

Press release

Vienna, 4.09.2023

THE AIT AUSTRIAN INSTITUTE OF TECHNOLOGY AT THE ARS ELECTRONICA FESTIVAL

From 6 to 10 September 2023, the AIT Austrian Institute of Technology will be presenting the latest developments in the field of innovative interactive urban planning, computer-aided visitor management and augmented reality-based control of industrial plants at the Ars Electronica Festival in Linz. The AIT exhibition area will be one of the highlights in the Transformation Lounge in the Post City.

<https://ars.electronica.art/who-owns-the-truth/en/locations/> .

In addition to the presentation of innovative research, public workshops provide insights into resilient urban planning. Visitors will have the opportunity to try out novel participatory workflows that support collaborative neighbourhood design. Using hybrid methods, participants can work directly with our computer models, even without any prior digital knowledge, while sitting at a table using traditional prints, stickers and sketches.

The following stations will be hosted by the AIT's Center for Energy.

City Intelligence Lab - Paradigm shift for the urban planning practice of the future

The City Intelligence Lab of the AIT Center for Energy is an interactive platform for researching new forms and technologies for the urban planning practice of the future. It enables a holistic view of the effects of the most diverse measures in urban and neighbourhood planning on mobility, energy and climate issues. Complex interrelationships of urbanisation and climate change are visualised in real time using artificial intelligence (AI) and augmented reality (AR) methods and prepared for the co-creative process with different stakeholders in a target group-specific manner. On the one hand, existing designs can be evaluated extensively, and on the other hand, numerous design approaches created automatically via parametric design can be compared by means of key performance indicators (KPI). This new evidence-based digital process can enrich the traditional urban development process both in early planning phases and in advanced implementations.

<https://www.ait.ac.at/en/solutions/digital-resilient-cities-and-regions/city-intelligence-lab>

SIMULATE- Optimising and analysing people flows in urban spaces

SIMULATE simulates the flow of visitors, passengers and customers in virtual environments. The effects of structural measures such as changes to passages or organisational measures such as diversions can be demonstrated and analysed in 2D and 3D animations. In the process, measurement data from the real

infrastructure. According to the task, different optimisation goals are achieved. Very special cases, such as the movements of patients in hospitals, can also be mapped. Another example is the optimal use of scarce space in airports under safety-related, comfort-related and commercial aspects. https://www.ait.ac.at/en/solutions/analysis-and-optimization-of-pedestrian-flows/simulate?no_cache=1

Virtual Industry Lab

The Virtual Industry Lab is a platform for a variety of groundbreaking innovation projects in the field of decarbonisation of industrial processes. These include the development of solutions and tools for controlling industrial plants, such as in the NEFI project envIoTcast. In this project, the aluminium die-casting machine and the novel energy system in the green foundry of the Competence Unit Light Metals Technologies Ranshofen are controlled by means of augmented reality, thereby increasing productivity and energy efficiency. In another NEFI project, called Greensteel, the newly developed Industry Simulator is used to plan and simulate live the decarbonisation of selected industrial sites using augmented reality. This allows different scenarios to be evaluated, compared and visualised in 3D.

<https://www.nefi.at/en/project/enviotcast>

[NEFI-Greensteel - Climate-neutral steel processing with renewable gases | NEFI](#)

ABOUT THE CENTRE FOR ENERGY

At the AIT Center for Energy, more than 270 employees are working on solutions for the sustainable energy supply of tomorrow under the leadership of Wolfgang Hribernik. The many years of experience and scientific excellence of the AIT experts as well as the high-quality laboratory infrastructure and global networking offer companies innovative and applied research services and thus a clear competitive advantage in this market of the future.

The topic portfolio is oriented around three central systems: Public Energy Systems, Industrial Energy Systems and Cities & the Built Environment. More information about the centre:

<https://www.ait.ac.at/energy>

ABOUT THE AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH

The AIT Austrian Institute of Technology is Austria's largest Research and Technology Organisation (RTO) and plays in the top league worldwide in many infrastructure topics. With its seven centres, the AIT deals with the central infrastructure topics of the future and sees itself as a highly specialised research and development partner for industry. The AIT's research and technological developments realise fundamental innovations for the next generation of infrastructure technologies in the fields of Energy, Low-Emission Transport, Health & Bioresources, Digital Safety & Security, Vision, Automation & Control and Technology Experience. These scientific research areas are complemented by expertise in the field of Innovation Systems & Policy.

As a national and international hub at the interface between science and industry, AIT makes innovation possible thanks to its scientific and technological expertise, experience in the markets, close customer ties and an outstanding research infrastructure.

About ARTTEC - The art programme of AIT

Since 2016, the AIT has been dedicated to the intersection of art, technology and science with its ARTTEC art programme. Science and art complement each other in a remarkable way: With their shared foundations of creativity, experimentation and expression, they can cross-fertilise and help to push the boundaries of what is possible, leading to a richer understanding of our reality. The AIT relies on the support of partners such as Ars Electronica Linz, the MAK - Museum of Applied Arts and the University of Applied Arts in Vienna for its ARTTEC art programme. Together, new concepts and exhibitions are designed at the interface of art, culture and science.

<https://www.ait.ac.at/en/media/arttec-at-ait>

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