Monitoring air pollution and mitigation for workplace safety at Cement Factory in India

Our Client

Devic Earth is a green technology company, whose state-of-the-art technological solutions help mitigate ambient air pollution. This is done using pulsed Wi-Fi that accelerates agglomeration and settling down of particles less than 20 microns in diameter. Devic Earth's client is one of the largest producers of cement in India and is an industry leader in sustainability and environmental conservation. The cement plant is a greenfield project that manufactures about 1.6 million tonnes of cement every year.

The Challenge

The fugitive emissions (PM2.5 & PM10) from the cement factory was a huge concern for the employees as it was putting their health at risk. Eager to tackle this issue, they tried many different solutions from across the world, but in vain. Most of them were filter-based and proved to be futile on fugitive emissions, especially from the bags getting loaded onto the transport vehicles. Additionally, they needed real-time and accurate air quality data to monitor and track the hazardous pollutants in the air.

Installation Details

Two Dustroid units were installed at the cement factory.

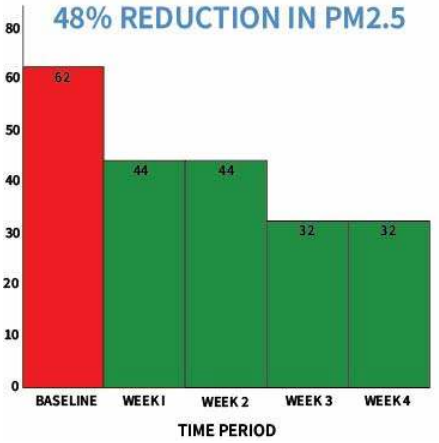
Wind sensors were installed on the Dustroids as external modules.

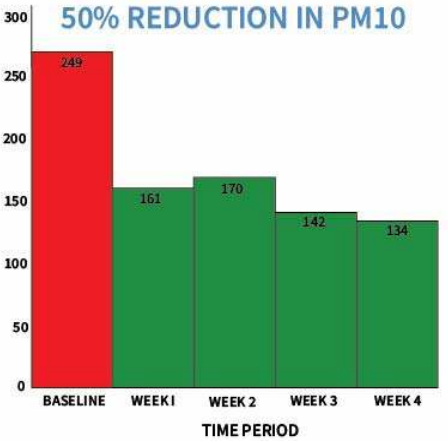
> *"We have excellent solutions for stack emission control, but the very nature of fugitive emissions is tricky and controlling them is very challenging. We have seen a 48% reduction in PM2.5 levels and a 49% reduction in PM10. The impact is phenomenal. This is a sustainable and scalable solution for fugitive emissions that works!".*

The Solution

Two of Oizom's ambient dust monitors- Dustroid were installed at the cement factory to monitor the air quality and measure the concentration of dust particles in the air. It also empowered the EHS team to better understand the extent of the problem. After assessing the air quality for about a week, Oizom's solution partner- Devic Earth deployed its Pure Skies technological solution. The air quality was monitored again with Dustroids on a weekly basis to observe the gradual change.

The comparison was done weekly to ensure comparability of air quality data that typically is dependant on the activity (which varies day-to-day but is predominantly similar across weeks). As an external module, wind sensors were installed on the two Dustroid units which also gave meteorological insights.





The Result

After recording the air quality with Oizom Dustroids and clearing the pollutants with Devic Earth's Pure Skies technology, there was a rapid increase in the air quality levels. After only about 4 weeks, there was a 42% reduction in PM2.5 and a 50% reduction in PM10, making the air safer and cleaner for all their employees and people living in the area..

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.