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**

RI URBANS

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

Project duration: 01-OCT-2021 to 30-SEPT-2025

Coordinators

CSIC

UNIVERSITY OF HELSINKI

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RI URBANS

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

→

TEST
the Service Tools in 9 pilot cities

→

UPSCALE
to air-quality monitoring networks, administrations and agencies

→

IMPROVE
the Service Tools taking into account authorities and citizens' feedback

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**