Sovereign Data Exchange on the Cognitive Industrial Internet: the »Industrial Data Space« at the IMTS

To remain in control over one’s own data, use data economically and cooperatively in a trusted network, and thus creating new value chains: this is what the Industrial Data Space initiative stands for, in which twelve Fraunhofer Institutes, with close to 100 international partners from industry and science, are working on a new standard for cross-company data exchange. The Industrial Data Space’s stage of development progress, the advantages the standard can offer international companies, as well as the role the initiative plays within the Fraunhofer Cluster of Excellence Cognitive Internet Technologies, will be demonstrated at the International Manufacturing Technology Show IMTS in Chicago (September 10 - 15, 2018).

More and more often, service offerings made by companies consist of a combination of a physical product with corresponding digital services, as a tailored solution to fit the individual needs of any customer. To be able to offer such “hybrid service bundles” companies are increasingly joining forces, making it a necessity to be able to exchange data sovereignly within this cooperation. The work and efforts put into the Industrial Data Space initiative, funded by the German Federal Ministry for Education and Research, aim to establish a standard for data exchange in such business ecosystems. The twelve Fraunhofer Institutes, that have been working on this project since 2015, are ready to demonstrate its current progress and its international applicability at the IMTS 2018 (Fraunhofer booth: East Building, Level 2; Booth No. 121815).

While, initially, the scientists work focused on the development and prototypical realization of a reference architecture model, it now lies within a widespread, international coverage. The declared objective of the International Data Spaces Association, that consists of nearly a hundred member enterprises from 13 different countries, is to elevate the utilization of the Industrial Data Space to a worldwide basis. „Within global value chain networks, data will not stop at national borders“, explains Prof. Boris Otto, director of the research initiative Industrial Data Space at Fraunhofer. „This is the reason why a solution for sovereign data exchange is so sought after in so many places. We are therefore always in close exchange with related international initiatives, such as the International Internet Consortium IIC, to identify synergies and ensure interoperability between architectural designs.“ Thus, companies participating in the Industrial Data Space will benefit from this comprehensive network and will also have the possibility to actively shape further developments of the Industrial Data Space that perfectly fit to their own individual requirements.
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FRAUNHOFER INSTITUTE FOR SOFTWARE AND SYSTEMS ENGINEERING ISST

The core objective is, to elevate the digital transformation of companies to a new, continuous level: even if there are already initial solutions, to cross-link machines, products and processes – e.g. in logistics or within ordering and warehousing systems – are being established within the industrial sector, they are often missing a continuous approach as well as cross-company solutions.

While digitization offers great chances, it can lead to systems of immense complexity, that are impossible to control. Fraunhofer wants to support companies throughout the whole transformation process and develop, in consultation with them, tailor-made cognitive solutions, that will allow these companies to control that complexity. The support hereby ranges from an analysis of the current business strategy to designing a new sustainable one, and even agile technology development and testing.

“Progressing Digitization makes clear: mere orientation towards classical, web-based digital processes falls decisively too short”, explains Prof. Dr. Claudia Eckert, director of the Fraunhofer Clusters of Excellence Cognitive Internet Technologies (CCIT), to which the Industrial Data Space initiative belongs. “Competitive applications, products, and services require the reliable utilization of the manifold sensory data of the Internet of Things, their cross-company semantic integration and the provision of highly intelligent, learning services, to create a cognitive internet from the user’s perspective.”

This is exactly what Fraunhofer wants to accomplish. The long-term goal is to erect a new internet for the industry sector, by exploring cognitive technologies. Key technologies along the value chain, from sensors over intelligent learning methods as far as cloud computing, are supposed to lead to highly intelligent solutions and products within the companies. These, for their part, will ensure corporate competitiveness, as well as strengthen the company’s innovative capacity and it’s digital sovereignty.

Venues at IMTS:

Booth:
International Manufacturing Technology Show IMTS, Chicago, Illinois, USA
McCormick Place, East Building, Level 2, Booth No. 121815

Event:
Monday, september 10th, 3.40 – 4.20 p.m., Solutions Theater (East Building/Lakeside Center Level 2)
“Industrie 4.0 meets IIoT: security panel”
Panel discussion with Prof. Boris Otto, Fraunhofer ISST
https://hannovermesseusa.com/attend/solutions-theater/

Further Information:  www.fraunhofer.de/imts
www.cit.fraunhofer.de
www.isst.fraunhofer.de