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Setting up Experimental Procedure for Level 3 Automated Driving Pilots

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L3 Pilot
Driving Automation

1000
drivers

100
cars

10
countries

L3Pilot applications



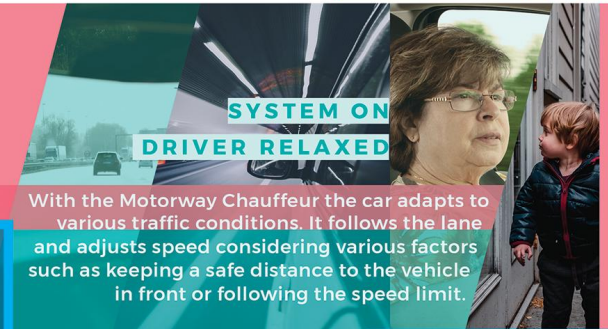
APPLICATIONS

SAE LEVEL 0 1 2 3 4 5



THE L3PILOT TRAFFIC JAM CHAUFFEUR **RELIEVES** FROM EXHAUSTING, MANUAL DRIVING DURING TRAFFIC JAMS. On motorways and similar roads the car takes over the driving in traffic jams up to 60 km/h.

TRAFFIC JAM



**SYSTEM ON
DRIVER RELAXED**

With the Motorway Chauffeur the car adapts to various traffic conditions. It follows the lane and adjusts speed considering various factors such as keeping a safe distance to the vehicle in front or following the speed limit.

MOTORWAY



THE PARKING CHAUFFEUR ALLOWS THE USER TO REQUEST THEIR VEHICLE TO COMPLETE MANOEUVRING INTO AND OUT OF GARAGES AND DRIVEWAYS.

PARKING

Piloting Automated Driving on European Roads L3Pilot paves the way for large-scale field tests of automated driving functions.




STRESS-FREE DRIVING IN URBAN AREAS.

With the Urban Chauffeur the vehicle automatically follows the lane, starts and stops and handles overtaking within cities.




URBAN

Background

- Difference between field operational tests of very close to market products, and pilot tests of systems on earlier technology readiness level (TRL).
 - In an automated driving (AD) pilot study, a realistic level for testing on open roads is often controlled tests with safety driver on board and responsible of the safety at any time.
 - Thus, in a pilot study, even carefully planned field tests provide indicative estimates of impacts, while further assumptions need to be made on market-ready versions and their use utilizing other sources of information to complement the field measures. In an FOT, when the products are closer to the market, one can expect more direct proof of impacts from the field tests.
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Objective

- The main objective of the experimental procedure work was to provide a solid evaluation methodology to be implemented throughout the pilot sites.
 - Furthermore, the aim was to harmonize the evaluation criteria by providing detailed recommendations for the pilots to ensure such a data collection, which enables holistic evaluation results of the L3Pilot project.
 - These results provide important support in terms of found solutions for the other field studies of automated driving.
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Method

- Theoretical analysis covering “*approaches*”, “*participants*”, “*experimental designs*” and “*experimental environments*”.
 - Pros and cons analysis.
 - Recommended experimental design for each research question.
- Support visits to all the pilots were conducted during the second half of 2018.
 - Experimental procedures work leader, selected evaluation support partner of each pilot, and the team setting up the pilot site.
 - Possible ways to combine the data from various pilots were proposed.
- Recommendations for the pilots were given

Main results

Practical guidelines for the pilot sites:

1. Preferred participants and sample size

The participant type in the pilots depends highly on at least three aspects:

- a) the readiness of the function (prototype or closer to market introduction),
- b) internal company policy (if externals or even internals without specific training are allowed to drive the AD test vehicles with AD on),
- c) and country-specific legislation related to testing of level 3 ADFs on public roads.


Main results - continues

2. Route selection for AD and baseline data collection for each ADF
 - Comparable environment and conditions
 - Metadata collection
3. Pre-instructions
 - Functionality and the limitations of the ADF
 - Use of AD
 - Secondary tasks
4. Role of a safety driver, an operator, an instructor
5. Interviews/questionnaires before and after the drives

To see the full report with details, please visit: <https://l3pilot.eu/download/>

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