ADUCAT –

Seeing Vienna. Shaping the future

Vienna launches digital innovation project
for satellite-supported urban development

Project Description

Stadt Wien

EUROPEAN URBAN INITIATIVE

ADUCAT

Co-funded by the European Union

ADUCAT – Seeing Vienna. Shaping the future

With ADUCAT, the City of Vienna is setting another milestone towards data-driven, digitally sovereign, and future-oriented urban development. The European innovation project demonstrates how modern Earth observation, satellite data, and intelligent analytical methods can create tangible value for urban planning, infrastructure management, and strategic decision-making processes. Thus, ADUCAT is a central component of Vienna's digital transformation and an example of the successful alignment of technology, administration, and European cooperation.

Cities are increasingly confronted with the challenge of efficiently managing complex urban systems, identifying challenges at an early stage, and making well-considered decisions based on reliable data. Continuous, comprehensive, and objective observation of urban space is becoming ever more important. This is exactly where ADUCAT ("Actionable Data Space for Urban Climate Adaptation and related socio-ecological, local Transformation") comes in.

Within the project, high-frequency satellite data from the EU's Copernicus space program, value-adding analytical methodsand modern Earth observation technologies are used. The goal is to establish an actionable data space that efficiently, continuously, and in high resolution captures particularly monitoring-intensive areas of the city—such as infrastructure, green spaces, ground movements, and temperature distribution.

ADUCAT thus creates a new data-based foundation for urban planning and management. The City of Vienna receives precise, up-to-date, and scalable information that enables a better understanding of spatial developments, early identification of risks, and targeted planning of measures. Satellite-based analyses complement existing specialist systems and enable a new level of decision support—objective, comprehensive, and independent of isolated measurements.

EU-funded, implemented locally

As one of only 20 cities (out of 110 submissions), Vienna was selected for the ADUCAT project within the framework of the European Urban Initiative – Innovative Actions (EUI-IA) and receives around five million euros in funding. This distinction highlights Vienna's role as a European pioneer in digital urban development and the innovative use of satellite data in the public sector.

The project, co-financed 80% by the European Urban Initiative, runs from October 2025 to March 2029. During this period, new digital tools, analytical models, and governance structures will be developed, tested, and integrated into the City of Vienna's administrative processes.

Stadt Wien
EUROPEAN URBAN INITIATIVE
ADUCAT
Co-funded by the European Union

ADUCAT in detail: Satellite data as a key for a smart metropolis

ADUCAT uses satellite observation, machine learning, and advanced analytical methods to provide data-driven solutions for key urban fields. It focuses on three strategic application areas:

- **Cool City – Heat reduction and temperature forecasting**

  Using satellite-based data, detailed temperature maps and forecasting models are created. These provide a reliable basis for strategic decisions in urban planning, such as the design of public spaces, prioritization of cooling measures, or evaluation of urban development projects.

- **Green City – Monitoring vegetation and green spaces**

  Through continuous satellite-based observation, the development, vitality, and impact of green spaces can be measured objectively. The data support the planning, evaluation, and further development of greening measures and help identify suitable locations for new green areas.

- **Safe City – Targeted use of early warning systems**

  Vienna is growing and becoming more densely populated. ADUCAT uses radar remote sensing and InSAR technologies to detect ground movements, subsidence, and infrastructural changes at an early stage. This allows potential risks to be identified and preventive measures to be taken before damage occurs.

These use cases demonstrate how satellite data and AI models provide concrete added value for the operational and strategic management of a large city and they usefully complement existing planning tools.

Transparency, participation, and open data

A key component of ADUCAT is the transparent processing and provision of the collected information. Selected results will be made publicly accessible via open data platforms such as Open Government Data Vienna and through visual city maps. In combination with existing participation formats, citizens can understand how data-driven decisions are made and what impact specific measures have.

Technology for Vienna – and beyond

ADUCAT is part of the European vision of a shared data space. The project demonstrates how satellite data and Earth observation technologies can be integrated so that they are directly actionable for urban decision-making processes.

In the long term, the developed tools and data will be integrated into the administrative structures of the City of Vienna via the Green Transition Information Factory (GTIF)—a national platform for sustainability-oriented geodata. This ensures that the results remain permanently available and can also be used by other cities.

A special focus is placed on scalability and transferability. ADUCAT is designed in a way that the developed digital tools can be integrated into existing specialist systems while also serving as a blueprint for other European cities. Through an international partner network, structured knowledge transfer is established, positioning Vienna as a driving force in satellite-supported urban development.

Digital urban development: From strategy to application

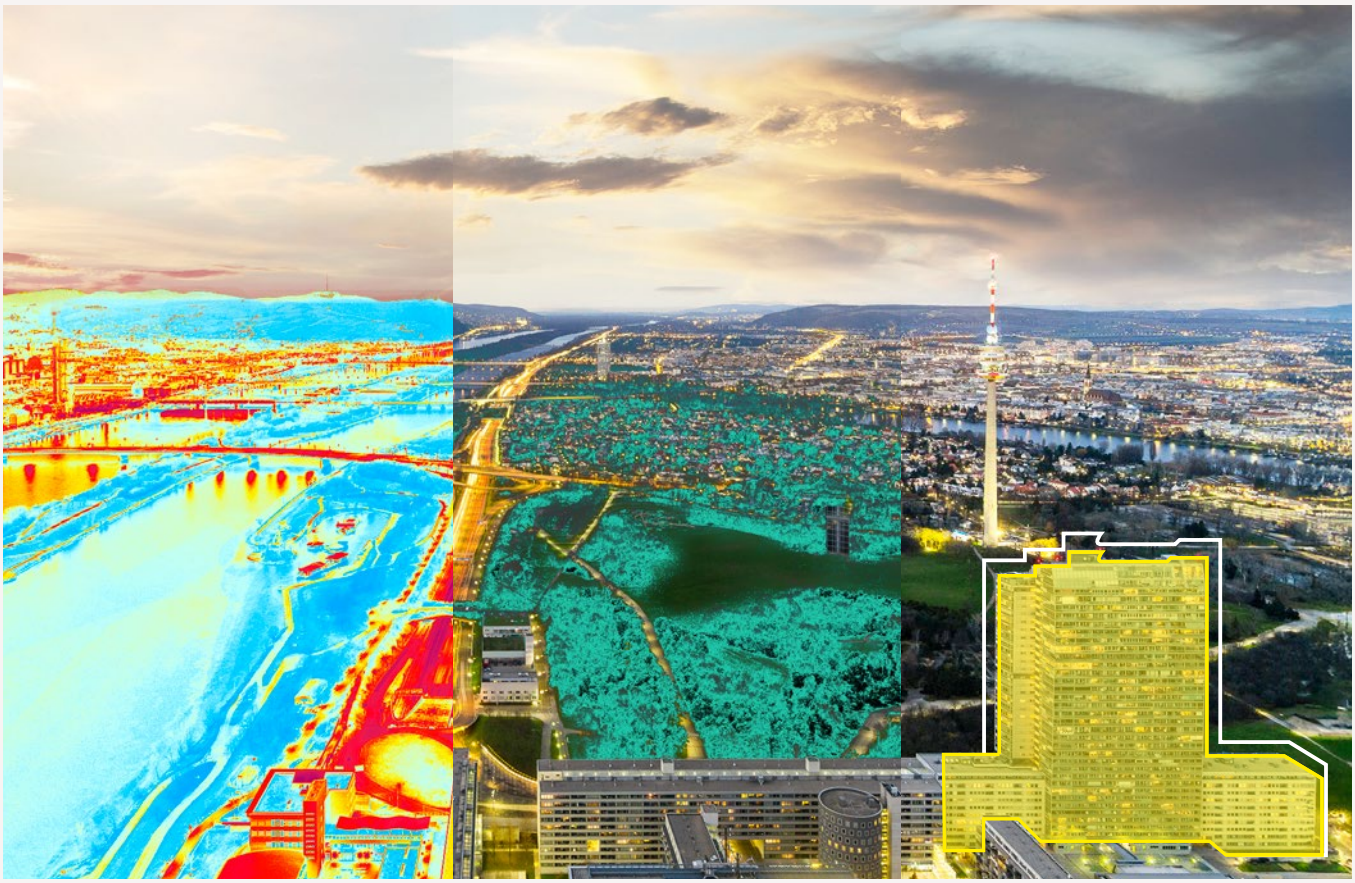
ADUCAT makes a concrete contribution to the implementation of Vienna's Digital Agenda and other urban digitalization strategies. The three use cases are clearly aligned with the goal of using digital technologies responsibly, for the public good, and effectively. The collected data and analyses flow directly into planning and decision-making processes, strengthening evidence-based urban development.

The project originated in the Vienna Geospace Hub—an innovation lab established in 2023 by UIV Urban Innovation Vienna GmbH, funded by the City of Vienna and BMIMI/FFG. The hub acts as a central driver for the intelligent use of satellite data in urban contexts and was a key success factor in securing EU funding.

Added value for the people of Vienna

ADUCAT ensures that digital innovation reaches where it matters most: in the everyday lives of Vienna's residents. The collected data help design high-quality public spaces, further develop green and recreational areas, and operate infrastructure safely and reliably.

This makes urban planning more transparent, measures more precise, and ensures that Vienna remains a livable city for future generations.



Strong partnership for strong results

The ADUCAT consortium brings together 13 partner organizations from administration, science, business, and civil society, combining excellent expertise across the entire innovation chain.

In addition to the City of Vienna as project initiator, the following are involved:

AIT Austrian Institute of Technology · EOX IT Services GmbH · Eurovienna GmbH · GeoSphere Austria GmbH · OHB Digital Services GmbH · Paris Lodron University Salzburg · Sistema GmbH · Ubicube GmbH · UIV Urban Innovation Vienna GmbH · VRVis Center for Virtual Reality and Visualization · WH Media GmbH · Wiener Linien GmbH · Wiener Lokalbahnen GmbH.

Additionally, the cities of Udine, Zagreb, and Guimarães are involved as European transfer cities to test and disseminate the results of ADUCAT internationally at an early stage.