

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 work together with FZI professors and scientists 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

Technology and knowledge transfer with a broad range of positive effects:

- Participative research by scientists, experts from industry and users
- Concentrated provision of interdisciplinary, scientific know-how
- Practical trials for engineering and IT applications before market launch
- Thorough 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 develop interdisciplinarily integrated solutions in information and communication technology. Profit from our FZI Living Labs as a platform for integration and technologies!

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FZI LIVING LAB AUTOMOTIVE

Assistance and Comfort Systems for the Car of the Future



FZI LIVING LAB AUTOMOTIVE

The car of the future will be able to assist its driver. Via built-in sensors, cameras, and intelligent software and hardware systems it will be able to identify its surroundings, evaluate the current traffic situation and issue warnings about obstacles.

In order to realize 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 necessary to analyze user intention, vehicle surroundings and driving situations as well as for action planning.

Together with our partners, we also aim at constantly verifying, validating and testing developed algorithms and methods through realistic simulation and prototype application in instrumented test vehicles.

Additionally, we develop applications that support energy efficient driving as well as a safer, more flexible shared control between the driver and the vehicle. One of our visions, for instance, is to give over the control to the vehicle similar to the function of an autopilot on an airplane.

Another focus of our development and project activities is autonomous driving in urban traffic and on highways as well as the implementation of autonomous driving functions in electric vehicles, which will, for instance, enable the manoeuvre of autonomous parking and charging.

EQUIPMENT

At the FZI Living Lab Automotive, we offer preliminary design development and verification software as well as hardware for continuous testing of algorithms.

For realistic simulation purposes, the FZI Living Lab Automotive is equipped with a driving dynamics simulator with integrated cockpit and 270° panorama projection. In virtual driving tests, new algorithms and hardware are examined and evaluated safely at an early stage.

Our test vehicle CoCar is equipped with current 2D and 3D sensors, inertial and health monitoring sensors, actuator elements as well as multicore control computers. Hence, developed and simulation-tested methods can actually be evaluated in practice.

Furthermore, at the FZI an electric car with a fully accessible energy management for range prediction and anticipatory operation strategy adaption is available.



COOPERATION OPPORTUNITIES

CONSULTING

- Consulting on methods and technologies
- Consulting and studies on architectures and algorithms

EVALUATION

- Evaluation and identification of appropriate application scenarios
- Evaluation of hardware components

RESEARCH

- Support and completion of research and development competencies
- Assistance in research projects
- Feasibility analysis

