

Fraunhofer Institute for Experimental Software Engineering IESE

PRESS INFORMATION

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Industry in the data space: Fraunhofer IESE presents practical solutions at Hannover Messe 2026

How can companies securely exchange data, integrate existing IT systems, and at the same time unlock new digital business models? The Fraunhofer Institute for Experimental Software Engineering IESE will provide answers to these questions at Hannover Messe 2026 from April 20 to 24. At three exhibition booths, the institute will demonstrate concrete applications showing how digital data spaces can make industrial processes more efficient and enable new forms of collaboration along the value chain.

The institute will showcase the Industry 4.0 middleware Eclipse BaSyx and the AAS Dataspace for Everybody, which connect existing IT systems to data spaces and open the door to new data-driven applications with asset administration shells (AAS) and digital twins.

Connecting enterprise IT to the data space with ease

At the booth of the Fraunhofer-Gesellschaft, Fraunhofer IESE will demonstrate how companies can quickly, securely, and cost-effectively connect their existing ERP systems to a data space. The foundation for this is the AAS Dataspace for Everybody, which enables companies to implement data-space-ready applications quickly and easily, without deep IT expertise. Practical use cases illustrate how core business processes such as inventory management, the exchange of Product Carbon Footprint data, or the management of company master data can be automated and set up to be interoperable and completely free of media disruptions. Despite the underlying complexity of the system, the interface of individual applications can be designed to be as intuitive to use as a smartphone.

The examples clearly show that AAS-based data spaces allow companies to reduce costs, minimize manual effort, and at the same time establish the foundation needed to confidently meet upcoming regulatory requirements. In addition, asset administration shells and data spaces provide semantically enriched data. This type of data can later on be used to enable more complex AI systems to run autonomous factories.
Hall 11, Booth D33

Providing material data digitally – a foundation for the product passport

Another focus is the digital provision of material data – a field in which information is still frequently collected and exchanged manually. In the PMD-X-MAPRO project,

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research and industry are jointly developing approaches to make material and production data available in a structured, machine-readable format across the entire supply chain.

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At Hannover Messe, current results will be presented that illustrate how companies can automatically check, structure, and efficiently reuse material information. Together with its project partners, Fraunhofer IESE will demonstrate at the booth of Plattform Industrie 4.0 how material properties can be semantically enriched in the data space and integrated into a knowledge graph. This reduces manual work and creates a central foundation for applications such as the digital product passport.

Hall 13, Booth C24

Experience data spaces in production – live and hands-on

At the third booth, visitors will experience the interplay between data spaces and production in a virtual control center: SmartFactory-KL provides live production data, which is transferred directly into the AAS Dataspace for Everybody of Fraunhofer IESE via digital twins and further processed there. This makes visible how a continuous, cross-site data flow enables new applications.

Together with partner Xitaso GmbH, Fraunhofer IESE will also present Industrial BaSyx – an industrial-grade service around BaSyx technologies. This provides companies with a practical foundation for reliably integrating open Industry 4.0 standards into their production and IT landscapes.

Hall 13, Booth C35

Digital sovereignty through open standards

A central theme of all presentations is strengthening digital sovereignty in industry. Frank Schnicke, Department Head »Digital Twin Engineering« at Fraunhofer IESE, explains: »Open standards and open-source software, combined with the possibility to run operations entirely under your own control, greatly strengthen the digital sovereignty of European companies.« He adds: »Companies wishing to increase their resilience should assess where they already meet these criteria, where non-conformity is un-critical, and where they wish to make targeted improvements.« The result is a future-proof digital infrastructure that ensures investment security, facilitates innovation, and provides a foundation for trustworthy, data-driven collaboration in industrial ecosystems.

The Fraunhofer Institute for Experimental Software Engineering IESE

The Fraunhofer Institute for Experimental Software Engineering IESE in Kaiserslautern has been one of the leading research institutions for efficient software and systems

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engineering for 30 years. With its applied research, the institute develops dependable and resilient digital systems that increase the success of its partners. Its focus includes digital twins, virtual validation and simulation, digital ecosystems, interoperability of systems, cyber security and safety. The goal of its research and solutions is always to increase efficiency while ensuring high quality, for example by using AI support in software and systems engineering.

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Fraunhofer IESE supports the overcoming of challenges in a wide range of application areas, such as health, agriculture and food, mobility, production, smart city and defense. In well over 2,000 customer projects, the institute has transferred cutting-edge research into sustainable business practices and innovative products, as well as increased the efficiency of its business partners' software and systems engineering.

Fraunhofer IESE is one of 75 institutes and facilities of the Fraunhofer-Gesellschaft. Together, they play a key role in shaping applied research in Europe as well as worldwide and contribute to Germany's international competitiveness.
