

Ensuring Workers' safety by dust monitoring in the Red Sea Airport

Our Client

The Red Sea Project is one of the most ambitious, exquisite and luxurious tourism destination projects in the world. It is a group of more than 90 islands (over 28,000 sq. km. surface area in total) with funding of over \$3.4 Billion to build a unique, culturally indulgent, and adventurous hotspot for vacations. The Red Sea airport is expected to be completed in 2022, aiming to hold over 1 million passengers in 2030. The construction projects underway involve thousands of workers around the world.



The Challenge

The coast of Saudi Arabia in the Red Sea is prone to frequent sandstorms. The Red Sea Development Company's authorities wanted to calculate the dust and weather conditions of the islands. In order to optimise the working conditions of their employees, it was crucial for the authorities to get real-time monitoring of $PM_{2.5}$, PM_{10} , PM_{100} , temperature, humidity, and UV light intensity. They did not have a notifying mechanism that could alert the authorities if and when a sandstorm generates or enters the construction site. It was also crucial that such a Dust Monitoring System be self-reliant on energy, as the energy generated in the plants is utilised for powering other projects in the area.

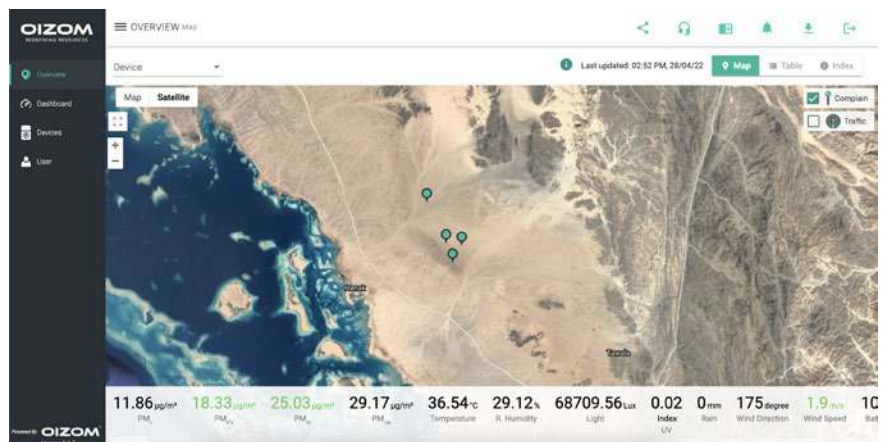
Installation Details

4 units of Dustroid with Anemometer have been installed on the premises of the Red Sea Development Project.



The Solution

Oizom with Saudi Envirozone offered 4 units of Dustroid with anemometers to the Red Sea Development Company for monitoring the various dust parameter levels, humidity, temperature and light intensity. Dustroid is capable of reading the parameter levels of PM_{2.5}, PM₁₀, PM₁₀₀, temperature, humidity, UV light, and intensity of light on a real-time basis. The anemometer can detect and store the ultrasonic wind speed and wind direction data. It is also capable of running independently on solar power. Oizom's Data Visualization & analytics software, Envizom, can analyse data, create historical trend reports and show a comprehensive report on such dust levels. Through the Alerts module, it can also enable notifying the authorities via SMS or email in case of any potential threat of sandstorms, high levels of dust, UV rays or light intensity.



The Result

Oizom's smart, accurate and robust dust monitoring system integrated with Envizom has enabled the authorities to get a detailed view of the historical trends of dust, wind and air quality levels of the construction site. Dustroid has further empowered the authorities to be notified of high levels of dust so as to prepare ahead in case of a sandstorm by activating their Alerts module (SMS & email) of the same. This has helped them make appropriate decisions to improve the safety standards of the workers.

“Dustroid Smart has detected and monitored the dust and wind speed. Installing Oizom's devices were hassle-free and using Envizom's data analytics was done quickly.”
Taqi Almahfoudh, Sr. Environmental Engineer-TRSDC

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.