

PROJECT

ABV

Low Speed Automation

Automatisation Basse Vitesse

Funding: National (France)

Duration: Oct 2009 - Oct 2012

Status: Complete with results



Background & policy context:

Despite the drop in the number of road accidents in France, safety still remains a major aim in the field of land transport. However, commercialised systems such as ABS or ESP, only assist the driver when the situation is already critical. Anticipating assistance systems provide a good solution as they intervene before the situation become worse. In addition, further challenges are faced in the field of mobility as the demand become stronger. The Automated Road could be a solution to these multiple problems. From a technology point of view, many innovations now make it possible to control the driving style: sensors are booming on vehicles and their computational power is available. However, the robustness of these systems limits the automation to "safe roads". Moreover, the legal context requires that the driver is present in the car and can fully control the vehicle.

Objectives:

The "Low to Automation Speed" Vehicle (ABV) project's objective is the development of fully automated low-speed vehicles (less than 50km/h) and a secure route, which, moreover, would be assisted outside these areas. This route, although safe, is open to traffic. This type of vehicle and assistance would be particularly useful in the context of urban expressways and peripherals, roads often prone to congestion or for local transport routes in common.

Methodology:

The project involves the development of demonstrators that will show the feasibility of automation and will also be prototypes for the integration of the audience.

Parent Programmes:

[PREDIT 4: G.O.2 - Quality and safety of transport systems](#)

Institute type: Public institution

Funding type: Public (national/regional/local)

Other programmes: VTT

Other funding sources: ANR

Partners:

- INDUCT;
- VIAMETRIS;
- MIPS;
- Continental;
- IBISC [Univ. Evry];
- GMConseil;
- IEF [Univ. Paris 11];
- INRIA;
- LAMIH [Univ. Valenciennes];

- VEOLIA Environnement Recherche et Innovation;
- SNC (VERI)

Organisation: IFR [IFSTTAR]

Contact country: France

Key Results:

The ABV project aims at the interaction between man and machine with a continuous share of the driving task, demonstrated during the final presentation day at Satory. The concept was previously validated simulator. It has been widely disseminated through presentations in various working groups (WG on Automation in iMobility Forum, EU stakeholder meeting on vehicle safety, etc.). Scientific disseminations were performed in both specialized scientific conferences (as IEEE) as well as more general conference (i.e. TRA). Some partners have also disseminated results in scientific journals.

Three prototypes have been developed or improved in the framework of the ABV project:

- LAMIH driving simulator: implementation and evaluation of the shared control and driver monitoring as well as HMI;
- C1 INRIA vehicle: demonstration of the perception, lane detection, obstacle detection, path planning and control;
- 307 IFSTTAR vehicle: implementation of the shared control and HMI as well as perception, planning and control

Documents:

 [ABV results \(Final report\)](#)

STRIA Roadmaps: Cooperative, connected and automated transport, Smart mobility and services

Transport policies: Safety/Security, Digitalisation

Geo-spatial type: Urban