Client

Kars Smart City

Location

Kars, Turkey

Application

Urban Air Quality Monitoring

Problem

Kars is a city located on a high plateau in northeast Turkey. One of the most important aspects of any smart city is its clean and healthy environment. Accurate air quality monitoring is crucial to achieving that.

Kars have extremely low temperatures. It reaches as low as -20 °C in the winter months. Such extreme conditions introduce peculiar challenges to air quality monitoring.

Monitoring of various urban air quality parameters is very difficult in such ambient environmental conditions. Most monitors struggle to provide accurate measurements of air quality.

To collect reliable and actionable air quality data, it is very much important to invest in accurate monitoring devices capable of providing high-quality data even in harsh environments.

Oizom Solution

Oizom deployed its device – Polludrone – to measure the concentration of various air pollutants in Kars City. Polludrone accurately measured particulate matter (PM2.5 and PM10) as well as gaseous pollutants like SO2, NO2, CO, CO2, and O3. In addition to air pollutants, various environmental parameters such as temperature, humidity, noise, light intensity, UV radiation, rain, etc. were also measured.

To understand how the device performs under the harsh environmental conditions of Kars, the monitor engages there in the winter months. Oizom's devices worked exceptionally well even at the subfreezing temperatures of -20 °C. It accurately measured gaseous pollutants, particulate matter as well as all the parameters of the ambient environment. As a result, it provided the authorities of Kars Smart City a complete understanding of the city's atmospheric conditions even during the harshest winter months. The real-time data measured by the device is analyzed over the cloud, which provides actionable insights to authorities.

Impact

Installing Polludrone enabled authorities to understand the environmental health of Kars Smart City which was hitherto not possible in winter months. Reliable and accurate data availability enables authorities to take data-driven action to develop pollution mitigation strategies. The real-time urban air quality data monitoring also helps citizens by taking precautions to reduce their exposure to pollution.

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