



**interACT**

Designing cooperative interaction of automated vehicles  
with other road users in mixed traffic environments

## **interACT – Project overview**



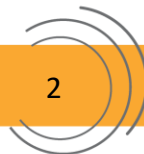
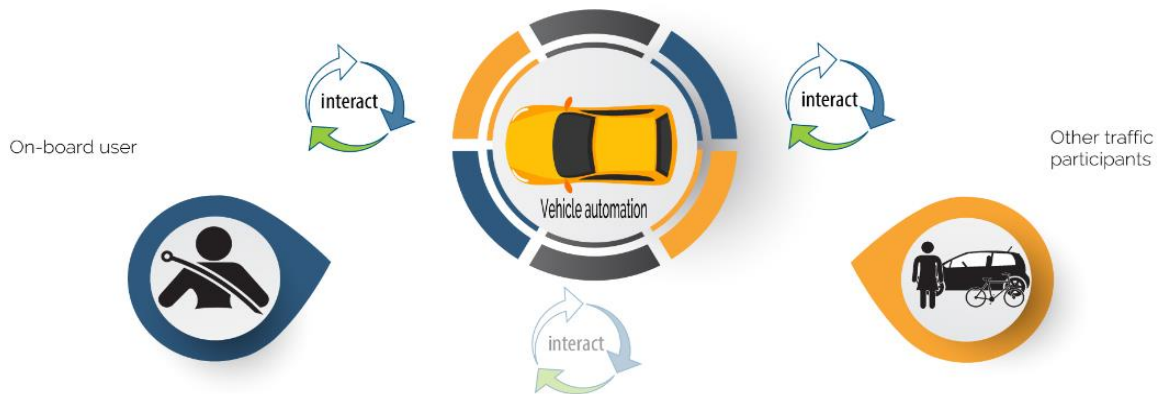
Anna Schieben  
DLR e.V., Institute of Transportation Systems  
INEA ART Workshop, 12 December 2017, Brussels

# Integrating automated vehicles in mixed traffic

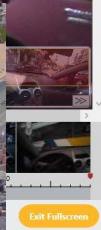
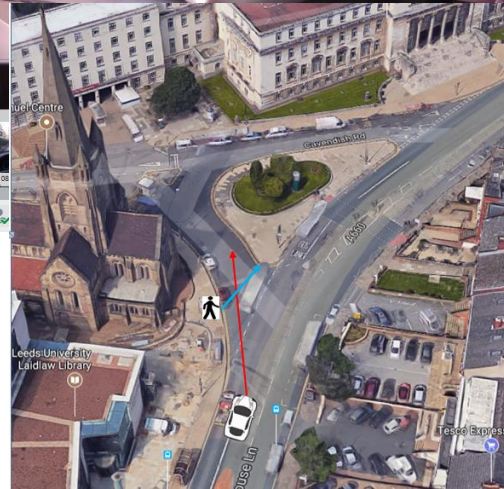
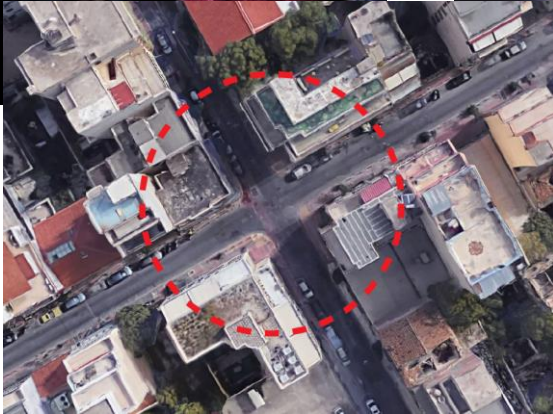
## Situation Today



## Future situation: Automated vehicles in mixed traffic environments



# Interaction today



# Challenges of interACT

- The interACT project will address the following challenges:
  - **Safe integration of AVs** (SAE level 3 and above) into complex, mixed traffic environments
  - Solutions for **expectation-conforming interaction** of AVs with other road users and on-board users
  - **Increase in user acceptance** and ease-of use by appropriate AV design
  - Increase the **overall safety and reliability** of AVs in mixed traffic environments



**5<sup>th</sup> Enabler**  
Methodology for assessing  
the quality of interaction



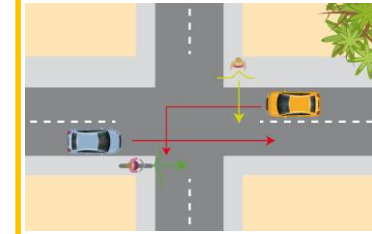
**The challenge**



**1<sup>st</sup> Enabler**  
Psychological models

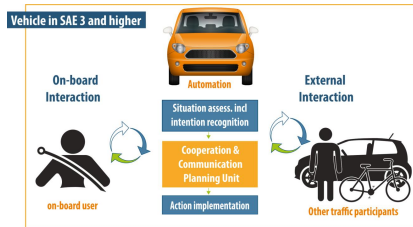


**4<sup>th</sup> Enabler**  
Novel HMI  
elements



**2<sup>nd</sup> Enabler**  
Intention recognition &  
behavioural predictions

**3<sup>rd</sup> Enabler**  
CCPU & safety layer



# Technical approach

Evaluation methodology

Psychological models

Vehicle in SAE 3 and higher



Automation

On-board  
Interaction



Situation assess. incl  
intention recognition

Cooperation &  
Communication  
Planning Unit

Action implementation

External  
Interaction



# Project team



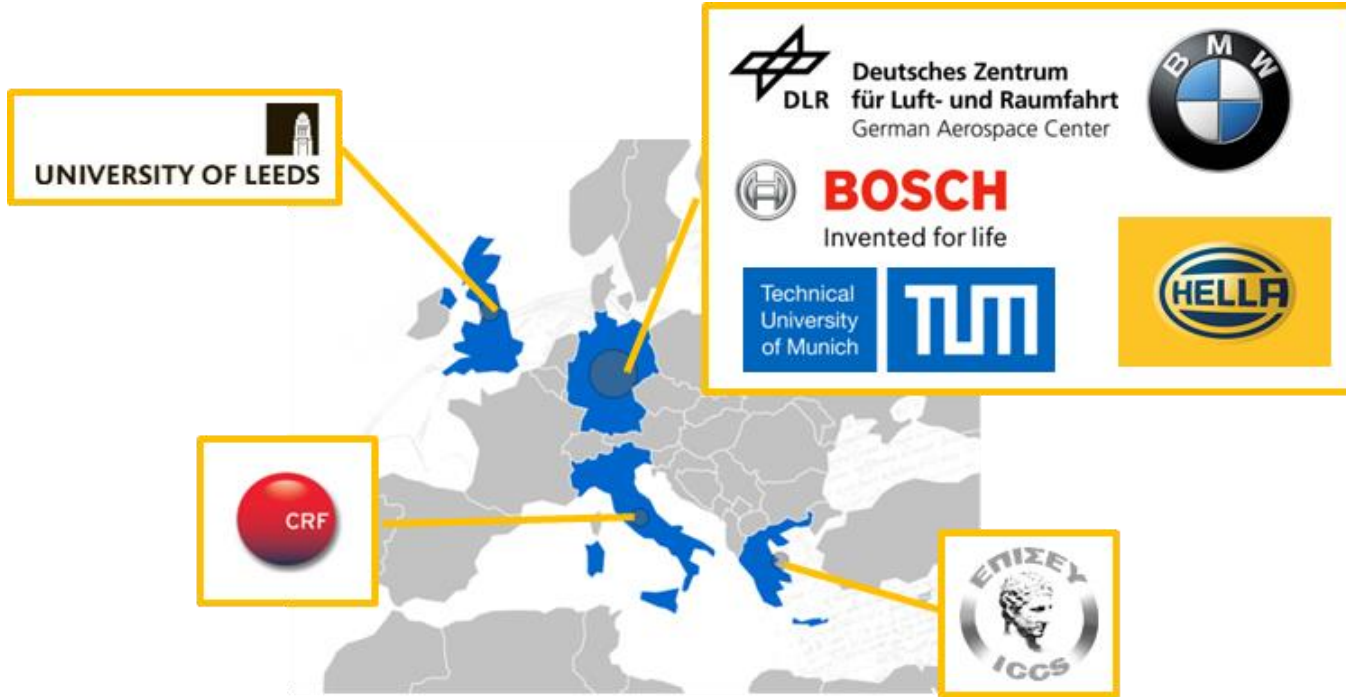
# Project facts

- **Programme:** EU/H2020-**ART04** - *Safety and end-user acceptance aspects of road automation in the transition period*
- **Duration:** 36 months
- **Period:** May 2017 – April 2020
- **EU Funding:** 5.527.581 €
- **Coordinator:** Anna Schieben, DLR
- **Partners:** 8 industrial and academic partners from 4 European countries (Germany, Italy, Greece, UK)
- **Project Officer:** Georgios Charalampous (INEA)
- **US - EU twinning project:** AVIntent (NHTSA)





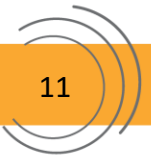
# Project consortium



# Potential areas of cooperation

Exchange of information on:

- Interaction of humans with AV in mixed traffic
- HMI development
- Intention recognition of VRUs
- Vehicle intelligence incl. safety layer/ fail-safe trajectory planning





<http://interact-roadautomation.eu>

# Thank you

Any questions?



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