



# From urban air quality monitoring to indoor air solutions

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**Develiot**  
part of Telelink Business Services

Develiot's purpose is to improve the quality of life on Earth by harnessing IoT technology to advance the access to clean water and air. We make global challenges manageable by empowering data-driven decisions that pinpoint high-return investments in the areas of urban water supply and urban air quality. We achieve this goal by providing scalable end-to-end solutions, encompassing optimal data sensing, optimal data transmission, optimal data visualization and analytics, and effortless third-party integrations.

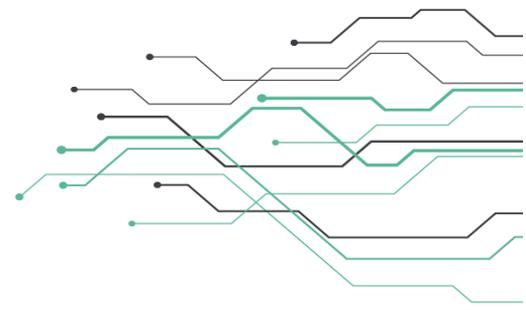
In Develiot we see IoT as vital in securing the water we drink and the air we breathe. That is why our mission is to be a global IoT leader in the management of water systems and air quality.

Urban and indoor air quality nowadays is heavily aggravated by gas emissions from different sources, such as industrial manufacture, traffic activities, and household heating. The growing concern that these activities of citizens exert noticeable impacts on deteriorating the urban air quality, with often negative effects on the life and health of all city residents leads to the development of systematic air quality monitoring. For example, air quality monitoring stations are built to understand the emission sources, context, and dispersion of various kinds of air pollutants. Such monitoring and source estimation activities can improve air quality, for instance by assisting the decision-maker with appropriate air pollution information and identifying proper pollution abatement solutions.

Urban air pollution is a complex mix of gases and particulate matter that negatively affects communities living in and around urban areas. It's most recognizable by that thick brown haze which blankets cities across the world, known as photochemical smog.

Nitrogen dioxide, ground-level ozone and particulate matter are the three main air pollutants in modern cities and the health effects of these are well-documented. These three, as well as carbon monoxide and sulfur dioxide, are known as 'criteria pollutants'. Criteria pollutants are included in national air quality standards that define allowable concentrations of pollutants in ambient air.





## Challenge

Majority of cities struggle to improve the urban air quality:

- Growing urbanization is increasing the air pollution levels citywide. As a consequence, the pollution is visible on the horizon, impacting the health and wellbeing of citizens;
- Reliable data is unavailable to assess the pollution levels around the city. As a consequence, the pollutants in the air along with the main pollution contributors remain hidden;
- The authorities are unable to define optimal air quality improvement actions. As a consequence, the air pollution remains unaddressed leading to citizen unrest.

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What is in the air outside also affects the indoor air quality, whereas more and more citizens, authorities, companies, etc. are increasing their aim for indoor air quality monitoring solutions:

- Bad air increases infections and morbidity and as a consequence there are frequent absences of leaders, teachers, students, employees;
- Uncomfortable and unhealthy environment in the premises. Consequences: low concentration and productivity at work;
- Lack of data to diagnose and solve the problem. Consequences: the indoor air quality problems remain unresolved, often despite large financial investments.

## Solutions

A network of Urban Air Quality Monitoring Stations empowers cities to remotely monitor the key air quality indicators as defined by the European Union. Before cities can take steps to improve air quality, they need data on pollution levels and the various factors contributing to them, in as many locations as possible.

With the solution for urban air quality monitoring (and indoor air monitoring), the citizens, authorities, companies, etc. can find what are the pollution levels around the city, what are the specific pollutants at each location, where they are coming from and even to predict what will be the air quality in the next 24 hours to take proactive actions.

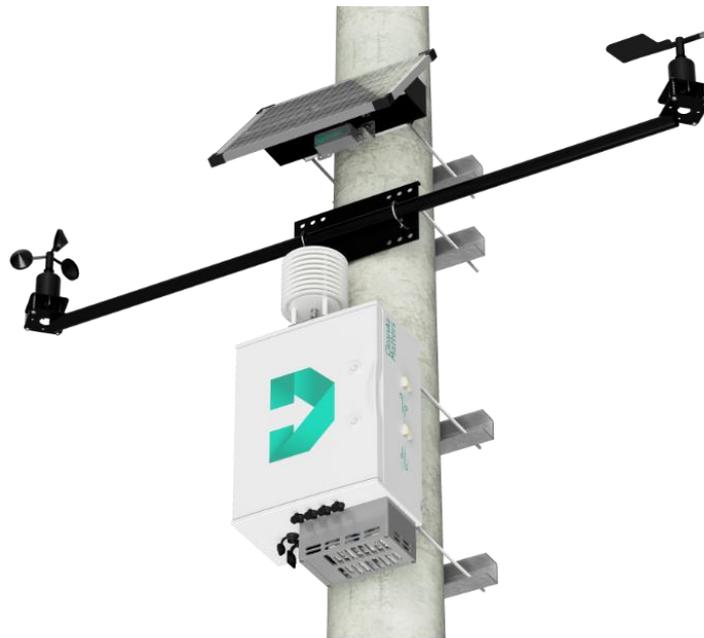
Cities and citizens need reliable information on air quality to monitor the impact of urban development actions, evaluate improvement actions and design appropriate policies to protect the health of the citizens.



Our solution for Urban Air Quality allows the monitoring of different pollutants and noise by means of rapidly deployable wireless devices offering high-value information for decision making, with excellent accuracy and at a lower cost than reference methods.

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Develiot provides also Indoor Air Quality overall solution for real-time assessment of the air quality in the buildings, detection of pollutants and implementation of effective air improvement measures.



## Urban Air Quality Monitoring Station

### Technical features

The urban air quality monitoring solution of Develiot encompasses of an end-to-end big data solution that enables cities to map the pollution levels city-wide, figure out the main pollutants and pollution contributors, and apply working measures to improve air quality through its real-time data gathering hardware and software. For this purpose, a network of stations are situated on multiple locations around the city, providing real-time data on key air quality indicators and environmental parameters. Along with this Develiot provides real-time data visualization and analytics platform for urban air quality monitoring.

As the outside environment, the indoor air quality monitoring is addressed by Develiot through new generation software and hardware for real-time air monitoring. Through



the specially designed hardware the indoor air quality is measured in real-time and visualized through user friendly data analytics platform with easy-to-understand tools and modules.

## Benefits

- One solution to track all the main air quality and environmental parameters with high precision;
- Provides all the data needed to quantify air pollution in real-time and find the main pollution contributors;
- Fully compliant with the legislation regulating air quality data representation;
- All needed tools are built-in the platform: device management, correlation and trend analysis, and data exports;
- Simple and straightforward to deploy and operate;
- Provides a clean, comfortable and safe environment. Reduces the risk of spreading viruses;
- Increases productivity and efficiency of the residents of the monitored building by between 8% and 11%;
- Optimizes the electricity consumption.



Make the Air Quality Index easily accessible to citizens

Get a real-time dossier of each station and its readings

Cross-correlate data and analyze trends

Develiot has successfully implemented its air monitoring solutions in several Bulgarian and European cities, including Sofia, Skopje, Razlog, Klaipeda, Shumen, Pernik and many others.



#IoT Xchange



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