

Research infrastructures services reinforcing **air quality monitoring** capacities in European urban and industrial areas



The problem

Atmospheric pollution is a major cause of premature mortality and disease in Europe.

According to the 'Air Quality in Europe 2021' report, around 307,000 premature deaths were attributed to chronic exposure to fine particulate matter in 2019.

Even though the success of the European Air Quality Directive in reducing this number over the last decades, **poor air quality remains a health issue in urban, industrial, and rural areas.**

Objective

RI-URBANS aims to improve the service tools from atmospheric research infrastructures to better monitor air pollution and quantify its impact on human health.

What do we do?



MEASURE

novel air quality metrics and contributions from various sources



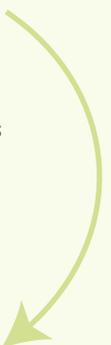
EVALUATE

their impact on health and map the urban population exposure



CREATE

new emission inventories and models



IMPROVE

the Service Tools taking into account authorities and citizens' feedback



UPSCALE

to air-quality monitoring networks, administrations and agencies



TEST

the Service Tools in 9 pilot cities

Service tools

RI-URBANS provides 12 advanced service tools to reply to the challenges of **new and complex urban air quality pressures**, and improve the analysis of air quality across Europe.

7 
TOOLS

Identification and quantification of **new pollutant sources** and development of tailored air quality parameters

2 
TOOLS

Evaluation of **urban variability** and health effects through novel air quality metrics

3 
TOOLS

Creation of **new emission inventories** and implementation of cutting-edge models

Pilot cities



Key innovative approaches

- 1 Near real-time data of nanoparticle size distribution
- 2 Source apportionment of nanoparticles
- 3 Near real-time source apportionment for particulate matter and black carbon
- 4 Offline and online measurements of oxidative potential
- 5 Mapping urban pollutants involving citizens
- 6 Linking vertical measures with air quality services and modelling tools
- 7 Evaluating the impact of air pollution on health



Coordinators



CSIC



UNIVERSITY OF HELSINKI



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036245.

Duration: 1-OCT-2021 to 30-SEPT-2025