



Co-funded by
the European Union



Final conference LIFE CityTRAQ

18 June 2026, Brussels

Breakout session:
**Air Quality Communication That Works: Bridging Science,
Sensors and Society**



New Citizen Science Project in Croatia

Institute for Medical Research and Occupational Health &
Croatian Meteorological and Hydrological Service

presented by:
Gordana Pehnec, Institute for Medical Research and Occupational Health,
Zagreb, Croatia





PREVIOUS COLLABORATION DHMZ & IMROH

PROJECT AIRQ – Expansion and Modernisation of the National Network for Continuous Air Quality Monitoring KK.06.2.1.02.001

LEAD BENEFICIARY: Croatian Meteorological and Hydrological Service (DHMZ)

PARTNER: Institute for Medical Research and Occupational Health (IMROH)

DURATION: 2018-2023

TOTAL BUDGET: 16.606.742,32 €

FUNDED BY:

- European Regional Development Fund (85%)
- Environmental Protection and Energy Efficiency Fund (15%)

Operational Programme Competitiveness and Cohesion 2014-2020, specific objective 6e1 –
Upgrade of air quality management and monitoring system according to Directive 2008/50/EC

NEW PROJECT: ENHANCING PUBLIC KNOWLEDGE, UNDERSTANDING AND SUPPORT FOR AIR QUALITY – CITIZEN SCIENCE



LEAD BENEFICIARY: Institute for Medical Research and Occupational Health (IMROH)



PARTNER: Croatian Meteorological and Hydrological Service (DHMZ)

DURATION: January 2026-June 2029

TOTAL BUDGET: 4.711.866,91 €

FUNDED BY:

- European Regional Development Fund (85%)
- National participation (15%)



Programme Competitiveness and Cohesion 2021 - 2027



Main Objectives of the Citizen Science Project

- o Increase public awareness of air quality
- o Educate children and young people
- o Improve the national air quality monitoring and modelling system
- o Implement the requirements EU Directive 2024/2881



National network for continuous air quality monitoring



Citizen Science Concept, Public Engagement and Deployment of the Sensor Network

Application of the citizen science approach

Connecting:

- o institutions involved in air quality monitoring, assessment and management
- o schools, citizens

Deployment of 100 sensor systems at 83 locations:

- o PM_{10} , $PM_{2.5}$, NO_2 , O_3
- Higher spatial and temporal data resolution



Locations of sensor systems in the Project



Education as a Key Component

Educational materials:

- o video content
- o teacher handbooks
- o infographics

Activities:

- o workshops for pupils, students, and teachers

✅ **30 schools will receive sensor systems for permanent use**



Digital Platform and Data Accessibility

- o Visualization and storage of sensor data
- o Access to educational materials
- o Long-term resource for schools and the general public



Evaluation of Sensor Systems and Data Quality

Sensor testing and calibration

- o Comparison with reference measurement methods - a pilot equivalence studies for PM_{10} and $PM_{2.5}$
- o Evaluation under different climatic conditions

Data Reliability and Integration

- o Evaluations will ensure data reliability and help integrate sensor data with official monitoring for more accurate air quality assessment and modelling



New Measurement Parameters

Emerging pollutants:

- o Ultrafine Particles (UFP)
 - o Oxidative Potential (OP)
- Aligning with EU Directive 2024/2881 requirements

Monitoring station deployment (supersites)

- o Measurements will be established at one urban and one rural background station within the national monitoring network

Educational and field activities

- o Students and teachers will engage in educational activities and field measurements using portable air quality devices



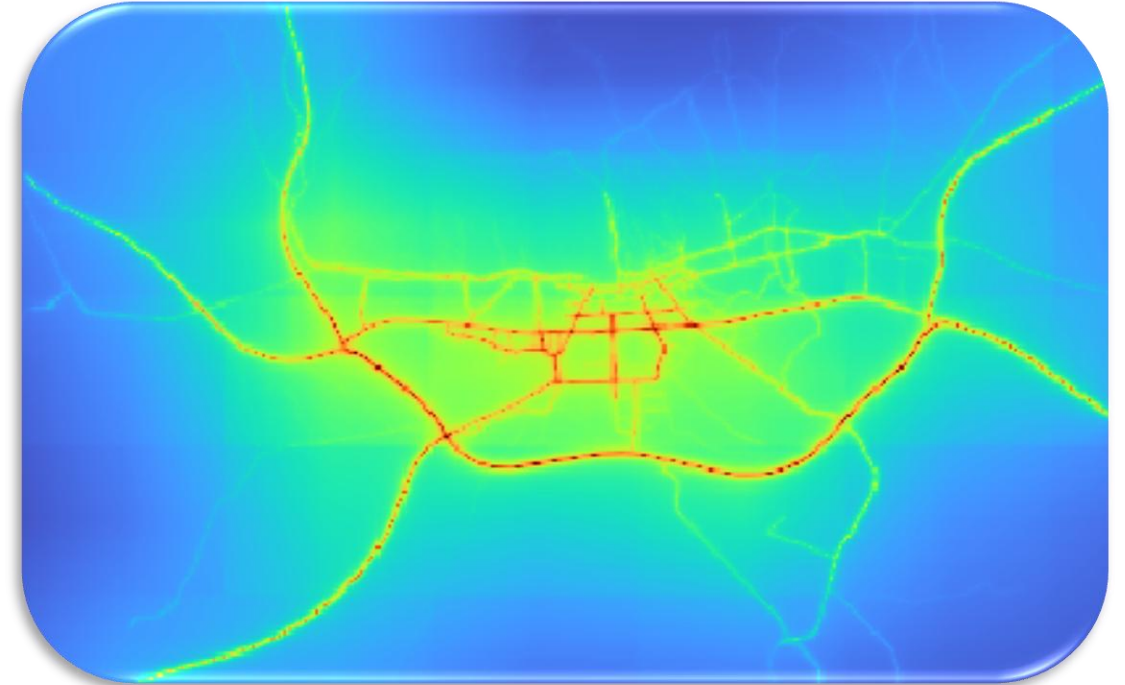
Improved Air Quality Modelling

Integration of:

- o official monitoring data
- o sensor data
- More accurate air quality assessments
- Support for the development of action plans

Link with LIFE CityTRAQ

- o Use of tools developed within the CityTRAQ project
- o Application at the national level



Expected Results

- Better-informed citizens
- Greater public participation
- Stronger cooperation between institutions and schools
- Improved air quality monitoring and modelling system

Long-Term Impacts

- Better health protection (especially for children and the elderly)
- Increased environmental awareness among young people
- Improved public and environmental policies



THANK YOU FOR YOUR ATTENTION!

