

COMET MODULE

CLIMASENS – CLIMATE-SENSITIVE ADAPTIVE PLANNING FOR SHAPING RESILIENT CITIES

Main location: Vienna

Other locations: -

Thematic area: Digitalization / ICT



Thematic focuses

- Simulation
- Environmental modelling
- Climate change adaptation

Planned realisation and outcomes

The COMET module ClimaSens is dedicated to environmental modeling in a four-year basic research project. To strengthen the resilience of cities, a holistic urban environmental model is being developed in which hydrology, air pollution and microclimate processes are coupled. The scientific partners involved in the project are the Faculty of Computer Science at TU Wien, the University of Natural Resources and Life Sciences, Vienna (BOKU) and the University of Bonn, as well as the corporate partners greenpass GmbH, Henning Larsen Architects, Rosinak & Partner ZT GmbH and Wien 3420 aspern Development AG.

Previous climate models have either been greatly simplified and only reduced to essential physical processes, or require long computing times on high-performance computers. As a result, many of the current climate models are not suitable for rapid decision-making in the field of urban climate change adaptation or the planning of blue-green infrastructure. This is precisely where the ClimaSens research team comes in, developing a new holistic simulation model for urban areas that combines environmental processes from three key areas: microclimate (ground-level air layers up to 2 m), hydrology (heavy rainfall, flash floods) and air pollution (pollutant load and deposition). Physics-driven artificial intelligence is also being developed and used for accelerated simulation and forecasting.

Another focus is on making the model simulations accessible to a broader public and thus establishing citizen science and citizen participation more strongly. The COMET module ClimaSens makes an important contribution to anchoring climate communication and technological data competence more firmly in the society.

COMET FACTSHEET

Selected company partners (max. 10):

1. greenpass GmbH
2. Rosinak & Partner ZT GmbH
3. Wien 3420 aspern Development AG

Selected scientific partners (max. 5):

1. TU Wien
2. BOKU Wien

Selected international¹ partners (max. 5):

1. Henning Larsen Architects
2. Universität Bonn

Duration: 01.01.2024 – 31.12.2027 (4 years)

Staff employment: 6,5 FTE, thereof 6,5 scientists

Management: Dipl.-Ing. Dr. Gerd Hesina, CEO
Dipl.-Math.ⁱⁿ Dr.ⁱⁿ Katja Bühler, Scientific Director
Dipl.-Ing.ⁱⁿ Dr.ⁱⁿ Milena Vuckovic, Area Manager ClimaSens

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www.ffg.at/comet

¹ Partners with headquarters outside Austria