



New ‘hyperlocal’ sensor network to create world’s most sophisticated air monitoring system across London’s streets

London Mayor Sadiq Khan launches new, street-by-street monitoring system to improve air quality.

Sensors will be attached to lampposts, buildings and in dedicated Google Street View cars.

London, UK (21 June 2018) — The Mayor of London, Sadiq Khan, and C40 – a network of cities committed to bold action on climate change – have launched a cutting-edge new project to better understand Londoners’ exposure to air pollution around the city. Sensors will measure harmful pollution in tens of thousands of locations, making London’s new air quality monitoring network the most sophisticated in the world.

Air pollution is threatening the health of Londoners, with most areas of the capital regularly breaking limits for safe levels of air pollution. Scientists estimate¹² that thousands of Londoners’ lives end sooner than they should each year because of unclean air. And that the yearly cost of that dirty air to London’s economy is £3.7 billion.

London already has one of the best networks of air quality monitors of any city. Despite this, the network still does not cover enough of London. More sensors and more data are needed to say for sure which actions to tackle air pollution are working best. More sensors will also help explain how air quality changes not just because of the amount of traffic, but also because of other factors such as weather and road layout.

From July, new fixed and mobile sensors will be rolled out across London’s streets. 100 fixed sensors will be fitted to lampposts and buildings in the worst affected areas and sensitive locations, and two dedicated Google Street View cars will be driving across the city, mapping air pollution at an unprecedented level of detail. The two Google Street View cars assigned to this project will take air quality readings every 30 metres, building up a picture over the course of a year, and identifying pollution “hotspots” that the existing network of fixed monitors might miss.

With this new ‘hyperlocal’ data, the Mayor will be able to track what actions are making the biggest difference to people’s health. Whether that’s more electric vehicles, or improvements to public transport, robust science means we will know more than ever about what works and what doesn’t when it comes to cleaning up our air.

Online maps showing data in real time will give Londoners information on just how dirty the air they breathe really is as they move around the city. These new tools will help the capital take action to tackle the most dangerous environmental threat to people’s health. The study will improve the accuracy of air pollution forecasts for the coming three days, making it possible for people to plan and respond to high pollution warnings.

The project will be run by a team of air quality experts led by the charity Environmental Defense Fund Europe, in partnership with Air Monitors Ltd., Google Earth Outreach, Cambridge Environmental Research Consultants, University of Cambridge, National Physical Laboratory, and the Environmental Defense Fund team in the United States. King’s College London will also be undertaking a linked study focused on schools that will form part of the year long project.

The project is the result of a partnership between the Greater London Authority and C40 Cities.

The results from this initiative will be shared with the 96 members of the C40 Cities network, with the ambition of improving air quality for hundreds of millions of people living in cities around the world.

The announcement comes just a day after the Mayor brought together city leaders from across England and Wales for a national air quality summit, and unveiled that London will have the largest pure electric double-deck bus fleet in Europe.

The Mayor of London and C40 Vice Chair, Sadiq Khan, said: “London’s toxic air is leading to the premature deaths of thousands of Londoners every year so I am pleased that we are embracing the very latest smart technology to monitor hot-spots and demonstrate how effective our policies to combat this global issue are.

“I’m doing everything in my power to tackle London’s lethal air including cleaning up our bus and taxi fleets, introducing the Toxicity Charge for the oldest polluting vehicles in central London and bringing forward the introduction of the world’s first Ultra-Low Emission Zone to start in April 2019. “I am delighted to be joining up with C40, the Environmental Defense Fund, Google and the rest of the team on this exciting project that will provide a treasure trove of new data and information to improve air quality here in London, and deliver an approach that can be replicated across the world.”

“This project will provide a step change in data collection and analysis that will enable London to evaluate the impact of both air quality and climate change policies and develop responsive interventions,” **said Executive Director for Environmental Defense Fund Europe, Baroness Bryony Worthington.** “A clear output of the project will be a revolutionary air monitoring model and intervention approach that can be replicated cost-effectively across other UK cities and globally, with a focus on C40 cities.”

Mark Watts, C40, Executive Director said: “Almost every major city in the world is dealing with the threat of toxic air pollution, which is taking an incredible toll on the health of citizens, public finances, quality of life and contributing to climate change. London is already a world leader in responding to this global threat and with this initiative it will set a new global standard for how street level air quality monitoring can inform strategic policy making. Cities across the C40 network and around the world will be watching closely to understand how this street level air quality monitoring can deliver cleaner air for their citizens.”

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Notes for editor

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Earlier this month, the Mayor published Smarter London Together – his roadmap for how he will realise his ambition to make London the world’s smartest city. In it the Mayor sets out how he will help the city’s public services use tech and data to improve the lives of all Londoners.

The roadmap includes plans to supporting the commission of a new generation of smart technology, a bold new approach to connectivity and the promotion of greater data sharing among public services through the London Office of Data Analytics.

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About Environmental Defense Fund

[Environmental Defense Fund Europe](#) is a registered charity (1164661) in England and Wales. A recently established affiliate of leading international non-profit Environmental Defense Fund (EDF), the organisation links science, economics, law, and innovative private-sector partnerships to create transformational solutions to the most serious environmental problems. Connect with us at [edf.org/europe](#), on [Twitter](#) and on our [EDF Voices](#), [EDF+Business](#) and [Energy Exchange](#) blogs.

About Air Monitors Limited

Air Monitors is the UK’s leading air quality monitoring company, supplying and supporting instrumentation to central government, local authorities, research and industry. Based in Tewkesbury in Gloucestershire and Glasgow in Scotland the company leads the field in new small-sensor technologies with its AQMesh range and will also provide and maintain the equipment within the Google Street View cars in the project.

About Cambridge Environmental Research Consultants

Cambridge Environmental Research Consultants (CERC) are world leading developers of air quality modelling software. Their renowned ADMS-Urban model will be used together with the sensor data to generate hyper-local air quality mapping both for nowcasts and forecasts, and for policy studies.

About Google Earth Outreach

Google Earth Outreach is a program from Google designed specifically to help non-profit and public benefit organisations around the world leverage the power of Google Maps and Cloud technology to help address the world's most pressing social and environmental problems.

About the National Physical Laboratory (NPL)

NPL is the UK’s National Measurement Institute, providing the measurement capability that underpins the UK's prosperity and quality of life. Every day our science, engineering and technology makes a difference to some of the biggest national and international challenges, including addressing air quality issues. <http://www.npl.co.uk/about/what-is-npl/>

About University of Cambridge Department of Chemistry

The University of Cambridge Department of Chemistry is a world leading research and teaching institution. At Cambridge, the Centre for Atmospheric Science has played a primary role in the development of low-cost sensors for air quality monitoring and in the development of techniques for analysing and interpreting measurements from sensor networks.

About the C40 Cities Climate Leadership Group

Around the world, C40 Cities connects 96 of the world's greatest cities to take bold climate action, leading the way towards a healthier and more sustainable future. Representing 700+ million citizens and one quarter of the global economy, mayors of the C40 cities are committed to delivering on the most ambitious goals of the Paris Agreement at the local level, as well as to cleaning the air we breathe. The current chair of C40 is Mayor of Paris Anne Hidalgo; and three-term Mayor of New York City Michael R. Bloomberg serves as President of the Board. C40's work is made possible by our three strategic funders: Bloomberg Philanthropies, Children's Investment Fund Foundation (CIFF), and Realdania.

¹ In 2015 a study by King's College London, 'Understanding the Health Impacts of Air Pollution in London', commissioned by Transport for London, showed that air pollution in London could be causing thousands of premature deaths a year.

<https://www.kcl.ac.uk/lsm/research/divisions/aes/research/ERG/research-projects/HIAinLondonKingsReport14072015final.pdf>

<https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/health-and-exposure-pollution>

² Researchers from the University of Oxford and the University of Bath produced 'The health costs of air pollution from cars and vans' in 2018, which showed that health impacts from air pollution from internal combustion engine vehicles costs tens of billions of pounds each year.

<https://www.cleanairday.org.uk/Handlers/Download.ashx?IDMF=7eb71636-7d06-49cf-bb3e-76f105e2c631>