



BreatheLondon



Breathe London: a blueprint for hyperlocal air quality monitoring networks

London, a city of global importance and one of Europe's most populous capitals with over nine million residents, continues to grapple with the **persistent challenge of urban air pollution**. From vehicle emissions to industrial activity, sources of poor air quality affect every borough – often disproportionately impacting children, the elderly, and those with pre-existing health conditions. **The demand for local, accessible air quality information** has grown louder among citizens and advocacy groups alike.

In response, the Greater London Authority relaunched the Breathe London project with a bold vision: to create **the most advanced air quality monitoring network** in the world. To achieve this goal, a new consortium was founded, with Airly as one of the members. Since then, **136 sensors** were installed throughout the capital, predominantly near schools, hospitals, and residential areas as well as in 7 Transport for London locations and in 8 places along Oxford Street. They deliver hyperlocal, real-time data to the public, mapping the current health risks and tracking suitable intervention areas.

Challenges

The programme sets out to turn air quality data into actionable insights, aimed at improving community engagement and, thus, air quality in the long run. The potential sources of difficulties include:

1 Managing a complex, city-wide network

Coordinating and maintaining approximately 136 air quality sensor sites across 20 of London’s boroughs requires robust infrastructure, consistent calibration, and long-term quality assurance across a vast urban landscape.

2 Ensuring data accessibility

Making high-resolution, real-time air quality data accessible and understandable to everyday Londoners, including most vulnerable groups, means it must be presented in an engaging, intuitive way and reach those affiliated with schools, hospitals, and local authorities who can act on it.

3 Mobilising local communities

Encouraging schools, NHS Trusts, and local councils to not only access the data but use it to drive local interventions and public awareness campaigns requires not just technology, but educational resources, outreach, and ongoing support – so data from sensors needs to be translated into educational materials.

Solution

Airly’s advanced sensors

are a **reliable foundation** for the project



Partnership overview:

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Implementation: Airly supplies 136 high-quality, calibrated air quality sensors distributed across all 20 London boroughs and the City of London.
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Performance: These sensors offer reliable, real-time, hyperlocal data, essential for consistent coverage across diverse urban environments.
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Support: Airly’s technical expertise ensures the long-term operation, calibration, and maintenance of the sensor fleet in collaboration with partners.
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Cooperation: Airly is a member of the consortium created especially for this project, with partners such as Vodafone, Cambridge Environmental Research Consultants, and others.

Results

Airly's sensor data is fed into the new Breathe London website, enabling:

- ☀ real-time air quality mapping at street level
- ☀ easy interpretation of pollution levels for non-technical users
- ☀ open access to data, fostering transparency and public trust
- ☀ identification of pollution hotspots
- ☀ providing measurable results following the traffic shut-off, in case of the 8 sensors located along Oxford Street

Conclusions and next steps

The renewed Breathe London programme **reinforces London's position at the forefront of urban air quality monitoring**. By combining real-time, hyperlocal air pollution data with community engagement and technical excellence, the initiative addresses the urgent public health challenge posed by air pollution – **the UK's most significant environmental health risk**.

The integration of 136 sensors across London's boroughs delivers actionable insights not just to policymakers, but also directly to those most affected: residents, schools, hospitals, and local authorities. With access to this data, **communities are empowered** to understand local air quality conditions and take steps to reduce their exposure.

Breathe London is not only a model for **scalable, data-driven environmental monitoring** – it's also a catalyst for public education and local decision-making, helping drive **long-term improvements in urban health and sustainability**.

Quotes

"We are proud to renew our commitment to improving London's air quality. This advanced monitoring network will provide invaluable data to help us make informed decisions and protect public health."

– Sadiq Khan, *Mayor of London*



With some of the worst air in the UK, London turned to advanced monitoring to support effective public health and environmental policies.

Ready to enhance the quality of life for your residents?

Contact [Airly today](#), and let's join forces to achieve cleaner air and healthier communities!