

PROJECT

## TrustVehicle

### Improved trustworthiness and weather-independence of conditional automated vehicles in mixed traffic scenarios

**Funding:** European (Horizon 2020)

**Duration:** Jun 2017 - Oct 2020

**Status:** Complete

**Total project cost:** €4,998,904

**EU contribution:** €4,998,904



**Call for proposal:** H2020-ART-2016-Two-Stages

[CORDIS RCN : 210917](#)

#### Objectives:

Automated driving can be implemented with relatively simple controllers if the current location of the ego vehicle and the current and future locations of other road users are known without uncertainty. However, this is not going to happen in the initial stages of the introduction of automated driving systems into the market. As a consequence, system and human driver uncertainty pose a significant challenge in the development of trustable and fault-tolerant automated driving controllers, especially for conditional automation (SAE level 3) in mixed traffic scenarios.

The TrustVehicle consortium brings together participants from the whole vehicle value chain to enhance safety and user-friendliness of level 3 automated driving systems. The main objectives are:

1. the systematic identification of critical road scenarios based on in-depth analysis of possible traffic situations and human behaviour
2. the setup of new tools for the cost- and time-effective assessment of driver-in/off-the-loop situations
3. design of controllers and sensor fusion systems capable of dealing with complex, uncertain and variable road scenarios to enhance road safety
4. the implementation of intuitive human-machine interfaces for the safe management of the transition phases taking into account user acceptance and gender-specific aspects
5. the establishment of an adaptive and agile vehicle validation based on self-diagnostics and data logging to steadily extend the list of relevant scenarios and test cases.

The outputs of the TrustVehicle project will be extensively assessed in real-world operating conditions on four demonstrators representing four vehicle classes. End users of the technology will systematically and thoroughly express their requirements, expectations, and concerns during the consortium activity. Special focus will be put on the demonstration of the fault-tolerant and fail-operational system behaviour at any time and for different kinds of weather conditions.

#### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

#### Lead Organisation:

**Kompetenzzentrum - Das Virtuelle Fahrzeug Forschungsgesellschaft M.b.H.**

**Address:**

Inffeldgasse 21a / 1. Stock  
8010 GRAZ

Austria

**Organisation Website:**

<http://www.v2c2.at>

**EU Contribution:** €390,000

**Partner Organisations:**

**Linkker Oy**

**Address:**

KORITIE 2  
15540 VILLAHDE  
Finland

**EU Contribution:** €380,000

**Cisc Semiconductor Gmbh**

**Address:**

Lakeside B07  
9020 Klagenfurt  
Austria

**EU Contribution:** €315,000

**Infineon Technologies Austria Ag**

**Address:**

SIEMENSSTRASSE 2  
9500 VILLACH  
Austria

**Organisation Website:**

<http://www.infineon.com/austria>

**EU Contribution:** €440,041

**Ideas & Motion Srl**

**Address:**

Via Santa Margherita 8  
12051 Alba  
Italy

**EU Contribution:** €300,625

**Volvo Personvagnar Ab**

**Address:**

Avd 50090 Hb3S  
405 31 Goteborg  
Sweden

**EU Contribution:** €487,250

**Teknologian Tutkimuskeskus Vtt**

**Address:**

TEKNIKANTIE 21  
02150 ESPOO  
Finland

**Organisation Website:**

<http://www.vtt.fi>

**EU Contribution:** €400,134

**Valeo Vision Sas****Address:**

RUE SAINT ANDRE 34  
93012 Bobigny  
France

**Organisation Website:**

<http://www.valeo.com>

**EU Contribution:** €450,000

**Avl List Gmbh****Address:**

Hans-List-Platz  
8020 Graz  
Austria

**Organisation Website:**

<http://www.avl.com>

**EU Contribution:** €427,325

**Tofas Turk Otomobil Fabrikasi Anonim Sirketi****Address:**

Buyukdere Cad Tofas Han 145 Kat 4-5 Zincirlikuyu  
34394 Sisli Istanbul  
Turkey

**EU Contribution:** €480,000

**Ford Otomotiv Sanayi Anonim Sirketi****Address:**

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34885 ISTANBUL  
Turkey

**EU Contribution:** €540,000

**University Of Surrey****Address:**

Stag Hill  
Guildford  
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United Kingdom

**EU Contribution:** €388,529

**Technologies:**

Connected and automated vehicles  
Controllers and sensor fusion systems for automated vehicles

**Development phase:** Research/Invention

Advanced driver assistance systems  
Human Machine Interface and Human-in-the- Loop Connected Driving  
Assistance

**Development phase:** Research/Invention

**STRIA Roadmaps:** Cooperative, connected and automated transport

**Transport mode:** Road transport

**Transport sectors:** Passenger transport, Freight transport

**Geo-spatial type:** Other