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- BAYERISCHE MOTOREN WERKE AKTIENGESELLSCHAFT

INFRAMIX

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inframix

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Preparing road infrastructure for mixed vehicle traffic flows

INFRAMIX is preparing the road infrastructure to support the coexistence of conventional and automated vehicles. The key outcome will be a *hybrid* road infrastructure able to handle the transition period and become the basis for future automated transport systems.
To achieve this goal INFRAMIX will employ new advanced microscopic traffic flow models, advanced simulation techniques, innovative control strategies, as well as appropriate new and adapted existing physical and digital infrastructure elements. All these will be cross validated against user appreciation and safety performance leading among others to a novel road infrastructure classification scheme.
The key elements of INFRAMIX are:

- Design new and upgrade existing physical & digital road infrastructure elements
- Develop a co-simulation environment
- Design and implement novel traffic estimation, monitoring and control strategies
- Develop hybrid testing system
- Design novel signalling and visualization elements
- Evaluate user's appreciation and acceptance
- Evaluate traffic safety
- Create a Road Infrastructure Classification Scheme

EXPECTED IMPACT

INFRAMIX will provide key elements for a step by step introduction of automated driving. A set of targeted interventions related to physical and digital infrastructure will be carefully defined, as road infrastructure has to deal with several challenges:

- **The construction of new roads is expensive and time consuming**
- **Europe has already a quite mature road network**
- **Roads have a quite long lifecycle**

The interventions will be adaptable and incremental to cope with a variety of existing infrastructure and diverse traffic scenarios.

8 DIFFERENT USE CASES

A

Scenario 1: Dynamic Lane Assignment (incl. speed recommendations)

1. Real time lane assignment under dynamic penetration rate of automated vehicles
2. Exceptional circumstances e.g. adverse weather conditions
3. A conventional vehicle drives on a dedicated lane for automated vehicles

B

Scenario 2: Roadworks zones

4. Single lane closure (e.g. short term constructions)
5. New lane design (e.g. long term constructions)

C

Scenario 3: Bottlenecks

6. Automated vehicles driving behaviour adaptation in real time at sags
7. Lane change advice to connected vehicles at bottlenecks
8. Lane change advice combined with flow control at bottlenecks for all vehicles

Real tests on modern highways

autopistas
an Abertis company

Girona
(Spain)

ASFINAG

Graz
(Austria)