

Project: UrbanBREATH, <https://urbanbreath.org.ntnu.no>

Period: 01.12.2025 - 30.11.2028

Price: 829 603 EUR

TalTech Virumaa kolledži toetus: 150 000 EUR

Project Summary

Funded under the Driving Urban Transitions (DUT) Partnership framework (DUT Call 2024), the UrbanBREATH project is an interdisciplinary initiative aimed at measuring, modeling, and mitigating air pollution in urban environments. The project brings together low-cost sensors, community engagement, and data-driven decision-making recommendations to create healthier cities.

Ensuring clean air is a critical component of urban ecosystems, as urban air quality significantly affects the health of residents and surrounding wildlife. The goal of the project is to develop and propose deployment strategies for an air quality monitoring system involving various urban stakeholders (residents, landlords, infrastructure owners, utility companies, recycling companies). The main focus is on monitoring and supporting decision-making related to ventilation systems for the corresponding stakeholders.

The UrbanBREATH project aims to create an integrated IoT-based monitoring solution to assess the needs and characteristics of each stakeholder group. The research hypothesis is that the performance of each stakeholder can be derived through air quality assessment, and that there exist intelligent automation strategies that enable optimization of air quality while simultaneously reducing energy consumption and the carbon footprint of buildings. The project will also enable citizen science to identify and demand potential changes in the community based on unsatisfactory air quality.

The UrbanBREATH project consortium includes five organizations. It consists of the Norwegian University of Science and Technology (NTNU), Department of Mechanical and Industrial Engineering in Trondheim, Norway; Tallinn University of Technology (TalTech), Virumaa College in Kohtla-Järve, Estonia, representing the Virumaa Innovation Centre of Digitalization and Green Technologies; as well as Luleå University of Technology (LTU) in Luleå, Sweden. The project partners are two organizations: Naukatek AS (Trondheim, Norway) and Skat-Keskus AS (Narva, Estonia).