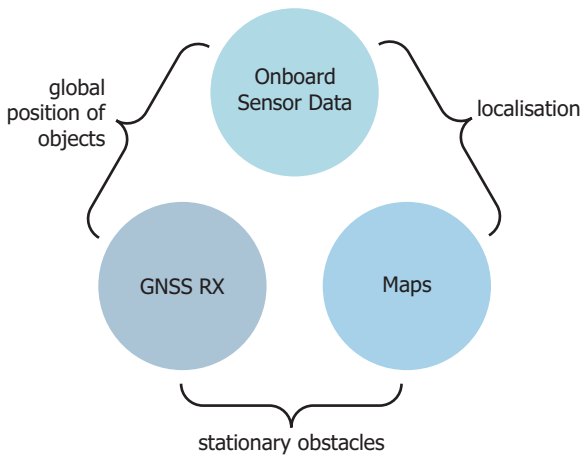
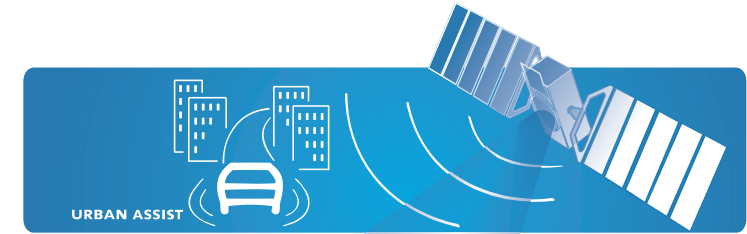
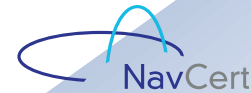


GENEVA develops an innovative application within the context of advanced driver assistance for high precision, reliable, and certifiable use.

The application will contribute to the adoption of the European Geostationary Navigation Overlay Service, **EGNOS**, and the introduction of the European global navigation satellite system, **Galileo**, in one of the most important market segments, i.e., the European automotive industry.



Sub-system cross check to provide higher reliability and less false alarms



GENEVA

Galileo / EGNOS Enhanced Driver Assistance

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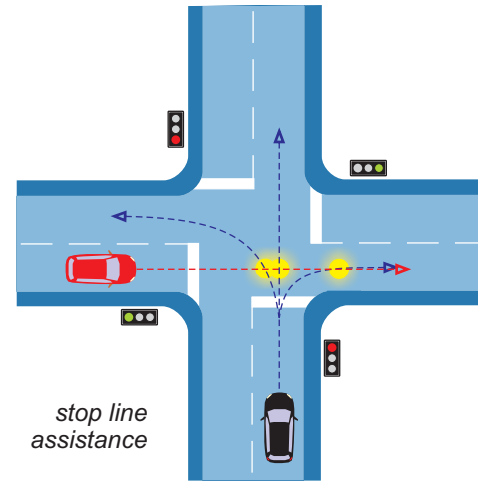
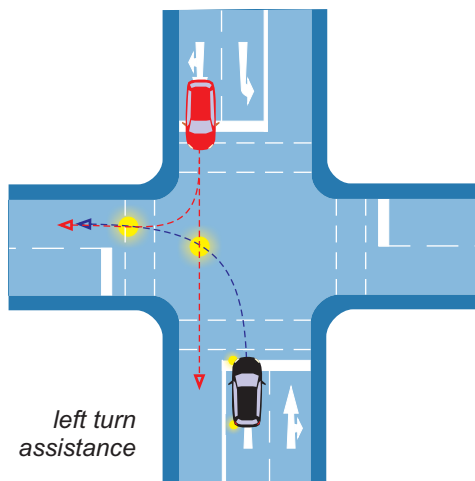


GENEVA in particular addresses two specific intersection scenarios to demonstrate collision avoidance:

- ▶ the left turn assistance and
- ▶ the stop line assistance.

In the first case the driver will get a warning, if the oncoming traffic may collide with the own vehicle. Therefore, it is important to have a lane assignment for all perceived objects and the own vehicle. This is only possible with a **reliable localisation** of the car and a precise map of the intersection.

In the second scenario the driver will get a warning, if a stop line might be missed.



The challenges for both applications are **integrity** of the localisation as well as the validity of the mapping data.

For safety relevant systems only a very low false alarm rate is tolerated. If a sufficiently **low false alarm rate** can not be guaranteed, no actuator intervention would be tolerated by the customers and the potential for safety enhancement is reduced.

Satellite navigation, environment perception, and the underlying digital maps are important elements in the GENEVA system architecture to meet the requirements of the targeted **advanced driver assistance** application.

The main benefits of **GENEVA** are

- ▶ driver support in standard situations to **improve safety** before or when entering a critical situation
- ▶ development of a scalable, inexpensive **high accuracy** positioning system for urban environment with built-in integrity monitoring
- ▶ enrichment of **map technologies** for attributes needed for safety relevant driver assistance systems
- ▶ development of algorithms to verify attributed maps with sensors for **environment perception**
- ▶ development of algorithms to verify calibration of sensors for environment perception