Innovative Retail Laboratory (IRL)

The Innovative Retail Laboratory (IRL) of the German Research Center for Artificial Intelligence (DFKI) has been providing a visionary view of the retail trade of the future since 2007.

Knowledge can only be generated from information by linking information from different data sources and interpreting it semantically. The development of corresponding, intelligent assistance systems for customers and employees of the retail trade is the core vision of the IRL.

Next-generation IT systems require new operating paradigms that enable fast and natural handling. Intuitive usability, individual preferences and the presentation of information tailored to the individual person are basic prerequisites for the acceptance and efficiency of future IT systems in retail.

In the future, the channels of online and offline business will mix more and more, thus realizing the idea of multi- and omnichannels. Through the development of innovations, tomorrow's shopping will be simpler, more informative and more experience-oriented for customers.
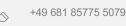
The following topics are the primary focus of the IRL:

- Analysis of consumer behavior
- Automated inventory maintenance
- Data protection and privacy
- Innovative prediction systems
- Innovative marketing for user-oriented services and dialogue marketing
- Intelligent assistance systems
- Machine Learning and sensor fusion
- Navigation and kiosk systems in the supermarket
- Personalized and mobile purchasing support
- Robotics and logistics support
- Smart labels (e.g. RFID and NFC) in retail
- Control of customer flows
- Technologies to enhance the customer experience in department stores
- Fusion of digital and analog worlds

Foto: DFKI/Oliver Dietze

For the realization of ideas and the development of prototypes, the IRL draws on the entire portfolio of methods from the fields of Artificial Intelligence and Human-Computer Interaction. The use of co-creation processes, for example together with customers and employees, enables all user needs to be considered at an early stage.

The generation of future customers will demand more information transparency, which can only be created through innovative technologies. The Internet of Things and Services will make it possible to increase this transparency of everyday products. Relevant data is collected and processed from production to transport routes, from intermediate storage to the retailer, in order to make this knowledge available to employees and customers.

Together with its partners, the IRL offers a unique development and research environment for the design of future retail technologies. The laboratory environment enables the development and testing of novel concepts. The interdisciplinary team of the IRL provides support from idea generation to prototype development, up to evaluation under real conditions, and also participates in putting concepts into practice in an advisory capacity.

Contact:

DFKI GmbH
Research Department
Cognitive Assistants

Frederic Kerber

+49 681 85775 5079

www.innovative-retail.de

Stuhlsatzenhausweg 3
D-66123 Saarbrücken

frederic.kerber@dfki.de