

Sustainability Is Digital: the FZI at Hannover Messe 2024

Energizing a Sustainable Industry is the motto of this year's Hannover Messe. The FZI Research Center for Information Technology presents the possibilities of digitalization on the way to a sustainable and more climate-friendly industry.

Karlsruhe, April 9, 2024 – Sustainability processes are in full swing in many areas of industry and society. Under the motto "Energizing a Sustainable Industry", Hannover Messe 2024 focuses on solutions for a modern industry that is sustainable, climate-neutral, and still powerful.

Extensive digitalization is a key factor for achieving these goals. To this end, the FZI Research Center for Information Technology conducts research in areas such as mobility and logistics, robotics, energy and production, applied Artificial Intelligence, cybersecurity, and opportunities for social participation in a digital world.

At Hannover Messe 2024, the FZI will present selected projects and demonstrators in Hall 2 at stand A36, jointly with the Karlsruhe Institute of Technology (KIT). These show impressively how more sustainability is achievable in the industry and which challenges society is facing.

Future mobility is networked and automated

With CoCar NextGen, the FZI presents its new research vehicle for connected and automated driving. Equipped with state-of-the-art sensor technology and computing power for complex requirements, CoCar NextGen is not only designed for particular test fields but is also the first vehicle of its kind to be approved for the entire German road network in real, diversified traffic. Its modular design also allows the test vehicle to be adapted optimally to various research requirements.

With media competence against manipulation

Public opinion regarding the increase of sustainability is not only determined by financial aspects. Basically, fake news is not a new issue – with generative Artificial Intelligence, however, it is becoming more diverse, more sophisticated in its language skills, and thus more difficult to identify. With the LLMM (Large Language Media Manipulator) demonstrator, the FZI aims to raise awareness of how texts can be changed in nuances with the help of current language model technologies, thereby strongly influencing the reader's point of view.

Robotics and AI cooperate for efficient recycling

Electronic waste contains valuable resources. Returning them to the production cycle is complicated due to the complex composition of the components and the many time-consuming steps involved. With the demonstrator "Robot-Based Recycling of E-Waste", the FZI presents a

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smart robotic arm that sorts components according to their recycling capability and separates harmful substances. Learned action steps can also be adapted to changing processes or working environments.

Data protection-compliant research

Future mobility solutions will be data-driven and strongly oriented towards users' needs. Personal data is often essential but is subject to data protection regulations. The Competence Cluster "ANYMOS – Anonymization for Mobility" investigates the practical use of anonymization techniques without reducing the data quality. ANYMOS aims to establish a process model that guides companies in identifying needs and opportunities for anonymization, selecting suitable state-of-the-art methods, applying them correctly, and identifying and assessing systemic re-identification risks. The joint exhibit with KIT illustrates the procedure of anonymization that maintains the usefulness of data based on various mobility applications.

"Spin the wheel for advice on sustainability"

At Hannover Messe 2024, climate coaches of the Mittelstand-Digital Zentrum Klima.Neutral.Digital will advise small and medium-sized enterprises about their options for action in the transformation to climate neutrality and the development of sustainability strategies. As a basis for discussion, the topics are determined randomly via the "Wheel of Sustainability" and offer a low-threshold introduction to the comprehensive range of sustainability topics.

Digital Hub applied Artificial Intelligence Karlsruhe: support for AI start-ups

Together with selected network partners, the Digital Hub applied Artificial Intelligence Karlsruhe will present exciting projects from AI research and application at the FZI booth. The Digital Hub is part of the Federal Government's de:hub initiative, initiated by the Federal Ministry for Economic Affairs and Climate Action (BMWK) in 2017. Its goal is to put AI methods and technologies into practice. The hub aims to serve as a central networking platform and nationwide contact point for AI experts from companies, start-ups, research, and (future) AI users. Thanks to its strong network, it can support AI experts and users with tailored offers, for example when initiating projects. The hub also focuses on visibility, event organization, sustainable maintenance of the ecosystem, and the associated networking.

Image and video material are available for download at

https://www.fzi.de/2024/04/09/hannover_messe_2024/ for editorial reporting, stating the sources „Image: FZI Forschungszentrum Informatik“ unless noted otherwise.

For image and video material, please send a request to presse@fzi.de.

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About the FZI

The FZI Research Center for Information Technology, with headquarters in Karlsruhe and a branch office in Berlin, is a non-profit institution for information technology application research and technology transfer. It delivers the latest scientific findings in information technology to companies and public institutions and qualifies individuals for academic and business careers or the leap into self-employment. Supervised by professors from various faculties, the research groups at the FZI develop interdisciplinary concepts, software, hardware and system solutions for their clients and implement the solutions found as prototypes. The FZI House of Living Labs provides a unique research environment for application research. The FZI is an innovation partner of the Karlsruhe Institute of Technology (KIT) and strategic partner of the German Informatics Society (GI).

Further information

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