

Press Release

Linz, 10 September 2020

HELPING CITIES FIGHT CLIMATE CHANGE

The city of Linz and the AIT Austrian Institute of Technology present new digital solutions and measures against climate hazards

In the course of the European research project CLARITY (Integrated Climate Adaptation Service Tools for Improving Resilience Measure Efficiency), new digital solutions and tools for climate experts and urban planners were developed under the leadership of the AIT Austrian Institute of Technology in order to analyse the negative effects of the climate crisis on Europe's cities and to derive appropriate countermeasures. These so-called Climate Services were presented to the public this morning at a press conference in the city of Linz, which was involved in the project as a focal region on the topic of heat stress.

At the beginning, Eva Schobesberger, city councillor for the environment, emphasised the great importance of climate-regulating measures for the planning of cities. "The effects of the climate crisis, which can no longer be averted, must be taken into account even more strongly and, above all, systematically. They must be brought into focus, especially when it comes to planning decisions. For this we need new instruments. I am very pleased that Linz was allowed to be part of this European project and that tools were developed here that can help Linz and many other cities to react to the dangers of the climate crisis."

Afterwards, experts from AIT presented the new planning and simulation solutions developed in the project and demonstrated how the summer heat in a city like Linz can be reduced by more than ten degrees. "Ongoing analysis and processing of climate data and information for cities is essential for the development of sustainable strategies and effective climate adaptation measures. In CLARITY, we therefore developed smart IT systems to make climate risks and corresponding adaptation measures easier to evaluate, so that modern and targeted as well as sustainable urban planning can be supported," explained project leader and expert in crisis and disaster management Dr. Denis Havlik from the AIT Center for Digital Safety & Security.

Calculation of cooling measures

In order to be able to reduce the increasing urban heat load, micro-climate simulations were used in the project framework to simulate for various city districts in Linz what climatic developments could be expected in these areas with and without adaptation measures. Dr. Tanja Tötzer, an expert in resilient urban development from the AIT Center for Energy: "The results from the project show that the average annual number of heat days in the inner city of Linz in the period 2021 - 2050 will increase from around 10 days in 1971 - 2000 without countermeasures to an average of 25 days. For the average annual number of tropical nights, an increase from 18 to 34 days is predicted in the same period without countermeasures. We use special climate simulation models as a basis for impact analyses of climate adaptation measures. From the microclimate simulations at three Linz locations we know that targeted and effectively placed adaptation measures such as

soil unsealing, greening or tree planting can significantly cool the urban climate and counteract overheating."

Keeping Linz liveable with climate-friendly planning

In order to keep the city of Linz liveable for the future, climate issues must be systematically placed at the centre of urban planning. In addition to the CLARITY project, work is therefore also currently underway on the Linz urban climate analysis. In addition, a climate advisory board made up of experts has been set up to evaluate the projects that are to be financed annually with the newly created climate fund endowed with 1 million euros. Together, the city wants to apply to become a "European Green Capital" by 2025.

Solutions accessible to all cities and municipalities

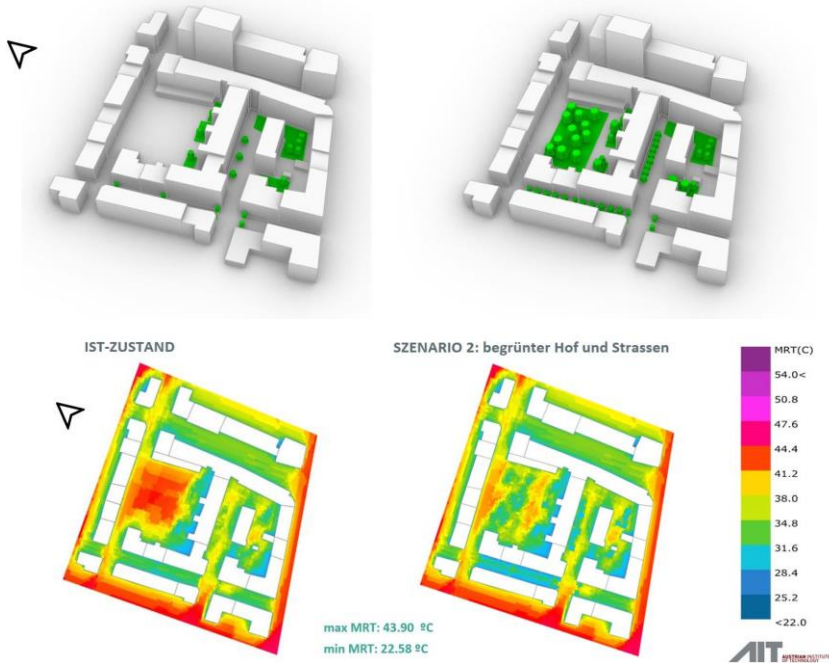
Of the total of 17 European partners, the Austrian AIT and the City of Linz were joined by the Central Institute for Meteorology and Geodynamics (ZAMG, Vienna) and Smart Cities Consulting (SCC, Vienna). Similar simulations for other European cities, such as Stockholm (Sweden) or Naples (Italy), were also carried out in CLARITY. In total, the calculations can be applied to more than 400 urban areas in Europe - not only for metropolitan regions, but also for smaller district towns for which a future urban heat island effect can be estimated within 15 minutes. This makes the model very useful as a tool for an initial assessment of climate risks in early project phases.

In order to make these new methods available to other cities and municipalities, the online platform <https://myclimateservices.eu/> was set up. The developed scenarios and climate services are available there for climate experts and urban planners, but also for interested cities. They can be used in a simple way so that they too can quantify the effects of climate change on their urban area and objectively evaluate different countermeasures.

Presentation of the results of the EU project Clarity in Linz



City of Linz and AIT Austrian Institute of Technology presented new digital solutions and measures against climate hazards. FLTR at Linz's main square: Denis Havlik (AIT), Tanja Tötzer (AIT), Eva Schobesberger (City Councillor for the Environment), Johannes Horak (City Climatologist), Michael Mürling (AIT) © Stadt Linz_dworschak



"As part of the Clarity research project, climate simulations were carried out for summer and heat days in specific urban areas and scenarios without and with greening measures were compared. The graphic shows fictitious courtyard and street greening measures of an inner-city building block in Linz. The comparison with and without fictitious greening illustrates temperature differences of up to 15°C in the courtyard in the area of the mean radiant temperature, as well as differences of up to 9°C in the streets and buildings shaded by trees during the day." © AIT

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