PROFILE

Fraunhofer IOSB-INA is one of four locations of the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (IOSB). As a leading research institution in the field of industrial automation, Fraunhofer team in Lemgo conducts research and develops solutions in the fields of:

- Smart Sensor Systems
- Industrial Internet (IoT)
- Big Data Platforms
- Machine Learning
- Assistance Systems
- Cybersecurity in Production

Our core expertise lies in communication, analysis, monitoring and user-friendly design of intelligent technical systems. These competencies are the foundation to realize complete intelligent assistance systems for situational analysis and decision support.

DATA PLATFORMS

EXPLOIT BIG DATA IN REAL TIME

CONTACT

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CHALLENGES

Industry is facing pressure to stay competitive. Data-driven strategies can help to optimize business processes and develop new business models. Nevertheless, the way to data-driven strategies starts with the integration of distributed heterogeneous data. Today, data resides in silos separated from each other. In these silos, data is stored in different formats and information models.

Challenge #1: data integration

Next, ever-growing data sets must be handled more efficiently. Clearly, the volume of data from which to extract value is beyond the capability of a traditional data management system. This is where scalable big data technologies come into play. Specifically in industrial automation, real-time capability is a key property.

Challenge #2: processing Big Data in real-time

Additionally, orchestration of data platforms should be user-friendly and allow for easy extensibility and scalability. For this, virtualization technologies are key.

Challenge #3: user-friendly orchestration

OUR OFFERS

We build enterprise-level systems for the real-time analysis of industrial data. We enable companies of all sizes to deploy data platforms and always take privacy, security, resilience, extensibility, and usability into account.

Consulting

- Vendor independent requirement analysis and concepts, e.g. for
  - Data integration (interoperability, semantics)
  - IT- and SW-architecture
  - Infrastructure, virtualization and deployment (edge, cloud, inter- and hybrid clouds)

Software development & evaluation

- Implementation and evaluation of
  - Demonstrators (e.g. for trade fairs)
  - Product (prototypes)
  - Individual software solutions

Seminars and training

Apart from individual seminars tackling real challenges in your specific company, we also offer general trainings:

- Big Data and Machine Learning for Industrie 4.0
- Seminar Industrie 4.0 communication based on OPC UA

KNOW-HOW AND RESOURCES

- Lab Big Data Lemgo (Big Data cluster)
- SmartFactoryOWL (www.smartfactory-owl.de)
- IoT real-world lab Lemgo Digital (www.lemgo-digital.de)
- Fraunhofer highlight project: Machine Learning for Production (ML4P)
- Leading-Edge Cluster “it’s OWL” innovation projects: TeDZ – Technische Infrastruktur für digitale Zwillinge iAP – Industrial Automation Platform for Big Data

YOUR ADVANTAGES

- Rapid know-how ramp-up and prototyping in real-world labs SmartFactoryOWL and Lemgo Digital
- No vendor lock-in: independent analysis and solutions
- EU-compliant data security and privacy concepts
- Focus on small and medium-sized business