Integrating automated vehicles in mixed traffic

Situation Today

On-board driver

interACT

Other traffic participants

Future situation: Automated vehicles in mixed traffic environments

On-board user

interACT

Other traffic participants

Vehicle automation

interACT / INEA workshop 2017, Brussels
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
The challenge

Achieve a safe, highly accepted and efficient integration of Automated Vehicles in mixed traffic environment

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1st Enabler
Psychological models

2nd Enabler
Intention recognition & behavioural predictions

3rd Enabler
CCPU & safety layer

4th Enabler
Novel HMI elements

5th Enabler
Methodology for assessing the quality of interaction

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Technical approach

Evaluation methodology

Psychological models

Vehicle in SAE 3 and higher

On-board Interaction

Automation

Situation assess. incl intention recognition

Cooperation & Communication Planning Unit

Action implementation

External Interaction

Other traffic participants

on-board user

interACT meeting/event title, Venue
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

UNIVERSITY OF LEEDS

DEUTSCHES ZENTRUM FÜR LUFT- UND RAUMFAHRT
German Aerospace Center

BOSCH
Invented for Life

TUM
Technical University of Munich

HELLA

ENIGEY
ICCS

interACT / INEA workshop 2017, Brussels
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
Thank you

Any questions?

http://interact-roadautomation.eu

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