Digital Factory Vorarlberg

RESEARCH FOR COMPANIES.
Applied Digitization from Sensor to Application.

The Digital Factory Vorarlberg is an inter-company competence center for digitization. Through application-oriented research, development, and innovation, we support companies in the conception, implementation and introduction of digitized processes. Through tailor-made training and targeted awareness programs, we build up skills and specialist staff together with our corporate partners.

A decisive factor for the success of digitization projects is to consider and control the entire course of the data chain. The expertise of the Digital Factory Vorarlberg therefore extends from the point of origin of the data in sensors, controls or higher-level systems, to networking, data organization and data semantics, the latest methods of data analysis and artificial intelligence, to the provision of prototypical applications that are used in real operations.

Application

Networking

We plan and implement methods for networking and data exchange between sensors and systems with different protocols. A 5G mobile private network, UWB demonstrators, and access points, such as LoRaWAN, are available in our laboratory for wireless and IoT applications.

Organisation

The architecture of data acquisition and -storage is crucial for the successful implementation of digitization solutions. We develop competent solutions for data hubs, data modelling, data semantics, data aggregation and data quality. We also specialize in Manufacturing-as-a-Service systems and modern data eco systems (Gaia-X).

Analysis and Modelling

Successful analysis projects need high-quality data and in-depth knowledge of the tools used. Thanks to many years of experience in statistical and exploratory analysis, including machine learning and artificial intelligence, we guarantee the development of accurate algorithms and models for data analysis, optimization, and quality assurance.

Security

Application Examples

- Optimization of production, energy and resource consumption, flexible production planning
- Data analytics and AI for tool life or lifetime prediction, maintenance planning, anomaly detection, quality control, optimization, etc.
- Use of AI-based algorithms in image processing
- AI as simulation models

- Architectures for in-house data collection
- Data and service ecosystems based on Gaia-X Cloud Manufacturing: Control and optimization of distributed production facilities, central data acquisition
- 5G and wireless networks in production
- Cyber security training courses on the AIT Cyber Range
- SOC workshops

We accompany you from the project idea to project completion, training and further education of your employees. We also provide support and advise in the area of project organization and execution.

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The Digital Factory Vorarlberg is a joint venture of the **AIT Austrian Institute of Technology** and **FH Vorarlberg**.
For further information please visit **vactory.at**

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