FZI LIVING LABS: A NEW SERVICE IN RESEARCH TRANSFER

Living Labs represent a new research paradigm placing technology transfer and the application environment in the limelight of interdisciplinary research and development. The FZI Living Labs are a new FZI service that transforms ideas from research and development into marketable products. In the FZI Living Labs, project partners from companies and public institutions can work together with FZI professors and researchers to design, discuss, evaluate and test concepts, tools, software and systems under real life conditions prior to market launch.

THE IDEA BEHIND OUR FZI LIVING LABS

- Participative research by researchers, experts from industry and users
- Concentrated provision of interdisciplinary, scientific know-how
- Practical trials for engineering and IT applications before market launch
- Holistic tryout of innovative concepts for your products
- Offering feedback of market knowledge into research
- Triggering innovation impulses
- Encouraging exchange between technology and application
- Environment for open innovation

THE FZI HOUSE OF LIVING LABS

The FZI House of Living Labs incorporates all FZI Living Labs in one building and offers a modern infrastructure for development, evaluation and demonstration of trend-setting technologies. Researchers from the FZI and partners from industry and society can exchange across fields of application and interdisciplinarily develop integrated solutions in information and communication technology. Benefit from our FZI Living Labs as a platform for integration and technologies!


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FZI LIVING LAB AUTOMOTIVE

Intelligent and robust systems for the car of the future
FZI LIVING LAB AUTOMOTIVE

The car of the future will be able to drive on its own. Via built-in sensors, cameras, radar and lidar as well as intelligent software and hardware systems, it will be able to perceive its surroundings, evaluate the current traffic situation and it will take over control at the driver’s request.

In order to realise the highly automated, adaptive car, IT research as well as system and application development have yet to meet numerous methodical and technical requirements. In the FZI Living Lab Automotive, we focus on developing methods, architectures and algorithms to analyse user intentions, vehicle surroundings and driving situation, to plan driving manoeuvres and trajectories as well as for machine learning for environment perception and driving behaviour.

Together with our partners, we also aim at constantly verifying, validating and testing developed algorithms and methods through simulation as well as the prototypical implementation of applications in instrumented test vehicles.

Our fields of application are not only in the area of individual transport, but they also include car sharing, public transport, logistics and municipal utility vehicles like mowing machines and road sweepers. The scenarios range from automated parking and charging of electric vehicles, for example, to applications in urban regions to rural routes and motorways.

EQUIPMENT

In the FZI Living Lab Automotive, we offer preliminary design development and verification software as well as hardware for the testing of algorithms and hardware at all levels. For realistic simulation purposes, the FZI Living Lab Automotive is equipped with different simulation environments from traffic flow simulations to driving dynamic simulations as well as a driving simulator with an integrated cockpit and a 240° panorama screen.

In virtual driving tests, new algorithms and hardware are examined and evaluated safely at an early stage. After successfully testing the developed methods in simulation, they are evaluated in practice. For this purpose, three test vehicles are available featuring different partly redundant sensor setups.

Furthermore, electric vehicles with a fully accessible onboard energy management system for range prediction and the improvement of energy-efficient driving are available.

COOPERATION OPPORTUNITIES

CONSULTING
- Method and technology consulting in the field of automated driving
- Consulting and studies on hardware and software architectures and algorithms for the perception, cognition and behaviour generation

EVALUATION
- Evaluation and identification of fitting application scenarios
- Evaluation of hardware components, such as sensors or processing units

RESEARCH
- Support and completion of R&D competencies
- Assistance in research projects
- Feasibility studies