3 years

10 partners

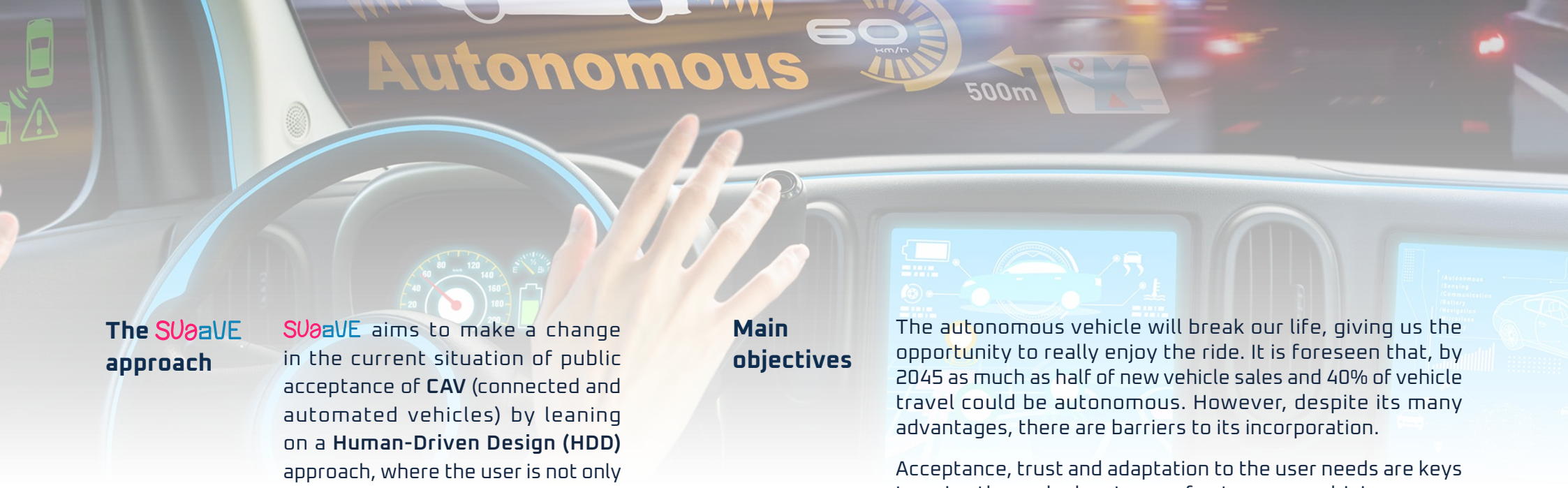
5 european countries

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 814999

SUaaVE

Supporting acceptance of automated Vehicle

An EU Project to colour automated driving with HUMAN emotions



The SUaaVE approach

SUaaVE aims to make a change in the current situation of public acceptance of **CAV** (connected and automated vehicles) by leaning on a **Human-Driven Design (HDD)** approach, where the user is not only the centre of the process but actively contributes and even leads the definition of concept, development of technology and participates in its testing. SUaaVE focuses on the human side, working to improve more "intangible" aspects as safety perception, attitudes and, in general, emotional appraisal of **CAV**.

SUaaVE involves all current and futures users and other agents in a broad sense: passengers, current and future drivers (children, senior citizens and people with disabilities), VRUs Vulnerable Road Users; and the main stakeholders like public authorities, industry, even other sectors and user associations.

Main objectives

The autonomous vehicle will break our life, giving us the opportunity to really enjoy the ride. It is foreseen that, by 2045 as much as half of new vehicle sales and 40% of vehicle travel could be autonomous. However, despite its many advantages, there are barriers to its incorporation.

Acceptance, trust and adaptation to the user needs are keys to enjoy the real advantages of autonomous driving.

SUaaVE is a Reseach project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 814999, intended to reduce these barriers through.

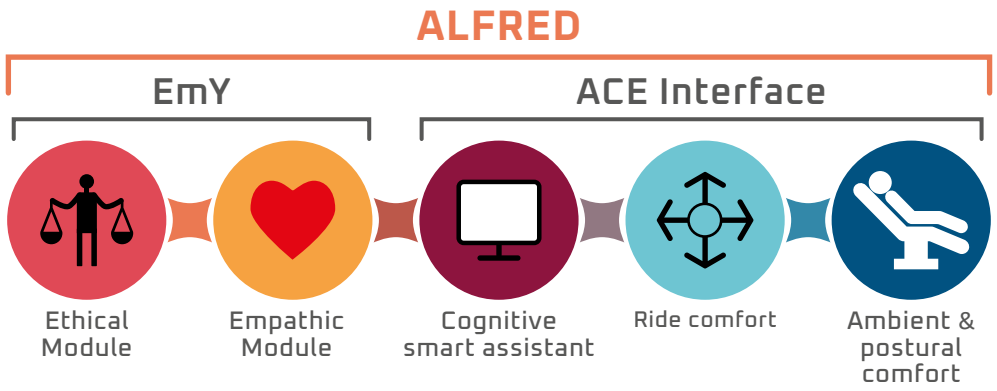
- Understanding the ethical and social limitations that restrain the potential user and propose strategies to eliminate them.
- The development of intelligent and sensitive human/machine interaction systems, adapted to each user.
- A brain – Alfred - that, incorporated into the intelligence of the autonomous vehicle, will humanize its behavior.
- Alfred will detect the emotional and cognitive state of each passenger and propose measures for their improvement.

SUaaVE will enhance public acceptance of highly automated CAVs by increasing trustworthiness via Human-Driven Design and will pave the road, enlarging public acceptance in the deployment of CAVs.

What is ALFRED?

ALFRED is conceived as the fundamental architecture to understand the emotions of the passengers on-board of the CAV and to adapt the vehicle features to enhance the in-vehicle user experience, while increasing acceptance. Compared to the CAVs developed under the traditional approach, ALFRED will contribute with the following two artificial intelligence (AI) units in the decision-making processes of the CAV:

- "EMpathY" Unit (EmY), which will be in charge of understanding the emotional and cognitive state of the passenger, while considering ethical principles.
- "Adaptive, Cognitive and Emotional" (ACE) Interface, formulated as the control strategies for the management of CAV behaviour to enhance trip user experience on-board (HMI, vehicular dynamic response and ambient & postural comfort).



Who are the beneficiaries?

The result of the project will benefit different actors.

- Society: boosting people's trust in CAV technology.
- Industry: facilitating better integration of human factor in the deployment of CAV by tackling a Human-Driven Design.
- Public authorities: supporting decision makers with detailed recommendations, guiding them on how to align policy actions to absorb the substantial changes in mobility that will be caused by the rapidly emergence CAV technologies.

Consortium Partners

SUaaVE is constituted by a highly experienced and multidisciplinary consortium. The partners' profile represents a twofold vision of the problem: Academic and Scientific Perspective and Industrial (road to market) vision, including different companies in the value chain.

IBV INSTITUTO DE BIOMECÁNICA DE VALENCIA

university of groningen

INSTITUT VEDECOM DU VÉHICULE DÉCARBONÉ ET COMMUNICANT ET DE SA MOBILITÉ

FICOSA

CRF CENTRO RICERCHE FIAT

Bordeaux INP AQUITAINE

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