Detecting forest fires by monitoring Air Quality in Portland, US

Our Client

Wunderlich-Malec Engineering, Inc. is one of the best Engineering solution services industry in the United States. It was established in the year 1981, with a mission to provide customers with value engineering, quality system integration, and innovative panel and control house solutions. They have over 400 professionals and staff who work seamlessly throughout the year in their extensive research lab facilities across the North American continent. One of the research campus facilities of Wunderlich-Malec is present in Portland, US. The area is prone to constant forest fires, which the Wunderlich research facility is vulnerable to.

Wunderlich-Malec
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The Challenge

Forest fires cause excess smoke, heat and even noise, which can travel long distances. In order to detect a forest fire happening nearby in Portland, having an air quality monitoring system was necessary. However, they did not have an air quality monitoring system that detected CO, CO_2, $PM_{2.5}$, and PM_{10}, along with temperature, noise and humidity. Additionally, monitoring the data on a consistent basis and accessing the information in a remote location were required to conduct their research. To achieve this, it was essential that the data received by such an air quality monitor be capable of functioning with network connectivity options like MODBUS, Ethernet, Wifi, or GSM.

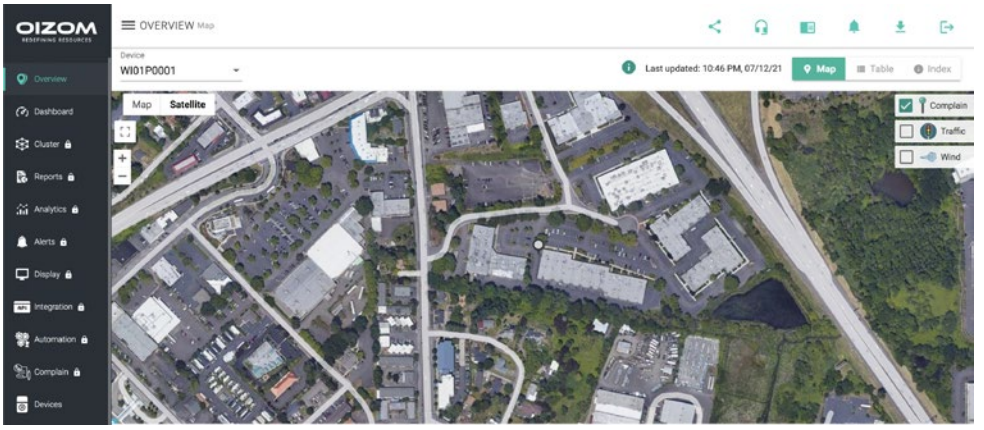
Installation Details

Polludrone Lite has been installed on the premises of the Wunderlich-Malec facility in Portland, US.

> *"Easily integrable wired connection with our Modbus system, data collection for air quality made simpler. Over-the-air device updates were helpful to refine data based on humid environmental conditions" - Guy Chan- Controls Engineer- Wunderlich Malec*

The Solution

Oizom with Lam Research offered Polludrone Lite to the Wunderlich-Malec for monitoring air quality and detecting forest fire in its Portland facility. Polludrone Lite can accurately monitor $PM_{2.5}$, PM_{10}, CO, CO_2, Noise, UV, light, temperature, and humidity on a real-time basis. Polludrone is capable of transferring the data to the user's display device through MODBUS integration. It can also survive intense heat and severe weather conditions, thanks to its robust body composition. Additionally, it is also Solar compatible and has a Battery Pack that can store energy so that the device functions despite a possible outage of electricity during a fire. This way, the authorities in the Portland facility can be assured that the data recorded will be stored and utilised for research purposes without any mishaps.



The Result

Wunderlich-Malec Portland unit is now capable of detecting forest fires by monitoring air quality. Polludrone has enabled Wunderlich to monitor various air quality parameters on a real-time basis. Polludrone's capability of transferring data through MODBUS has made it convenient to conduct research in Wunderlich. Additionally, the authorities can be empowered to take precautionary measures for the safety of their workers during forest fires.

Oizom is an environmental IoT company offering data-driven environmental solutions for better decision making. With our sensor-based hardware, we monitor various environmental parameters like air quality, noise, odour, radiation, weather conditions, etc. Our data analytics platform derives many actionable insights for authorities, communities, and industries. Oizom strives to play an essential role in a sustainable future through smart environmental solutions and data science.