Piloting Automated Driving on European Roads

SIP-adus Workshop
13 November 2018, Tokyo

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From euroFOT to L3Pilot
Longitudinal control functions

- Forward Collision Warning (FCW)
- Adaptive Cruise Control (ACC)
- Speed Restriction System (SRS)

Lateral control functions

- Blind Spot Information System (BLIS)
- Lane Departure Warning (LDW)
- Impairment Warning (IW)

Advanced applications

- Curve Speed Warning (CSW)
- Fuel Efficiency Advisor (FEA)
- Safe Human Machine Interaction (SafeHMI)
AdaptIVe

<table>
<thead>
<tr>
<th>TRAFFIC COMPLEXITY</th>
<th>Exclusive area</th>
<th>Dedicated lane</th>
<th>Motor vehicles</th>
<th>All road users</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
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<td>Mid</td>
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<tr>
<td>Low</td>
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</table>

- **Highway applications**: > 130
- **Urban applications**: > 70
- **Parking applications**: > 30

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See SAE document J3016, "Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles", revised 2016-09-30, see also [http://standards.sae.org/j3016_201609](http://standards.sae.org/j3016_201609)
This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 723051.

Facts

€68 million BUDGET

48 months DURATION, starting in September 2017

€36 million FUNDING

34 PARTNERS, among them OEMs, suppliers, research, SMEs, insurers, authorities and user groups

12 COUNTRIES involved: Austria, Belgium, France, Finland, Germany, Greece, Italy, Netherlands, Norway, Sweden, Switzerland, UK

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Partners

OEMs

Suppliers

SMEs

Insurers

Researchers

Authority

User group

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1,000 drivers 100 cars 10 European countries Piloting Automated Driving on European Roads.
Research questions

• Research questions listed for all evaluation areas
  • Technical and traffic evaluation
  • User evaluation
  • Impact evaluation
  • Socio-economic evaluation

• **Feasibility** of research questions being checked from experimental procedures and evaluation methods viewpoint

• Research questions of levels 1 & 2 reported in D3.1, **level 3 RQs** to be fine-tuned and **hypotheses** to be defined along with better knowledge of the ADFs and of available evaluation methods

• Final list of research questions to be reported in D3.4
Feasibility of impact evaluation RQs from methodology viewpoint

- What is the impact of ADF on the number of accidents in a certain driving scenario?
- What is the impact of ADF on the number of accidents involving other road users (such as pedestrians and bikers)?
- What is the impact of ADF on accidents with fatal injuries in a certain driving scenario?
- What is the impact of ADF on accidents with severe injuries in a certain driving scenario?
- What is the impact of ADF on accident with slight injuries in a certain driving scenario?
- What is the impact of ADF on accidents with material damages in a certain driving scenario?
- What is the impact of ADF on rescue chain in terms of preventing injuries?
- What is the impact of ADF on traffic flow?
- What is the impact of ADF on the available parking space?
- What is the impact of ADF on fuel efficiency?
- What is the impact of ADF on energy demand?
- What is the impact of ADF on CO2 emissions?
- What is the impact of ADF on trip duration?
- What is the impact of ADF on trip distance?
- What is the impact of a changed travel speed?
- What is the impact of ADF on the frequency of certain accident scenarios?
- What is the impact of ADF on the frequency of certain driving scenarios?
- How do the ADF limitations influence the impact on safety / efficiency?
Code of Practice (CoP)

Provide a comprehensive guideline with best practices for the development of functions: **Code of Practice for Automated Driving**.

- Collect best practices on relevant topics.
- Describe a typical process for an Automated Driving function.
- Include hands-on checklists.
- Include safety aspects and methods to confirm a safe operation of Automated Driving functions.
History of the Code of Practice (CoP)

PreVENT: RESPONSE 3 „CoP ADAS“
2008

AdaptIVe: Response 4 „Legal aspects AD“
2014

L3Pilot: „Code of Practice AD“
2021

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L3Pilot Annual Quantitative Survey

- **1st longitudinal study** on user acceptance of AD.
- **Representative, quantitative** and **international** approach.
- L3Pilot annual survey will provide **insights into user acceptance and attitudes** towards **automated driving** of the **general public** and its **development over time**.

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**Impact**

- **Recommendations** for public and private decision-makers
- **Knowledge** about future market potential for AD systems
- **Development** of Automation Acceptance Index (AAI)
Thank you for your kind attention.

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