"Modern, Safe and Secure Production" in the Center of the 2. Open Lab Day at the FZI House of Living Labs in Karlsruhe

The Industry 4.0 requires the safe and secure, networked cooperation of humans, machines and robots. In the framework of the 2. Open Lab Day, researchers will give insights into the aspects of modern production as well as current safety and security requirements for small and medium-sized enterprises (SMEs) in Baden-Württemberg, on November 14, 2019, at the FZI in Karlsruhe: Which technologies are used, how can the safety of humans be ensured and what are the research activities and results of the projects? Expert lectures, robotic demonstrators or test beds – questions and ideas around robotic production facilities will be discussed all day long. A registration is required, the participation is cost-free.

Karlsruhe, 30.10.2019 – Today's industrial production facilities consist of highly networked systems. Equipped with a large number of sensors and interfaces, they enable a more flexible and efficient production. A coherent safety and security concept is necessary, explains Dipl.-Ing. Arne Rönnau, department manager at the FZI: "Especially for small and medium-sized companies, safety and security becomes an increasingly important topic. At the Open Lab Day, we take account of this problem and show by means of the projects RoboShield and CyberProtect, how production facilities can be made safer and securer in practice in the future. In doing so, we consider the three relevant fields of security: security, safety and privacy."

The aspect of security describes the protection of systems against deliberate, intelligent attacks through humans, such as hacker attacks. The term safety covers the protection of humans in turn: A key aspect is that the components of the facility, like robots, do not hurt anyone. In addition, privacy, which refers to the protection against threats of personality rights and personal data, becomes increasingly important.

Both research projects Roboshield and CyberProtect work hand in hand, in order to improve the safety and security in the production of SMEs: RoboShield deals with traditional, non-learning automation technologies, in particular. In the project, focussing on the aspect of safety, concrete development processes and tools are being developed that support enterprises in the implementation of safe and secure modules, systems and applications. Moreover, RoboShield offers training and information material on relevant norms, in order to adjust to the fast-changing market changes and to thereby ensure the safety of production facilities.

In contrast to RoboShield, CyberProtect focuses on AI-based software systems in modern production facilities in particular. Research is conducted on the use of machine learning procedures, such as pattern detection, movement forecasts or the optimisation of product management systems. In the sister project, focusing on security, methods for the better safeguarding of complex software systems are being developed and applied. Thus, the

behaviour and decisions of complex software systems can be made visible and statements about the state of security can be made.

Besides project presentations and lectures on the topic of Industry 4.0, interested persons will have the opportunity to talk with experts of the Karlsruhe Institute of Technology (KIT), Fraunhofer IPA , Fraunhofer IOSB and the FZI in the framework of the 2. Open Day Lab and to have a close look on the current status of the projects by means of applications and demonstrators. In addition, enterprises can participate in so-called QuickChecks. Thereby, researchers evaluate concrete problems of the enterprises. For example, critical components in systems can be identified and possible solutions can be presented.

The second Open Lab Day will take place at the FZI House of Living Labs of the FZI Research Center for Information Technology in Karlsruhe on November 14, 2019, at Haid-und-Neu-Straße 5a, 76131 Karlsruhe, Germany. The four-hour programme starts at 09:00 a.m. in the morning and will be repeated in the afternoon starting ab 02:00 p.m.

The registration form as well as further information on the projects and demonstrators, which will be presented in the framework of the Open Lab Day, can be found at: https://cyberprotect-bw.de/open-lab-day/

The FZI Research Center for Information Technology, the Karlsruhe Institute of Technology (KIT), the Fraunhofer Institute for Manufacturing Engineering and Automation IPA in Stuttgart as well as the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB in Karlsruhe are involved in the projects. The projects RoboShield and CyberProtect are funded by the Ministry of Economic Affairs, Labour and Housing of the Federal State of Baden-Württemberg.

About the FZI Research Center for Information Technology

The FZI Research Center for Information Technology, with its head office in Karlsruhe and a branch office in Berlin, is a non-profit institution for applied research in information technology and technology transfer. Its task is to provide businesses and public institutions with the latest research findings in information technology. It also qualifies young researchers for their career in academics or business as well as self-employment. Led by professors from different faculties, research teams at the FZI interdisciplinarily develop and prototype concepts, software, hardware and system solutions for their clients. The FZI House of Living Labs provides a unique research environment for applied research. The FZI is the innovation partner of the Karlsruhe Institute of Technology (KIT).

Further Information

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