

VIRTUAL REALITY AND INDUSTRIAL APPLICATIONS

This competency focuses on the development of virtual and augmented reality solutions for industrial design, training, and visualisation. By integrating digital twins and immersive simulation environments, it enables partners to model complex systems, test operational scenarios, and train personnel in safe and efficient virtual settings. The technologies support informed decision-making, reduce physical prototyping costs, and improve collaboration between engineers, designers, and operators. The activity contributes to research, development, and innovation through advanced simulation, human-machine interaction, and immersive industrial workflows.



ACHIEVEMENTS

- Development of interactive virtual tour applications for industrial environments
- Implementation of robotic control concepts using hand-gesture interaction
- Scientific publication on fast VR tour creation methods presented at AIS 2023
- Scientific publication on digital twin-based robotic laboratory automation in SLAS TECHNOLOGY (2023)



INFRASTRUCTURE

- VR and AR laboratories equipped with professional headsets, tracking systems, and high-performance workstations
- 3D scanning and modelling equipment for industrial-scale applications
- Software tools for VR/AR content development, simulation, and interaction design
- Integrated systems for digital twin creation and virtual testing of manufacturing processes
- Workstations for human-machine interface research and motion analysis



REFERENCES

- Development of an industrial virtual tour solution with Harman Becker Kft.
- Development of a virtual tour application with Székesfehérvár Science and Innovation Park