

Real-time monitoring of transport-related air and noise pollution in European cities (Net4Cities): Monitoring plan and approach

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AIM of the Net4Cities project

- Support the Zero Pollution Action Plans and EU Green Deal objectives
- Expand **air and noise pollution** monitoring infrastructure
- Provide **evidence-based** support for implementing effective **transport policies**

WHAT and WHERE?

- **AQ monitoring, noise and traffic counts**
- Installation of monitoring devices in **11 cities** (in 10 EU countries)
- At **multiple locations** in each city
- Focus on capturing **traffic emissions** at urban traffic locations and at port and airport sites
- AQ monitoring locations include 16 road traffic sites, 5 sites near airports, 7 sites at port locations and 3 background sites
- Complemented by targeted campaigns at selected locations, roadside Remote Sensing (RS) to understand real-life emissions and RS satellite measurements of NO₂ (not discussed here)

AQ monitoring infrastructure installed in Net4Cities

ON-line

- Particle number concentration (PNC) using CPC (Airmodus)
- Lung-deposited surface area (LDSA) using LDSA monitor (Naneos)

OFF-line

- Ammonia (NH₃) using passive samplers (4 to 5-week periods)
- VOCs, CH₄, N₂O, CO₂ using canister sampling (from 8-9h, monthly) and subsequent off-line analysis with GC-MS and CRDS (Picarro)

At selected cities and locations

- PM₁₀ filter analysis (every day or third day): trace metals, ions, EC/OC -> non-exhaust emissions
- On-line PM speciation using xACT and ACSM (at two locations)
- Real-time source apportionment of black carbon (BC) -> traffic-related versus biomass-related emissions

INSTALLATIONS

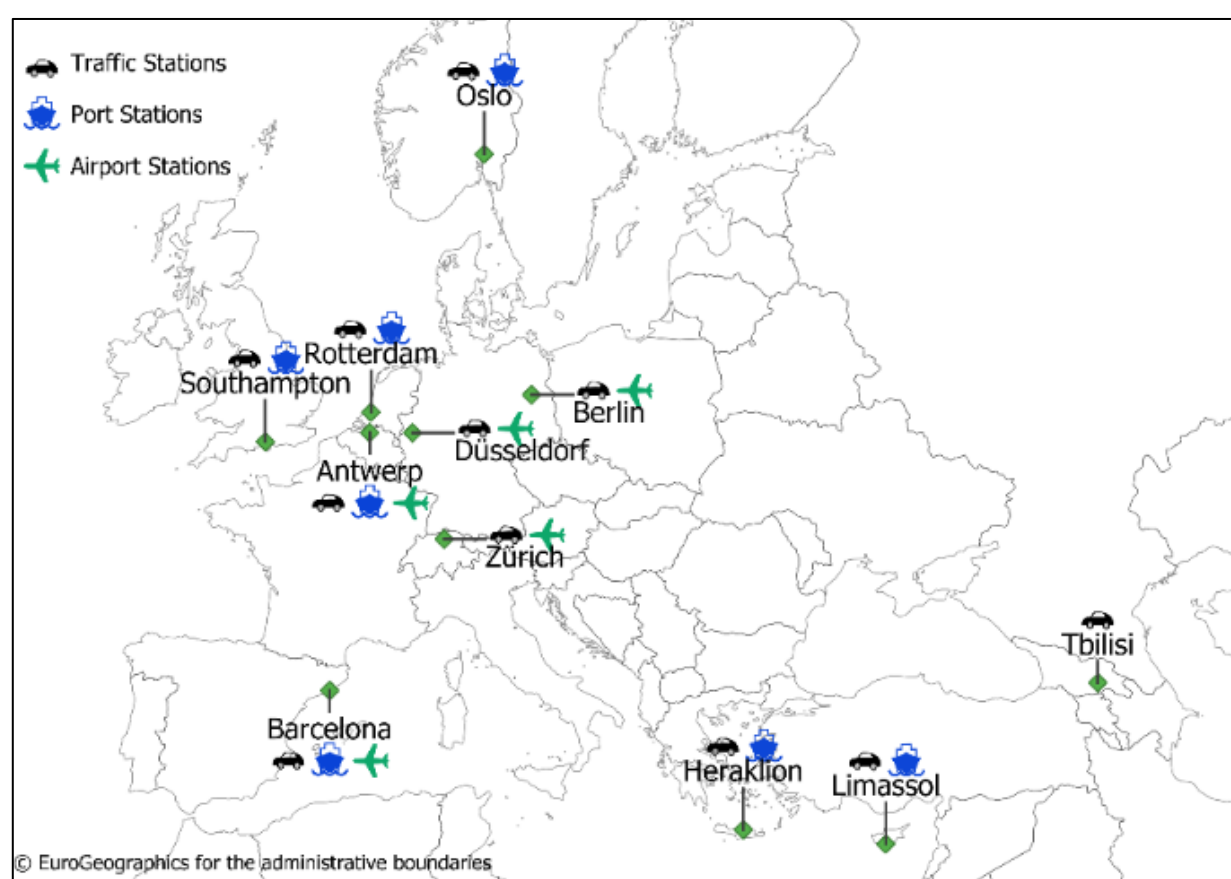


Figure 1. Map of the Net4Cities partner cities across Europe

WHEN?

- Measurement campaign from **1/04/2025 – 31/03/2027**
- Some of the pollutants (NH₃, VOCs, N₂O, CH₄, CO₂) and filter analysis will be measured only the first year.
- The data collected will be used for source apportionment.

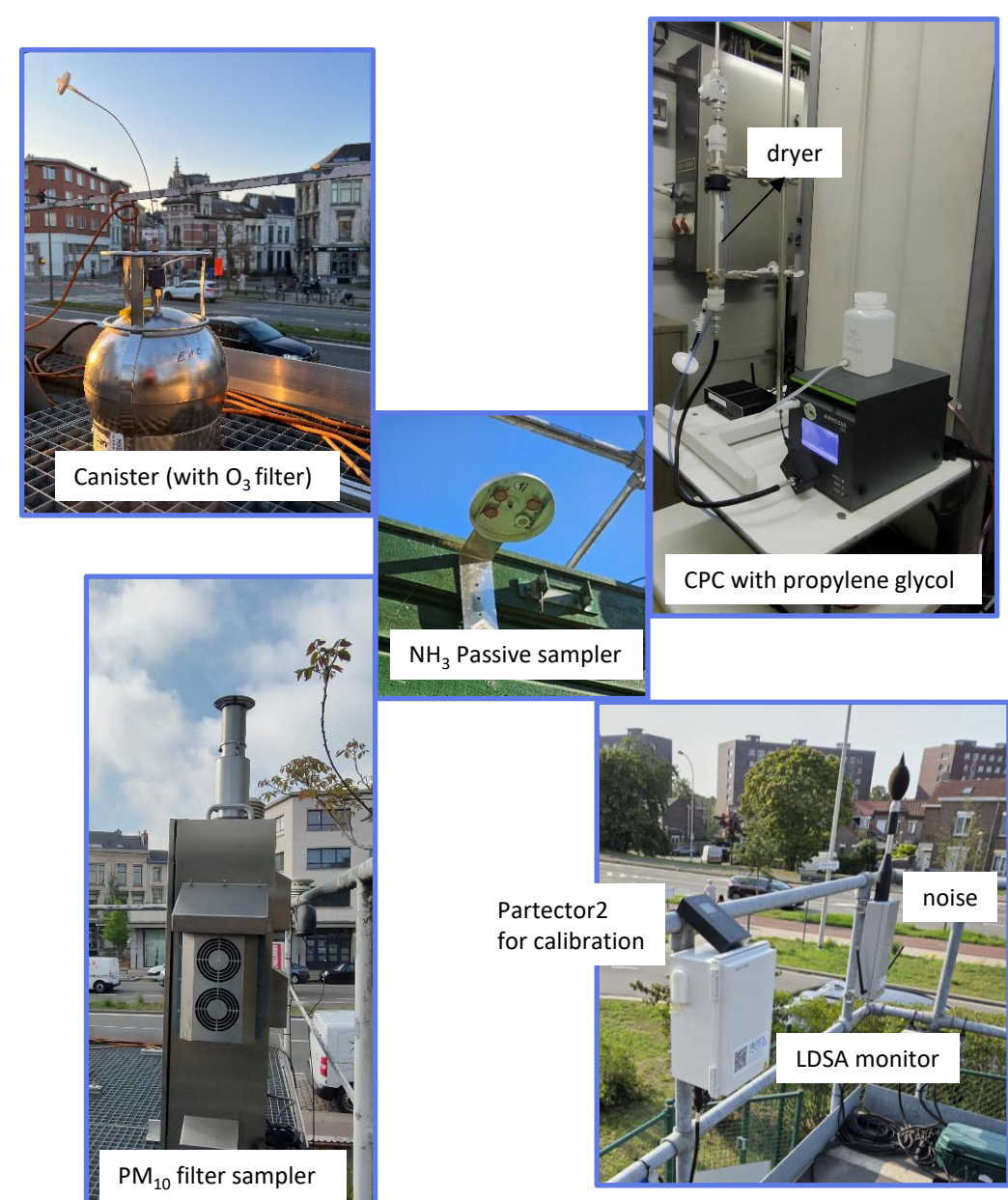


Figure 2. Pictures of Net4Cities equipment in Antwerp

PROJECT PARTNERS

