



Case Study

Birmingham City Council



Overview

How Birmingham City Council is installing EarthSense sensors to monitor air pollution levels at local schools, helping to significantly reduce the concentration of nitrogen dioxide across the city.

The Challenge

Birmingham is looking to lead the way when it comes to educating students about the importance of good air quality. A central part of this campaign focuses on engaging school children to instigate behaviour change initiatives such as active travel, etc.

In addition, the main air quality issue in Birmingham is elevated levels of nitrogen dioxide (NO₂), particularly within the City Centre area as a result of road traffic emissions. Monitoring results generally show that concentrations have been declining over the last five years, although exceedances persist at a few locations. The council is taking measures to enable it to reach the legal limit through its Air Quality Action Plan.

The need to influence behavioural change and the significant health concern around air quality resulted in Birmingham City Council looking to raise awareness of the causes of air pollution and the steps that can be taken to reduce emissions and exposure.

The Solution

To address these challenges, Birmingham City Council is working with EarthSense to roll out a network of up to 376 real-time external indicative air quality sensors to participating schools throughout Birmingham.

The Zephyr® Lite sensors incorporate an LED light displaying real-time air quality on the monitor itself. They are capable of monitoring Nitrogen Dioxide and Particulate (both PM10 and PM2.5 fractions) in real time.

The EarthSense monitors are being installed onto the exterior façades of primary and secondary schools across the city to support the Council's commitment to raising awareness of the causes of air pollution, and the steps that can be taken to reduce emissions and exposure.

For each school, a sensor is deployed along with a static signage board with information and links to online resources.

In addition, a sensor is co-located at the Council's Ladywood Air Quality Station to allow comparison of the results with existing monitoring equipment.

Outcomes

The results captured by the sensors are being made freely available to the public via a portal which hosts downloadable factsheets with easy to understand data analytics, highlighting key metrics, as well as notifications of other Birmingham City Council air quality initiatives and events.



city. This data will enable the Council to direct measures that will reduce the pollution levels for all residents, but particularly, schoolchildren, their parents and families in these key areas.”

The Future

The project aims to run for two years, year one focused on installation and year two committed to monitoring and supporting the schools via the information provided.

Get in Touch

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Quotes

Councillor Majid Mahmood, Cabinet Member for Environment and Transport at Birmingham City Council, said: “We’re proud that Birmingham is leading the way when it comes to educating students about the importance of good air quality, underpinned by data from EarthSense sensors, which are available free of charge to all schools in the city.

“The results captured by these sensors are enabling us to share our data with residents and partners, encouraging education and collaboration as we work together to achieve better air quality across the city. It’s time to Clear The Air.”

Owen Gardner, Chief Operating Officer at EarthSense, added: “We are delighted to be collaborating with Birmingham City Council on this major UK project, aimed at capturing real time air quality pollution data across the