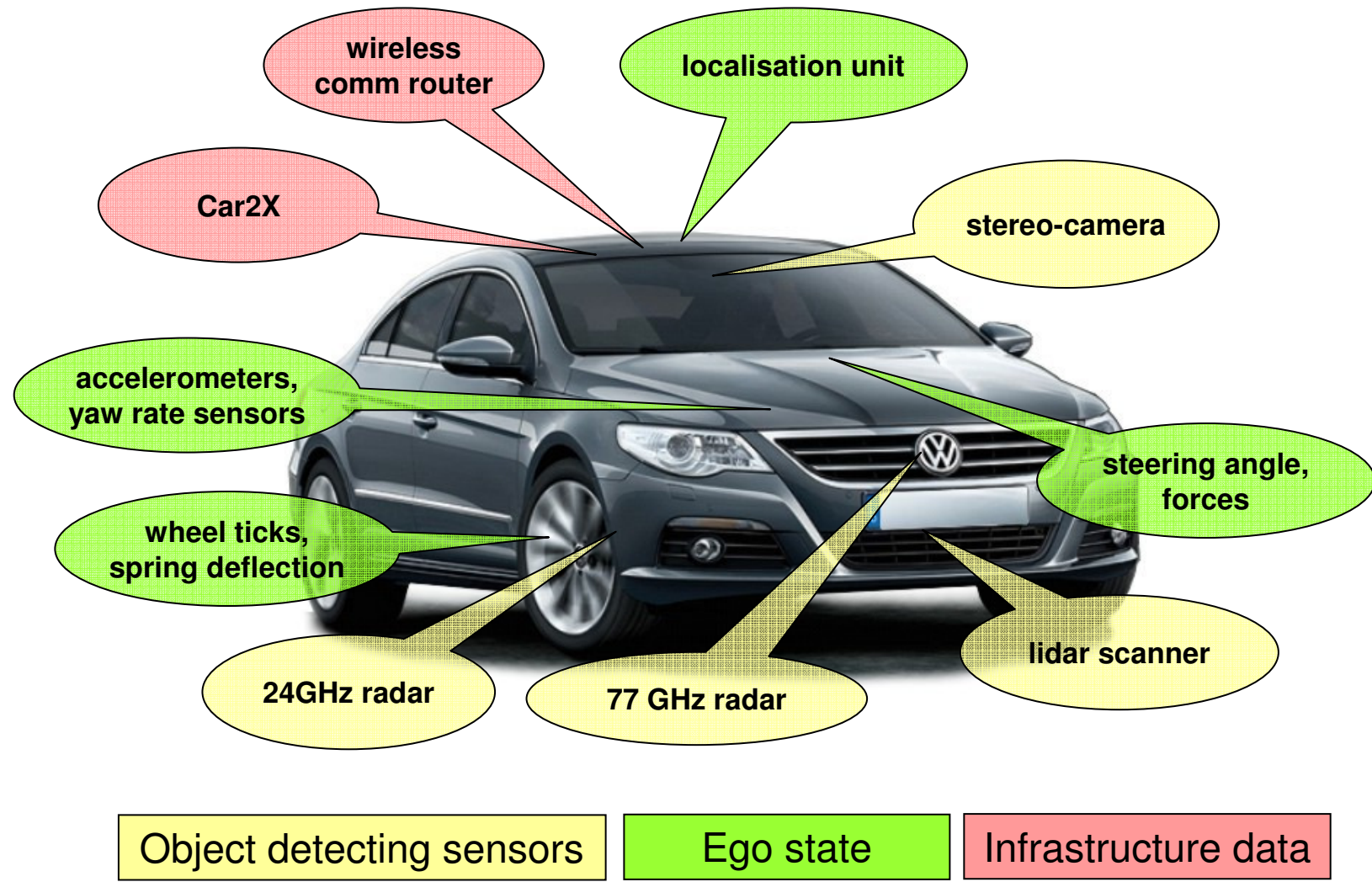
GNSS Receiver Technology



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



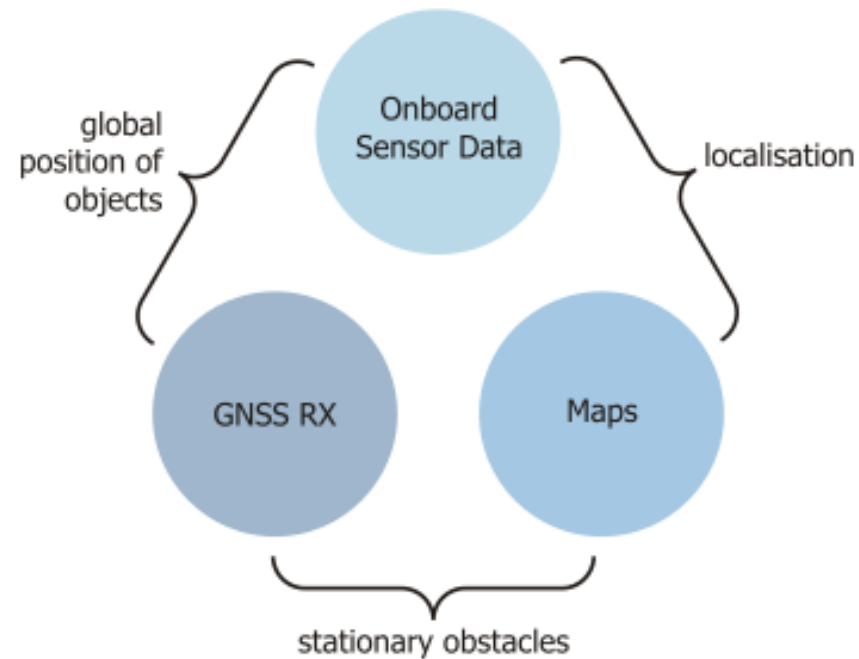
Sensor Data



Safety and Certification Aspects



- Sub-system cross check is possible to get
 - higher reliability
 - less false alarms





- 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



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