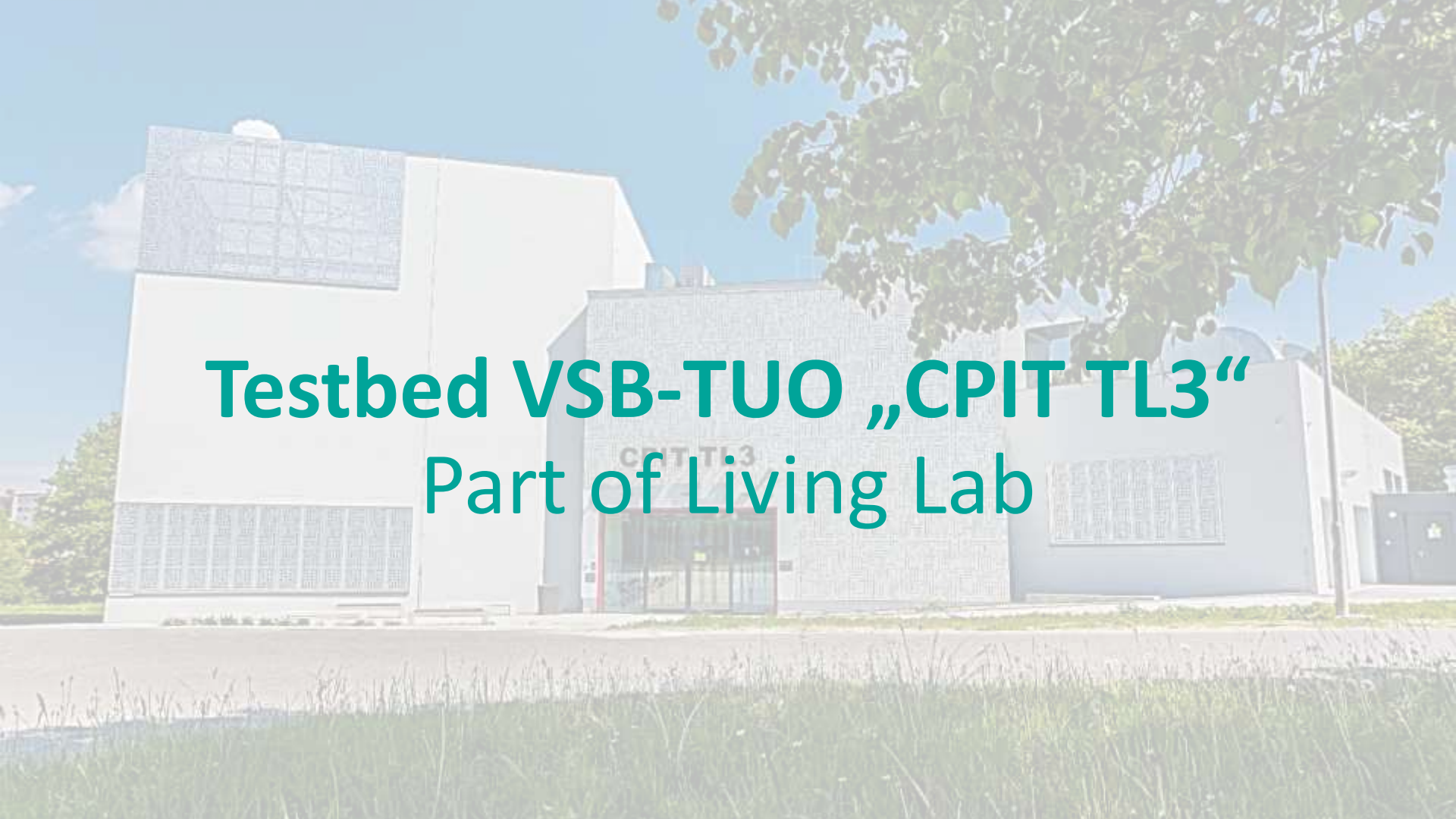VŠB TECHNICKÁ
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Testbed VSB-TUO „CPIT TL3"
Part of Living Lab

LTE and 5G Industrial Campus Network

VŠB-TUO campus as a unique Living Lab with 5G Campus Network

Smart Factory Lab, AIM Lab, Home Care Lab, Automotive Lab

Smart Factory Lab

Smart Factory is a laboratory facility for teaching and development of industrial technologies according to the Industry 4.0 concept, in particular:

Interoperability - the ability of cyber-physical systems to communicate with each other through information systems.

Virtualization - a virtual copy of Smart Factory connecting data from sensors with virtual and simulation models of the factory.

Services Orientated - Cyber-physical systems offer / provide services to manufactured products or operators.

Real-time Work - the ability to analyze the data obtained in real time and intervene in the production process in real time.

Smart Factory Lab

- Experimental testbed built on the principles of Industry 4.0.

- Education, presentation and research in the field of digital production.

- A platform for university-industry collaboration.

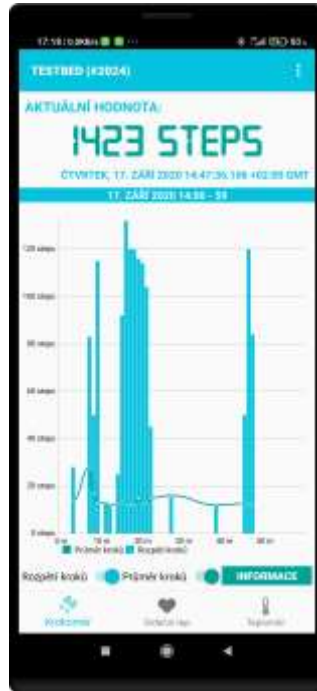- Smart Factory enables engineering and R&D tasks from individual components to complex production lines.
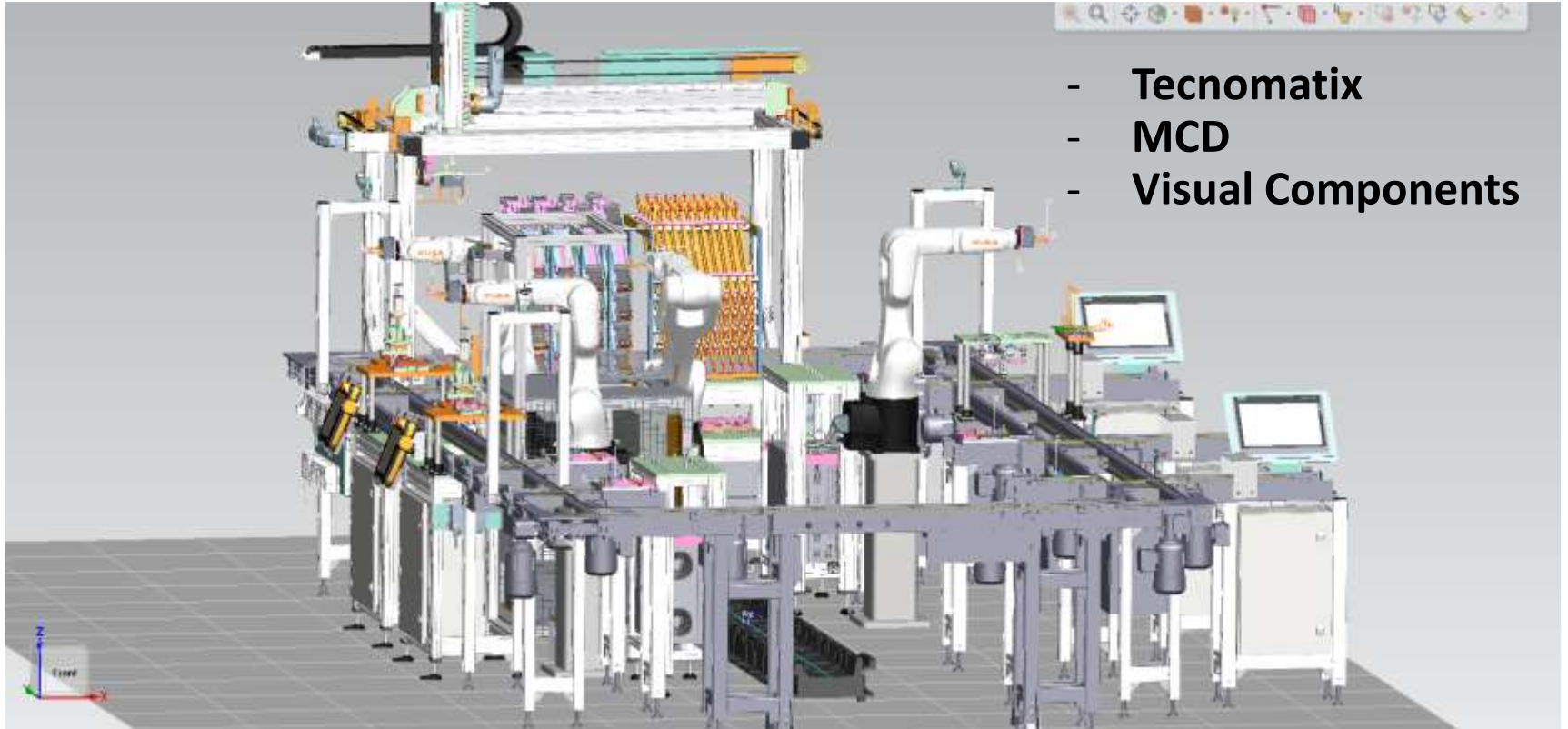
Promotional items

Smart Factory Lab - product

- The product is equipped with a microcomputer system and communicates with a mobile application.

Smart Factory Lab – digital twin

- **Tecnomatix**
- **MCD**
- **Visual Components**

Smart Factory Lab – real view

Digitized assembly line with elements of industrial and mobile robotics. Technologies for development, testing, experimental tasks and education in elements of Industry 4.0.

Smart Factory Lab - video

AIM Lab

- It was established in 2021 with the support of Škoda Auto, a.s.
- The abbreviation "AIM.Lab" means Artificial Intelligence in Manufacturing Lab
- Long-term activities in the field of machine learning and artificial intelligence.
- Active knowledge transfer between VŠB-TUO - students - partners from the application sphere.
- Active cooperation in research projects, contract research, etc.
- New subjects in bachelor's and master's studies.

- **Interconnection with new study programs**
    - Computer Systems for 21st Century Industry (Bachelor's)
    - Industry 4.0 (master)

AIM Lab

- **Laboratory for cooperation between university & partners in fields of:**
  - data analytics,
  - machine learning and artificial intelligence applications,
  - optimization issues.

- **Pillars of AIM.Lab**
  - **Education** in data analysis and optimization with a focus on industrial practice.
  - **Research and development (R&D)** in cooperation with industry.
  - **Cooperation with industry** and evangelization of industrial data analysis.

Home Care Lab

Apartments as living / observation laboratories with unlimited configuration options

Development and testing in the areas of:

- telemedicine,
- assistive technology,
- home automation,
- energy independence (green energy).

Automotive Lab

- Laboratory for education, virtualized development of automotive vehicle systems and their testing.
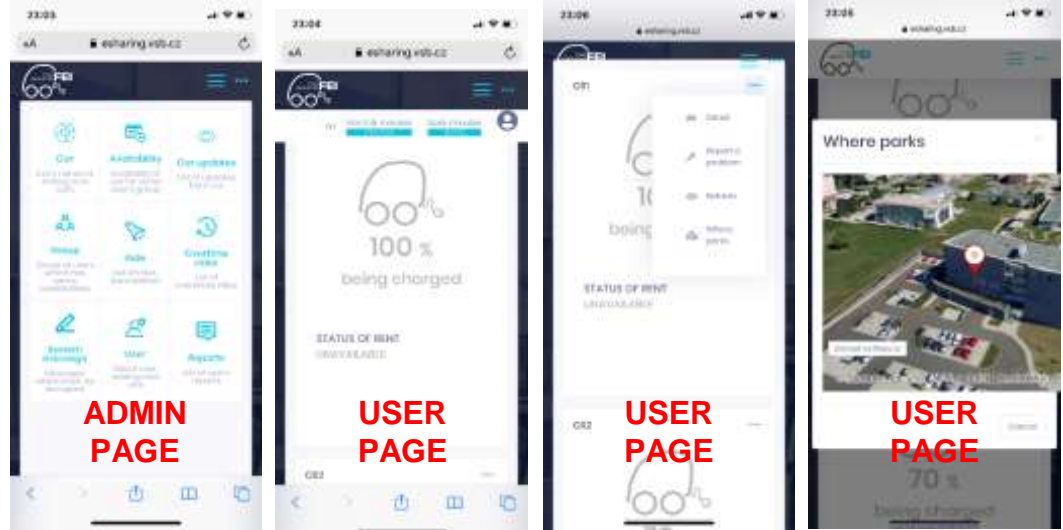- Development of electronic systems for autonomous vehicles.

Automotive Lab - video

UNI CarSharing

- Student project and fully functional solution.
- Custom front / backend apps.
- C2x and the use of the cloud with the IoT operating system Mindspehere.
- Analysis of vehicle fleet operational data.
- Behavioral analysis of drivers' behavior.
- Platform for AI applications.

ADMIN PAGE

USER PAGE

USER PAGE

USER PAGE

Thank you for your attention!