

FZI LIVING LABS: A NEW SERVICE IN RESEARCH TRANSFER

Living Labs present a new research paradigm placing technology transfer and the application environment in the limelight of interdisciplinary research and development. 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 innovative 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 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 smartSECURITY

Research on Security Solutions for the Future



FZI LIVING LAB smartSECURITY

Innovative solutions for cloud computing, building automation, mobility or industry 4.0 require a high level of networking and options of interaction between different roles, systems and components causing new attacking scenarios and threats. This development requires complex security solutions and high investments to integrate these solutions into existing infrastructures. Current IT systems in use are often contestable and not secure.

In the FZI Living Lab smartSecurity we promote a better understanding of central security issues through security awareness campaigns and by presenting IT security solutions in a transparent and communicative way. Our research focuses on:

- Development of automated security analysis processes for various software systems (e.g. highly aggregated cloud systems, distributed mobile applications or embedded cyber physical systems)
- Research on security issues in the fields of industry automation and smart home
- Development of adapted development processes and tools for a model-based draft, evaluation and optimization of highly interconnected systems and cryptographic procedures
- Research on security mechanisms to ensure a correct, confidential and secure operation of embedded real time operation systems and applications in open web environments



EQUIPMENT

Since the FZI Living Lab smartSecurity is integrated into the FZI House of Living Labs, it is possible to address IT security issues in all application scenarios the FZI Living Labs offer. Modern simulation infrastructure is accessible throughout the whole FZI House of Living Labs and serves to calculate, analyze and simulate various security solutions. Furthermore, the present interdisciplinary infrastructure (like industrial robots and machines in different FZI Living Labs and a two-room flat equipped with numerous sensors, actuators, and gateways) is useable for research on various security aspects.

Possible applied research topics are:

- Secure data transmission
- Authentication and secure networking
- Authorization mechanisms and access control
- Protecting personal rights when using cameras and activity sensors



COOPERATION OPPORTUNITIES

Besides joint R&D projects the FZI Living Lab smartSecurity offers security analysis and evaluations as well as consulting on the implementation of security concepts.

Cooperation is possible in areas such as:

- Threats and security analysis
- Analysis and benchmarking of implementation alternatives
- Secure protocols and system conception
- Development of cryptographic procedures and their adaption to embedded systems and CPS

