

FZI Research Center for
Information Technology

**FZI
HOUSE OF LIVING
LABS –
Technology Platform
for Innovation and
Co-Creation**





— About me

01

Natalja Kleiner

Department Manager Innovation, Demonstration and Transfer (IDT)

- Since 2008: Research Scientist at FZI with focus on
 - Intelligent contingency management systems in logistics, transportation and production
 - Artificial Intelligence
- Since 2019: Department Manager of Innovation, Demonstration and Transfer (IDT) and Coordinator of the FZI House of Living Labs with focus on
 - Technology and knowledge transfer
 - Living Labs
 - New working methods / Co-Creation
 - Digital Citizen Participation



— About FZI



02

- Who we are
- Figures, data, facts
- What we do

Who we are



- As an independent foundation, the FZI Research Center for Information Technology has stood for more than 35 years for excellent applied research in the field of information and communication technologies and with partners from industry, business, science, associations and the public sector
- Innovation partner of the Karlsruhe Institute of Technology (KIT)
- We develop innovations for the benefit of society and offer excellent researchers a unique springboard to their future career

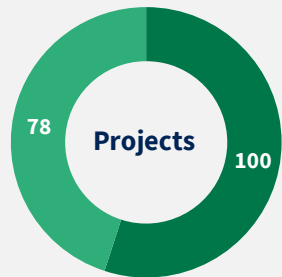


Figures, data, facts about the FZI



178

projects overall



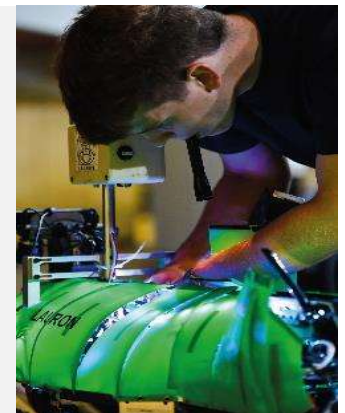
■ Public Funded Projects
■ Direct Commissionings

25

total turnover of
million EUR

24,7

months average duration
of the projects



251

employees
supported by

202

(research)
assistants

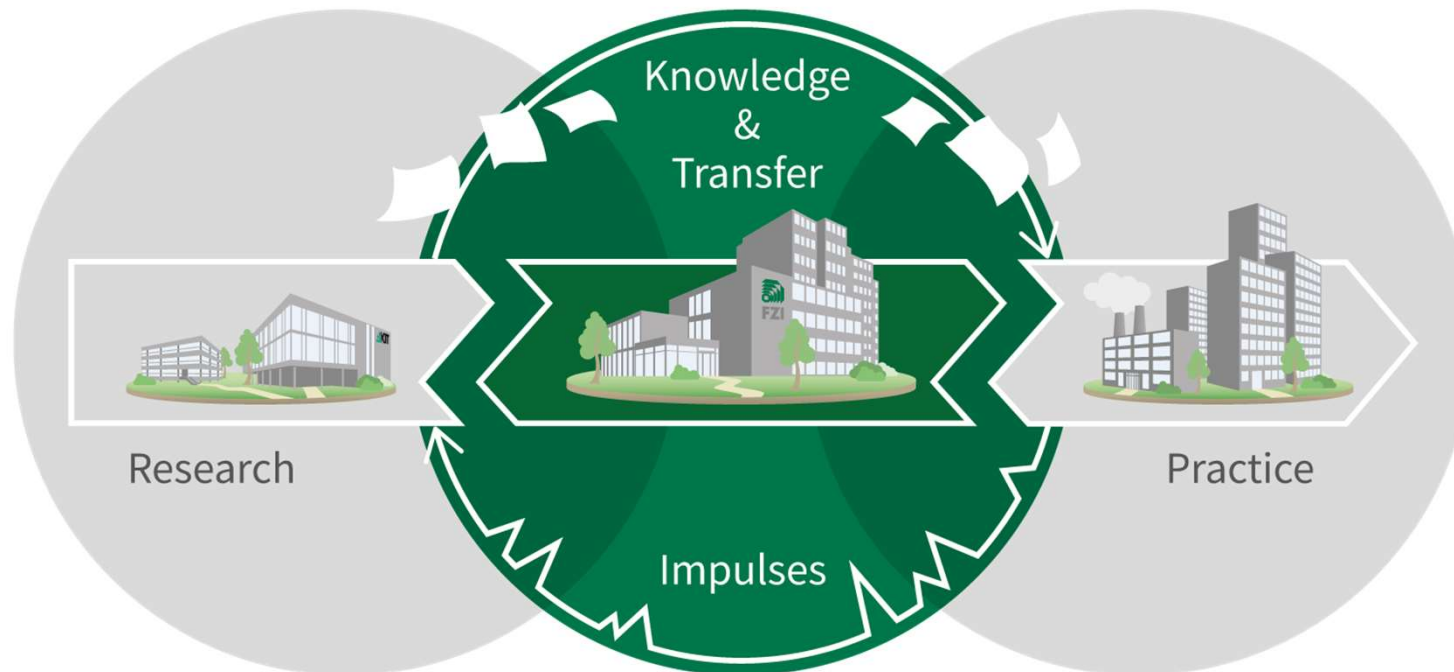


Legal form:

Non-profit foundation under civil law

Status from 2020

What we do: Applied research in information technology and technology transfer



What we do. Our sectoral focuses



Production



Health



Supply and disposal



Education, research and
administration



Buildings and
public spaces



Mobility, traffic and
logistics



Services and trade



ICT-Technology

— About FZI House of Living Labs

03

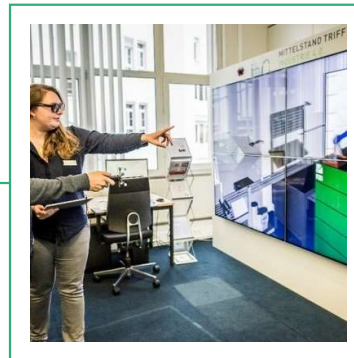
- FZI HoLL as technology platform
- Knowledge and technology transfer
- The Living Labs
- FZI HoLL as innovation driver
- Selected Use Cases

FZI House of Living Labs – Technology platform for research and evaluation



Innovative research environment

for small and medium-sized companies on more than 2,000 qm in Karlsruhe



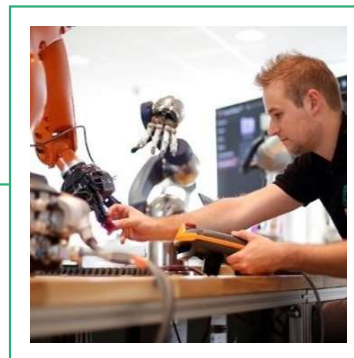
Seven Living Labs

for cross-sectoral research, evaluation and development



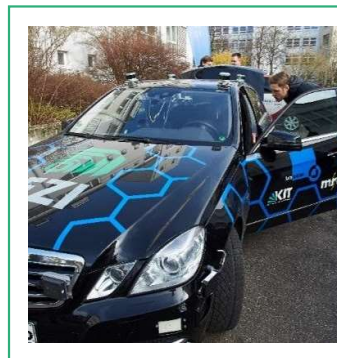
Participative research and development

of experimental technologies in real-life scenarios

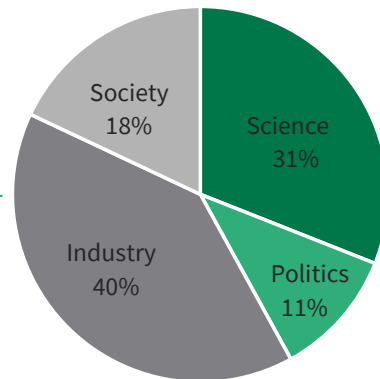


Cutting-edge hightech equipment and infrastructures

with information and communication technologies, vehicles and many more



Knowledge and technology transfer



Innovative transfer formats

with Open Innovation approaches and virtual collaboration environments

Approx. 580 visitors

from industry, politics, science and society (2013-2021)

Various lab tours and events

regarding topics like applied artificial intelligence, energy and mobility

Continuous upgrade and further development

of demonstrators, infrastructure and equipment

Solutions for the working and living environment of the future



FZI Living Lab Future Mobility

Development of mobility concepts for the future

FZI Living Lab Industrial Intelligence

Technologies for automation and production

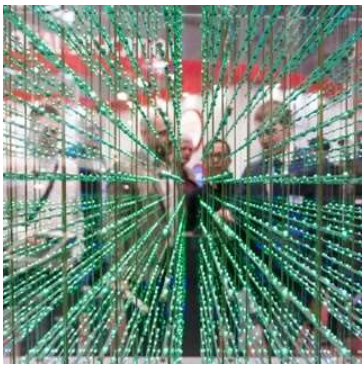
FZI Living Lab smartEnergy

Solutions for future energy systems

FZI Living Lab smartHome/AAL

Technologies for social interaction and safe and convenient living

Solutions for the working and living environment of the future



FZI Living Labs Software Innovations

New ideas for the entire software life cycle and the digitalization of processes

FZI Living Lab Service Robotics

Autonomous mobile robots for routine tasks in industry and everyday life

FZI Living Lab Security and Law

Security solutions and legal research for interconnected systems

FZI HoLL as innovation driver



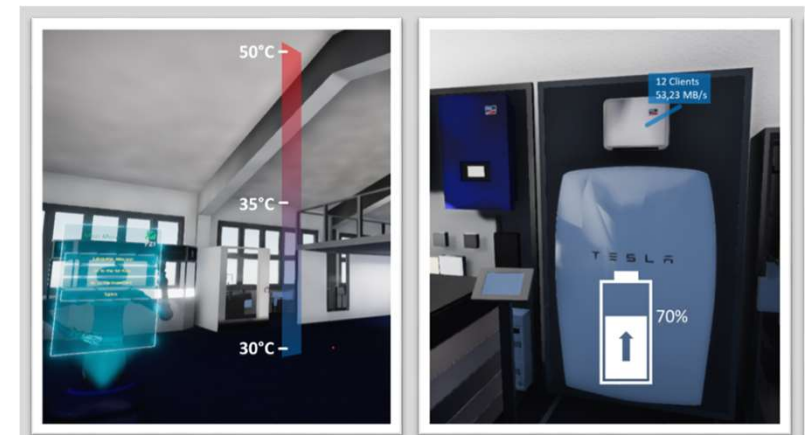
Inspiration	<ul style="list-style-type: none">- Demonstration of latest trends and developments- Bringing together different players (Quadruple Helix Model), bi-directional inspiration through co-creation
Knowledge	<ul style="list-style-type: none">- Bundling of interdisciplinary competencies from different application areas
Technology	<ul style="list-style-type: none">- Providing access to newest technology, without having to buy it
Test-before-Invest	<ul style="list-style-type: none">- Providing possibilities for testing and validation in real-life scenarios
Network	<ul style="list-style-type: none">- Matchmaking of technology providers and technology users and initiating new cooperations

Use Case: Smart energy management system

- Consequences of the energy transition:
 - Fluctuating energy production through the use of renewable energies
 - Decentralized energy supply (consumers become producers)



- Intelligent building energy management system provides comprehensive sensor data
- Real-time visualization in the virtual environment provides easy access to the meaning of the sensor data
- Applicable in private households as well as in industrial buildings



Use Case: EVA-Shuttle

- Interconnected, autonomously driving mini buses to connect the last mile from the bus stop to home
- Part of an innovative multimodal mobility concept aiming to combine the sustainability of public transport with the comfort of the individual transport
 - EVA-Shuttle can be ordered on-demand through the app „eva-shuttle“ (provided by ioki)
- Innovative technology developed in the Living Lab Future Mobility and tested with real passengers in a real-life scenario on the Test Field Autonomous Driving Baden-Württemberg (TAF BW)
- Legal and liability aspects analyzed and implemented by the Living Lab Security and Law

EVA SHUTTLE
Elektrisch. Vernetzt. Automatisiert.

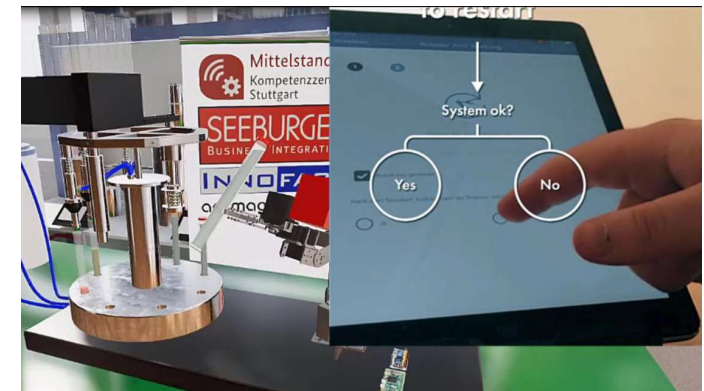
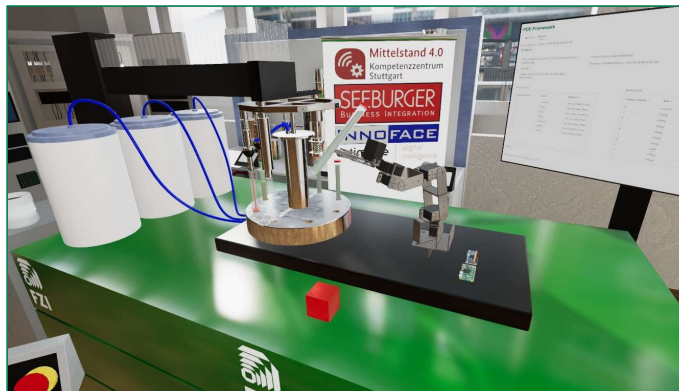
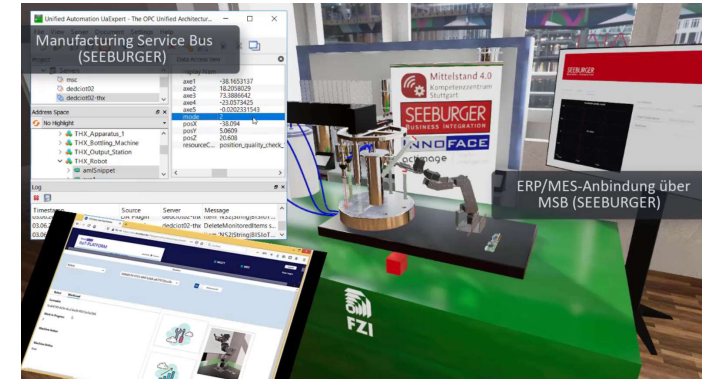
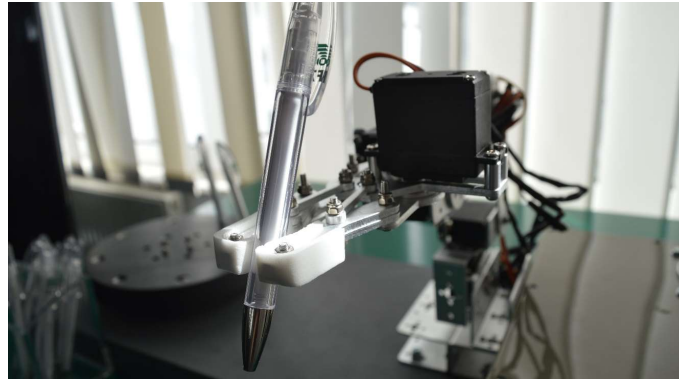
Gefördert durch:
 Bundesministerium
für Verkehr und
digitale Infrastruktur
aufgrund eines Beschlusses
des Deutschen Bundestages



Use Case: Digital twin



- Micro project in the context of Mittelstand 4.0 – Competence Center Stuttgart
- Real world: robot arm & reduced replica of a filling line
- Virtual Environment: 3D model of the real world scenario
- Real-time visualization in the virtual environment provides easy access to the sensor data of the robot arm as well as passing on commands to the robot arm





Together we conduct interdisciplinary research and development regarding the working and living environment of the future.

Your welcome to use the FZI House of Living Labs for your research and development, to get to know your future employees in joint projects and benefit from technological leadership!

Our Research Shapes the Future



Contact



FZI Forschungszentrum Informatik

Research Center for Information Technology

Natalja Kleiner

Department Manager Innovation, Demonstration and Transfer

Haid-und-Neu-Str. 10-14
76131 Karlsruhe, Germany

+49 721 9654 - 844
natalja.kleiner@fzi.de

www.fzi.de/en

