

PROJECT

## **PRoPART**

### **Precise and Robust Positioning for Automated Road Transports**

**Funding:** European (Horizon 2020)

**Duration:** Dec 2017 - Nov 2019

**Status:** Complete

**Total project cost:** €3,502,076

**EU contribution:** €2,968,128



[CORDIS RCN : 212906](#)

#### **Objectives:**

The objective of the project 'PRoPART' is the development and demonstration of a high availability positioning solution for connected automated driving applications.

It aims to develop and enhance an existing RTK (Real Time Kinematic) software solution developed by Flowscape, by exploiting the distinguished features of Galileo signals as well as combining it with other positioning and sensor technologies. Besides the use of vehicle on board sensors, 'PRoPART' will also use a low-cost Ultra Wideband (UWB) ranging solution for redundancy and robustness in areas where the coverage of GNSS is poor e.g. in tunnels or in urban canyons.

In order to define the correct requirements for the PRoPART combined positioning solution, a cooperative automated vehicle application will be defined and developed. The vehicle application will rely on the high availability positioning solution and use it to couple its ADAS system with V2X and aggregate information received from other connected vehicles and Road Side Units (RSU).

As there will be a transition period where a lot of vehicles are neither connected nor automated, solutions having high impact during low penetration are in focus. Therefore 'PRoPART' will implement an RSU with high precision positioning and use both UWB as well as a traffic monitoring to supply ranging, object perception and EGNSS RTK correction data via ETSI ITS-G5 to the connected automated vehicle so it can make safe decisions based on robust data. This means that 'PRoPART' also will implement perception layer sensor fusion that uses information collected in the LDM (Local Dynamic Map) as well as information from both the on-board vehicle sensors and the high availability positioning solution. We will also exploit possibilities to distribute EGNSS RTK correction data from the RSU to the vehicle.

#### **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:**

**Rise Research Institutes Of Sweden Ab**

**Address:**

Scheelevägen 27  
22370 Lund  
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**EU Contribution:** €682,785

#### **Partner Organisations:**

**Commsignia Kft****Address:**

7252 ATTALA SZECHENYI UTCA 14  
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Hungary

**EU Contribution:** €277,375

**Scania Cv Ab****Address:**

Vagnmakarvagen 1  
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**Organisation Website:**

<http://www.scania.com>

**EU Contribution:** €405,978

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**Organisation Website:**

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**EU Contribution:** €633,900

**Baselabs Gmbh****Address:**

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**EU Contribution:** €231,875

**Flowscape Ab****Address:**

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**EU Contribution:** €330,649

**Asociacion Centro Tecnologico Ceit****Address:**

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**Organisation Website:**

<http://www.ceit.es>

**EU Contribution:** €405,566

**Technologies:**

Advanced driver assistance systems  
ADAS and automated driving platform

**Development phase:** Research/Invention

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

**Transport mode:** Road transport

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

**Transport policies:** Safety/Security

**Geo-spatial type:** Other