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Project MIM – Micro Indicative Monitoring

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CLIMATE, ENERGY, MOBILITY«
Horizon Europe

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Four Points by Sheraton Ljubljana Mons

Who We Are

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Alfa Proxima is an innovative Slovenian company combining environmental sciences, smart data technologies, and sustainable services.

We design and deliver turnkey solutions for air quality and noise monitoring. Our *micro-location measurements* give municipalities, schools, and public institutions reliable real-time insights into air quality – with minimal costs and no need for technical expertise.

Our value: accessible data, informed decisions, cleaner environments.

Our Business Model

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Data-as-a-Service – data as a subscription.

Instead of selling devices, we provide subscription-based access to structured and interpreted air quality data.

Key benefits for clients:

- no large upfront investments
- fast deployment and maintenance
- real-time, actionable data
- tailored analytics and automated reporting

What We Do

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We design and deliver turnkey solutions for air quality and noise monitoring:

1. Planning and installation of monitoring points
2. Continuous data collection and transmission
3. Data processing and interpretation
4. Visualization through the SensWare web platform
5. Reporting in compliance with EU directives (2008/50/EC, 2024/2881)

SensWare Platform

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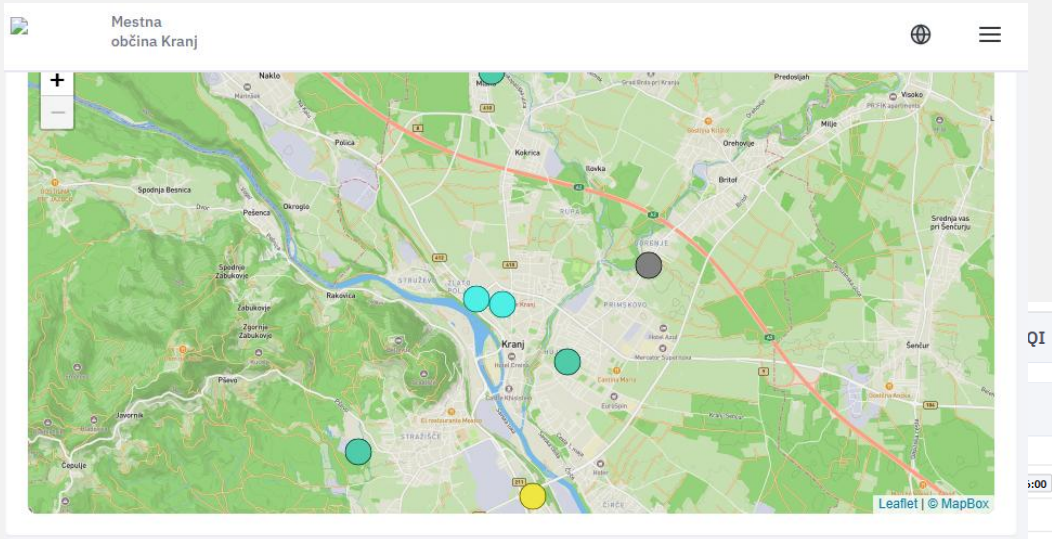
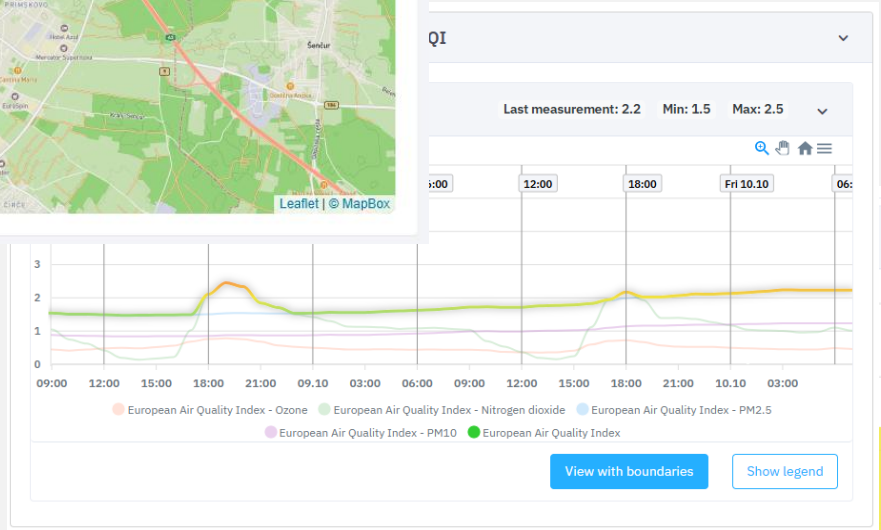
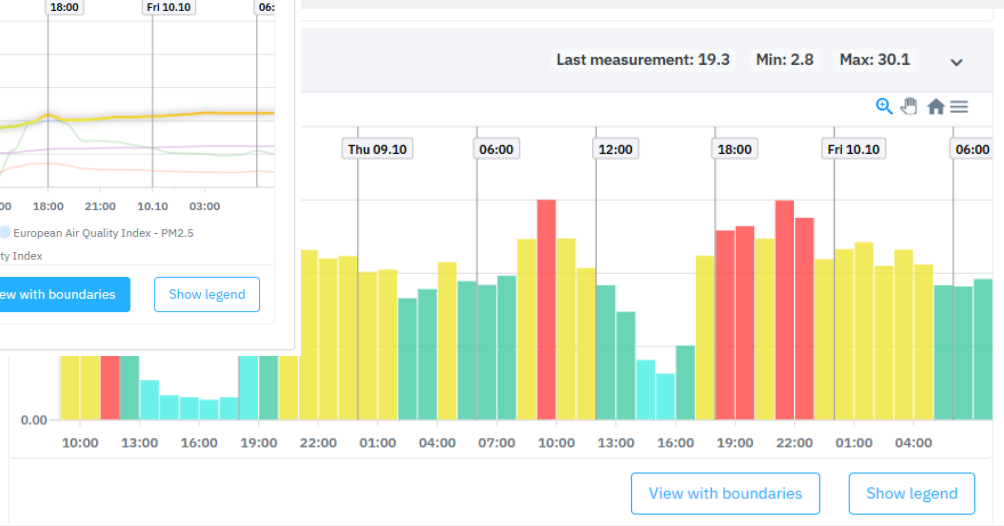


A smart platform for monitoring and visualizing environmental data.

- Real-time data display (example: City of Kranj)
- Interactive graphs and trend analysis





- Integration with GIS systems and urban platforms
- Automated report generation

https://iot.sensware.si/kr/locations/map

Technology and Parameters

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We measure key air quality indicators:

- **Particles:** PM_1, $PM_{2.5}$, PM_{10}
- **Gases:** NO_2, O_3, (CO_2, SO_2)*
- **Meteorological data:** temperature, humidity, pressure, precipitation
- **Noise:** equivalent and real-time values
- **PM particle capture:** capturing PM at desired concentration for further laboratory analysis

Our data is verified, legislation-compliant, and available in real time.

*In cases needed

Micro – Indicative – Monitoring

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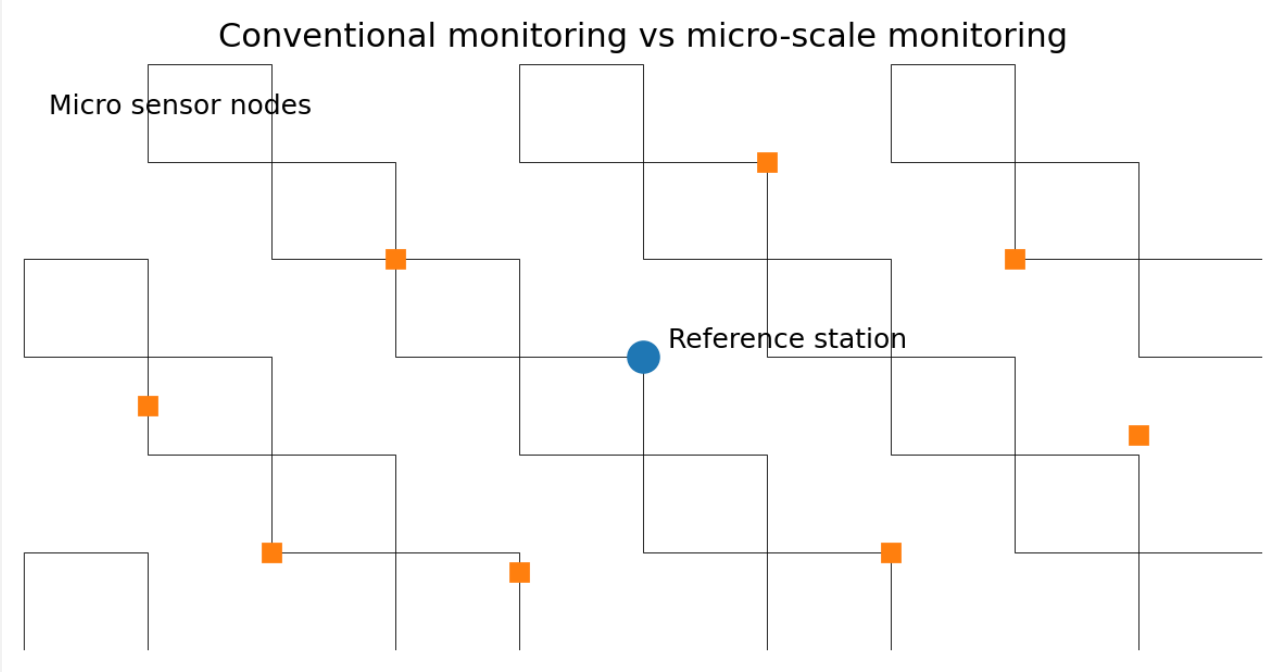
Motivation:

- Urban pollution varies strongly across short distances
- Exposure happens at street / neighborhood scale
- Reference stations provide high accuracy but low spatial representativeness
- Local hotspots often remain undetected



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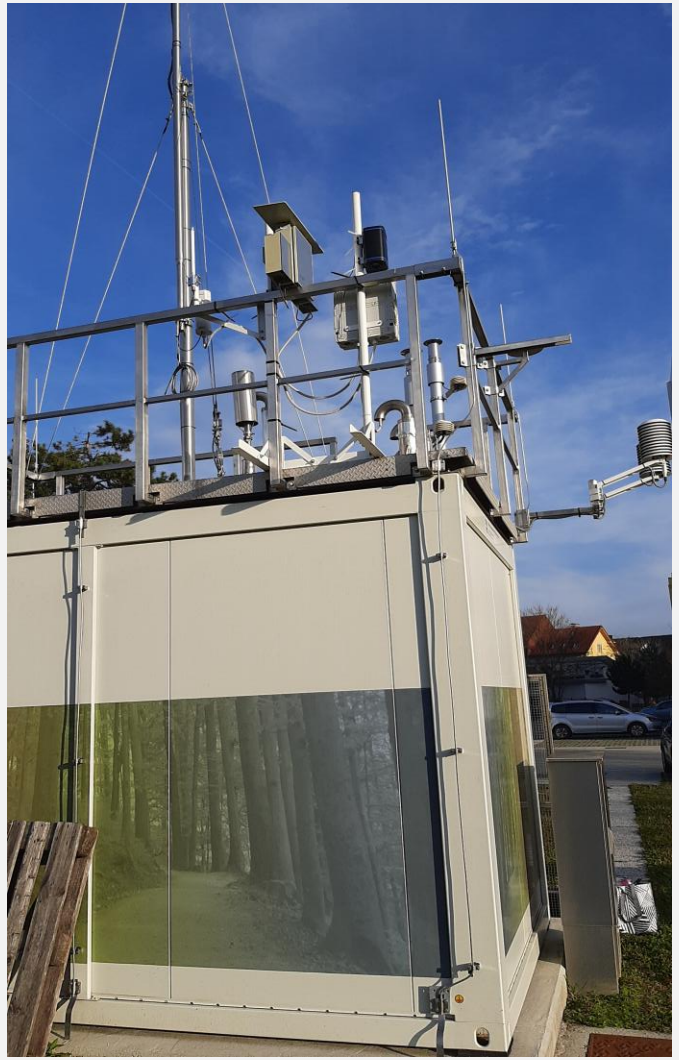
Technologies:

- Sensor networks: PM2.5 / PM10, NO2, O3
- High temporal resolution and flexible deployment
- Dense spatial coverage at lower cost
- Requires calibration, QA/QC, and drift management



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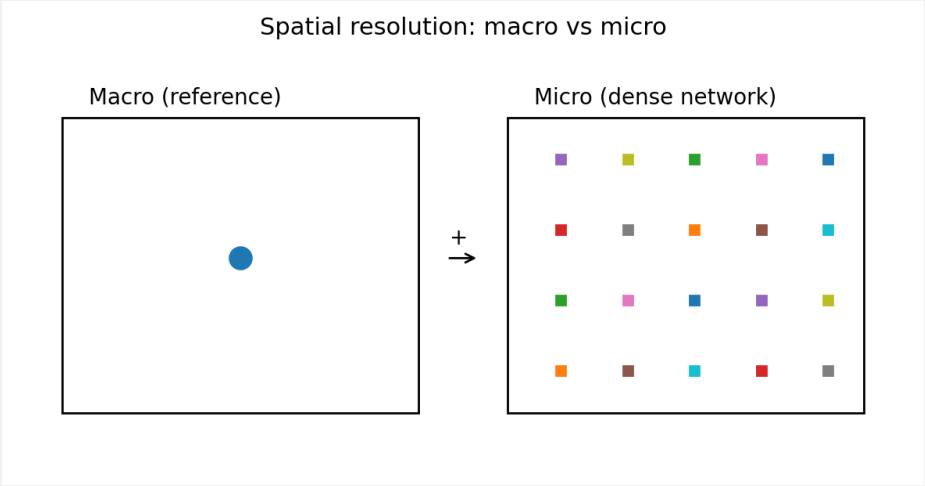
Measurement Concept :

- Deploy sensors across representative urban typologies
- Apply calibration and QA/QC procedures
- Analyse spatial and temporal variability
- Interpret patterns relative to morphology, activity, and meteorology



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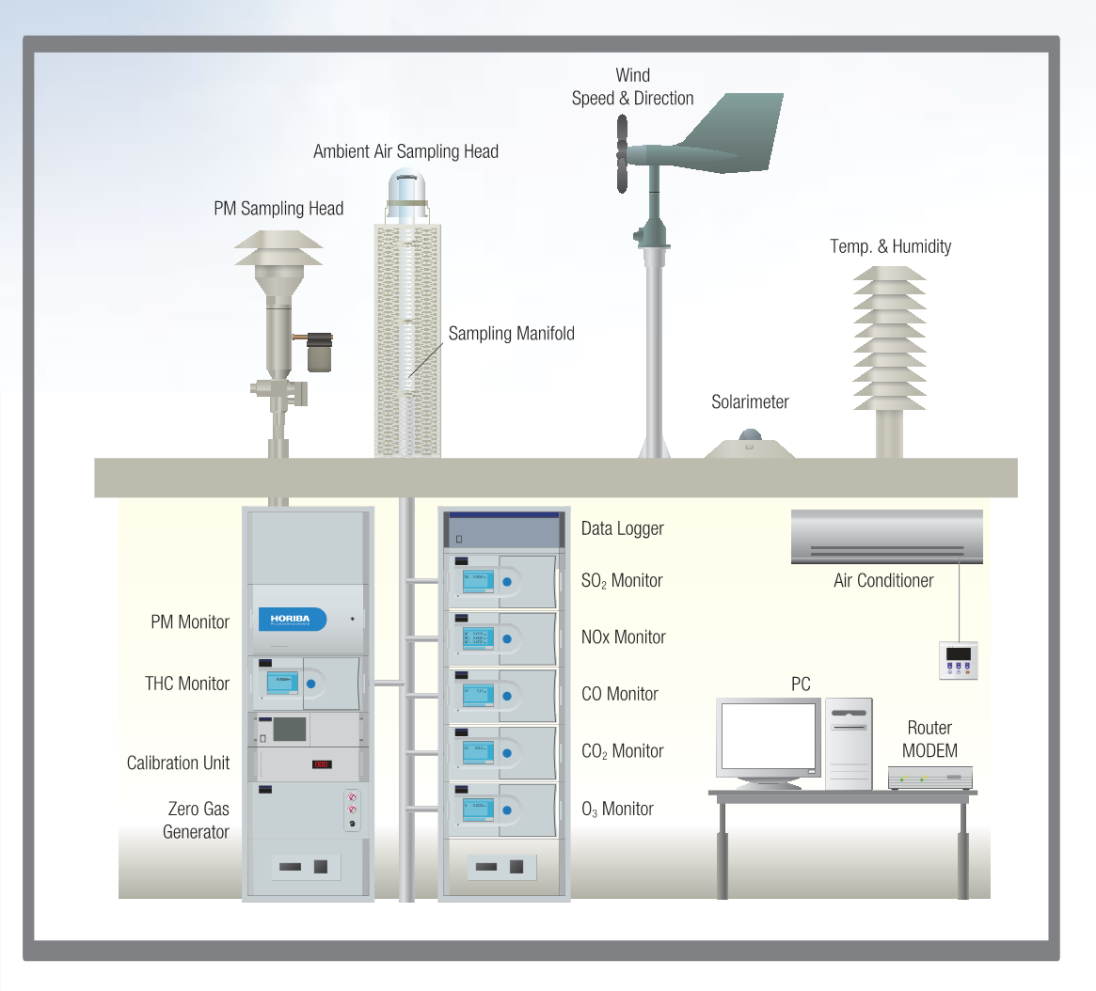

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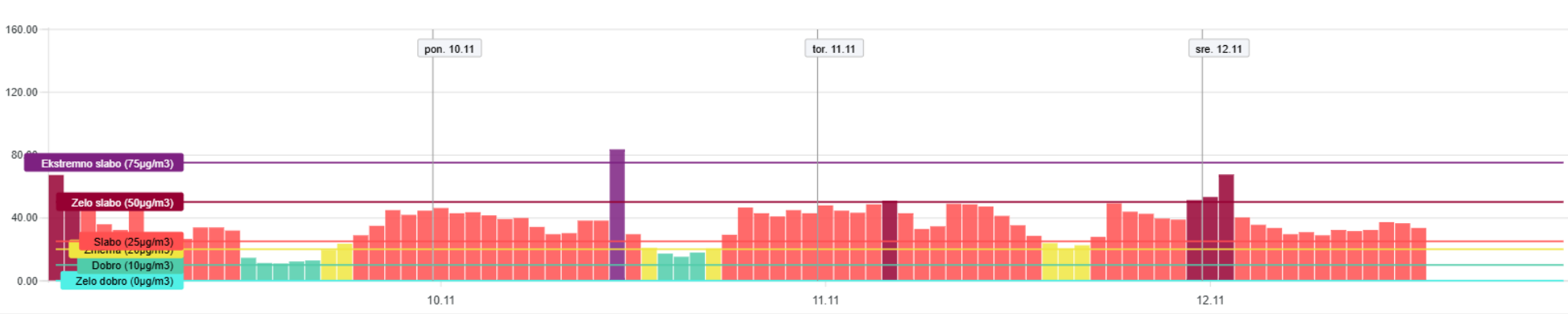
From Patterns to Source Hypotheses:

- Traffic-like: AM/PM peaks, weekday dependence
- Heating-like: evening peaks, winter dominance
- Industrial/episodic: irregular spikes, wind dependence
- Micro monitoring narrows down plausible source classes



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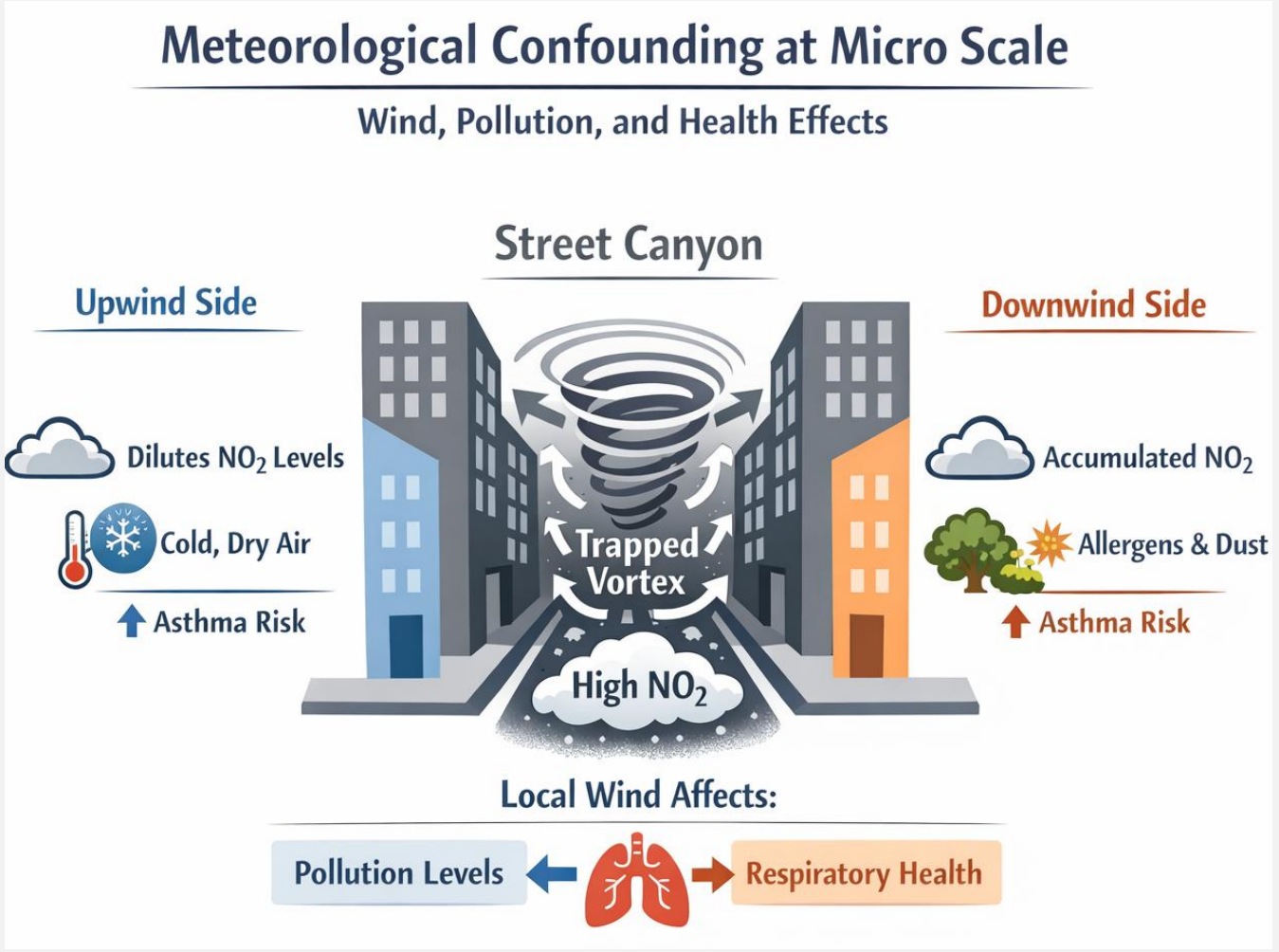
Limitations and Challenges:

- Sensor drift and aging
- Meteorological confounding at micro scale
- Complex mixed sources in dense urban areas
- Need for standardized methodologies
- Risk of over-interpreting noisy data



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Conclusions:

- Micro monitoring reveals strong urban air quality heterogeneity
- Enables identification of local hotspots and source hypotheses
- Provides essential data for model validation and exposure studies
- Critical complement to conventional monitoring networks

Collaboration and Partnerships

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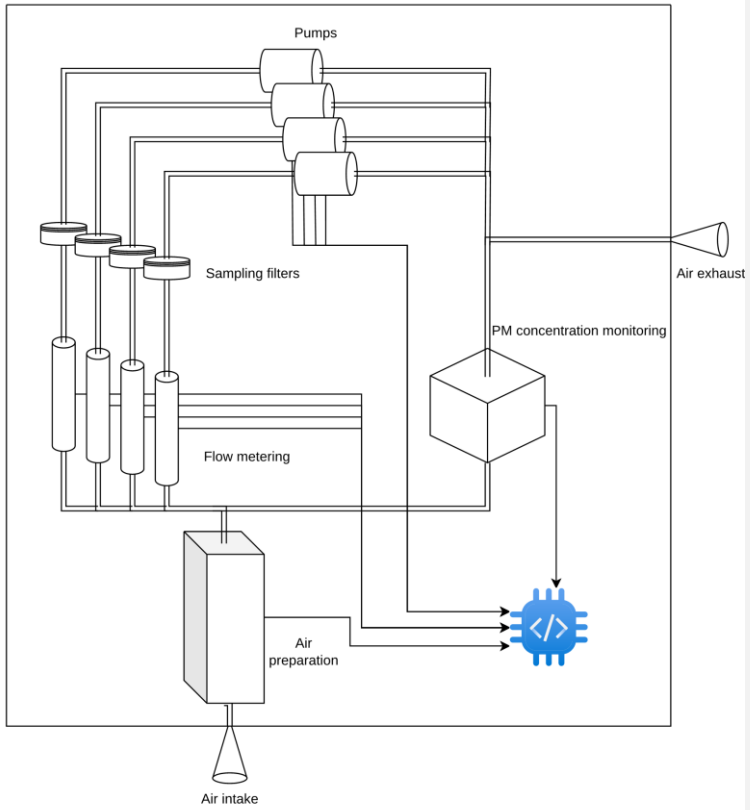
We welcome strategic partnerships focused on:

- **Development:** integration with urban data systems and smart city platforms
- **Research:** advanced analytics and data interpretation
- **Marketing:** joint expansion into domestic and international markets

- We search for joint collaboration on EU projects

Together, we build a smarter and cleaner future.



Mission and Vision

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Mission: To provide accessible, reliable, and easy-to-understand environmental data for responsible decision-making.

Vision: By 2030, to establish a national environmental data network with over 100 monitoring locations, covering at least one-third of Slovenian municipalities. We want provide a reliable tool, to cut down emissions in municipalities, for better Air.

Our Promise: We act ethically, transparently, and with the health of the community in mind.

Call to Action

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We are looking for partners who share our vision – smart technologies for a cleaner environment.

Interested in joining our development or market expansion?

Contact us:
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