

Measuring particulate levels at Joda East Iron Mine with Oizom's Dustroid

Our Client

The Joda East Iron Mine (JEIM), operational since April 1, 1956, is a fully mechanized captive iron mine of Tata Steel located in the Keonjhar district of Odisha, India. It has been a significant source of iron ore for Tata Steel's manufacturing operations. JEIM utilizes advanced mining software, drone technology, fleet management systems, remote-controlled drills, and real-time quality monitoring systems to enhance operational efficiency and safety. Their dedication to community welfare is equally impressive, with ongoing initiatives focused on education, health, skill development, and overall village welfare.



The Challenge

Mining sites are especially prone to high levels of airborne dust, which can severely affect the health of workers and the surrounding environment. TATA Joda East Mines faced the dual challenge of managing dust emissions while ensuring compliance with environmental regulations. With the risk of particulate matter (PM) such as PM1, PM2.5, and PM10 and even larger particles like PM100, it was crucial for the mines to monitor and control dust levels in real-time. The company needed an efficient, reliable, and automated system to manage dust suppression without manual intervention, ensuring both operational efficiency and regulatory compliance. Additionally, the organization's top priorities were worker health, safety, and environmental responsibility.

The Solution

To tackle these challenges at TATA Joda East Mines, Sunjray Infosystem offered them Oizom's Dustroid—an MCERTs-certified dust monitoring system, real-time particulate monitoring system. The device was installed at the fence line. Dustroid Smart measures particulate concentrations from PM1 to PM100, along with other environmental parameters like temperature, humidity, and pressure. This device tracks fine particles in real-time, which is critical for dust control in mining operations. With an automatic integration into an IoT-based dust suppressant, Dustroid activates dust suppression measures whenever particles exceed set thresholds, ensuring timely and efficient dust management.



Installation Details

4 Units of
Dustroid

“ We have been using Dustroid Smart devices from Oizom at TATA Joda Eastern mines, Odisha, and their performance has been exceptional. These analyzers provide accurate and reliable air quality data, allowing us to monitor and manage SPM emissions effectively in mining areas. ”

The Result

Since the installation of Oizom's Dustroid Smart devices, TATA Joda East Mines has continuously tracked dust levels, enabling quick action and ensuring safe working conditions. With the Dustroid, they are now able to identify dust hotspots, optimize the use of dust suppression resources, and reduce operational costs. Integrating automated dust suppression systems ensures immediate mitigation and maintains safe on-site conditions. By continuously monitoring particulate matter in the air, the device ensures that workers are protected from harmful dust exposure.

Dustroid's detailed data reporting sent by the Envizom platform enables them to meet the strict environmental regulations imposed on mining operations. The system provides real-time compliance tracking and also simplifies the process of regulatory reporting.

Oizom is a company specializing in environmental monitoring solutions. They offer products to monitor air quality, weather conditions, and other environmental factors. Utilizing advanced sensor technology and data analytics, Oizom aims to provide actionable insights for construction, industrial compliance, and community awareness. Their solutions can be applied in various sectors including government, industries, and community initiatives.