

reliable in-Vehicle perception and decisionmaking in complex environmenTal conditions

Robust perception and decision-making for automated driving

Vision

The vision of EVENTS project is to create a robust and resilient perception and decisionmaking system for Connected and Automated Vehicles (CAVs) to manage various types of "events" on the horizon. These situations are creating challenges for CAVs that should be overcome in order to enable safe and reliable automated driving in such cases. An indicative but non-exhaustive list of these challenges is the following:

Use Cases

Within the scope of EVENTS project and in order to cover a wide area of scenarios, the various types



- ---- Perception in complex urban environments, in particular dealing with Vulnerable Road Users (VRUs);
- Perception in adverse weather and poor lighting conditions;
- **Perception under (partial)** occlusions;
- --- Accurate prediction of road users' trajectories (especially if highly manoeuvrable, like VRUs);
- **—**Usage of connectivity for V2X information to improve accuracy, certainty &

of "events" are clustered under three main use

Wider Impact

for CAVs.

cases:



Interaction with VRUs in **Complex Urban Environment**

Non-Standard and Unstructured

Road Conditions

Low Visibility and Adverse Weather Conditions

Accidents reduction through the implementation of robust and safe Connected and Automated Vehicles (CAVs) with extended Operational Design Domains (ODDs), thus saving lives and especially focusing on Vulnerable Road Users (VRUs) protection.

- Making future roads and CAVs safer, contributing significantly to the decrease of accidents affecting VRUs.
- Affordable sensor suites for mass market deployment, benefitting citizens and end users by analysing various combinations of sensors covering a wide set of scenarios

reliability of perception;

- required sensor-suites;
- and motion planning, especially in uncertain situations;
- **—**Self-assessment of perception system.

In EVENTS, in case the system or some of the subsystems cannot perform with the expected quality and reliability, an improved minimum risk manoeuvre is triggered.

- Knowledge creation and expansion supporting scientists and researchers while cooperating with similar activities.
- Creation of new jobs in Cooperative, Connected and Automated Mobility (CCAM) "industry and research" and will support the EU to maintain the lead in such a highly innovative area.



https://events-project.eu

EVENTSproject22

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Project facts

Full Title: ReliablE in-Vehicle pErception and decision making in



Neither the European Union nor the granting authority can be held responsible for them.