

Project Information



▷ Time span & website

January 1, 2016 - December 31, 2019
<http://up-drive.eu>

▷ Coordinator

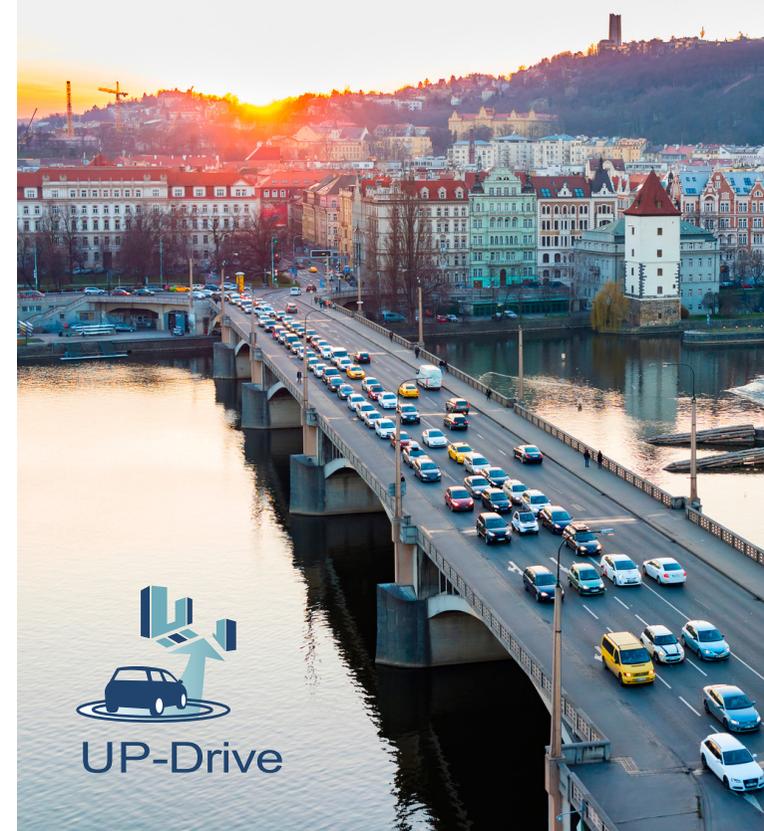
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▷ Funding

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Consortium

- ▶ **Volkswagen AG**
Vehicle infrastructure, environment perception, decision making and trajectory planning
- ▶ **Swiss Federal Institute of Technology in Zurich – Autonomous Systems Lab**
Lifelong localization & mapping
- ▶ **IBM Research GmbH**
Cloud infrastructure, semantic data aggregation
- ▶ **Technical University of Cluj-Napoca**
Environment perception and scene understanding
- ▶ **Czech Technical University in Prague**
Environment perception and scene understanding



Automated Urban Parking and Driving

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An H2020 European Project



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Autonomous Systems Lab

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Motivation

Global trend towards urbanization calls for new mobility concepts.

The UP-Drive consortium is convinced that automated driving technology is the key component enabling

- more comfort and safety,
- reduction of congestion and
- more efficient use of resources

Yet, today's automated driving technology is not mature enough to handle the complexity of urban traffic.

Goals

The main goal of UP-Drive is therefore to push forward the perception, localization and reasoning abilities of autonomous vehicles.

In the course of the project, we will build a prototype car systems capable of driverless operation in complex urban environments.

Our focus will be placed on residential areas and speeds up to 30 km/h.

Scientific contributions

We are especially interested in advancing the following technologies:

- Robust, general 360° object detection and tracking employing low-level spatio-temporal association, tracking and fusion mechanisms.
- Accurate metric localization and distributed geometrically consistent mapping in large-scale urban environments.
- Scene understanding, starting from the detection of semantic features, classification of objects, towards behavior analysis and intent prediction.

UP-Drive cars will feel at home in 30 km/h zones. Here the map of Munich with 30 km/h zones marked orange.



The fully electric VW e-Golf equipped with numerous sensors serves as the first test vehicle.

Making cars sense and understand their surroundings is one of the key challenges in UP-Drive.

