Real-time Dust Monitoring at Raj Transit Infra Projects with Oizom AQBot PM

INTRODUCTION: *Smart Air Monitoring for Infrastructure Compliance*

Raj Transit Infra Projects, a key infrastructure development company in Mumbai, has been working on projects located in sensitive urban zones, where adherence to air quality norms is both mandatory and essential for community well-being. Faced with the growing need for compliance with stringent environmental regulations, Raj Transit Infra partnered with Technovalue Solutions Pvt. Ltd. to deploy an advanced IoT-enabled air quality monitoring system.

In January 2025, the company chose Oizom's AQBot PM air quality monitoring device, ensuring continuous monitoring of critical particulate matter to meet compliance requirements, enhance operational efficiency, and avoid penalties. By installing Oizom's system, the client gained real-time insights, historical data trends, and automated alerts to make data-driven decisions with confidence. Through this step, Raj Transit Infra demonstrated its commitment to sustainable urban development and regulatory excellence.

THE CHALLENGE: *Managing Dust Levels in a High-Risk Urban Project*

Construction and transit projects generate significant dust and suspended particulate matter, especially in densely populated or roadside areas. Raj Transit Infra faced several key challenges at its Mira Bhayandar site:

1. **High Dust and PM Emissions:** Construction activity and vehicular movement contributed to high levels of PM, requiring strict monitoring to avoid regulatory breaches.
2. **Regulatory Compliance Pressure:** Pollution Control Authorities mandate continuous monitoring of PM concentration with reliable, auditable data reports.
3. **Risk of Heavy Penalties:** Without accurate monitoring and real-time reporting, projects face penalties running into lakhs of rupees, delaying execution timelines.
4. **Lack of Real-Time Visibility:** Manual or delayed measurement methods were not sufficient, especially when emission levels spiked unexpectedly.
5. **Community and Workforce Safety Concerns:** Nearby residential areas and on-site workforce needed protection from exposure to harmful particulate matter.
6. **Data Accessibility:** Rapid decision-making was difficult without proper visualization and trend analysis.
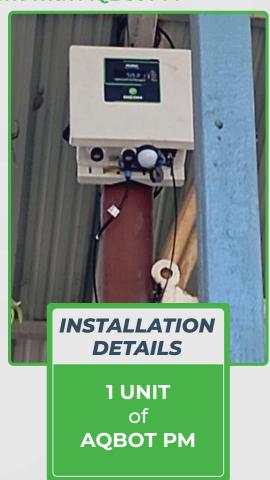
These challenges highlighted the need for a robust, IoT-enabled, real-time monitoring solution that offered accuracy, reliability, and actionable insights.

THE SOLUTION: *Real-Time Air Quality Management with AQBot PM*

To overcome these challenges, Raj Transit Infra Projects deployed the AQBot PM, Oizom's smart, continuous particulate matter monitoring device capable of delivering accurate, real-time data.

Key Features of AQBot:

1. **Continuous PM Monitoring:** The AQBot PM device continuously tracks PM levels for construction sites, ensuring precise measurement of particulate pollution at all times.
2. **Seamless IoT Integration:** The device is built on an IoT-enabled framework, which automatically transfers real-time data to Envizom software via cloud connectivity, ensuring project managers have instant remote access to air quality data.
3. **Actionable Predictive Analytics:** Through advanced analytics, Envizom identifies recurring high-dust activity periods, helping teams optimize operations proactively and reduce future risks
4. **Automated Compliance Reporting:** The solution generates time-stamped, automated logs that can be

INSTALLATION DETAILS

1 UNIT
of
AQBOT PM

directly submitted to Pollution Control Boards, simplifying the compliance process and ensuring transparency.

5. **Proactive Real-Time Alerts:** The software triggers instant alerts whenever PM levels exceed threshold limits, enabling the team to take corrective actions immediately.
6. **Low-Maintenance and Durable Design:** Engineered for rugged outdoor environments, the AQBot PM requires minimal maintenance while maintaining performance stability in challenging construction conditions.

By choosing Oizom's continuous air quality monitor (AQBot PM), Raj Transit Infra was able to ensure compliance, minimize operational risks, and enhance overall project efficiency.

THE TRANSFORMATION: *From Manual Checks to Proactive Environmental Control*

The adoption of Oizom's AQBot PM monitoring brought measurable transformation to daily operations at Raj Transit Infra's Mira Bhayandar site:

1. **Regulation-Ready Operations:** Continuous monitoring and automated compliance reporting simplified environmental audits.
2. **Avoidance of Financial Penalties:** Real-time alerts and proactive mitigation steps helped avoid fines worth lakhs of rupees.
3. **Improved Decision-Making:** Data-driven insights from Envizom allowed managers to schedule dust-intensive activities during non-peak hours.
4. **Workforce and Community Health:** Fewer high-exposure incidents ensured a safer environment for workers and nearby residents.
5. **Cost Efficiency:** Optimized dust suppression activities reduced overuse of neutralizers and water spraying.
6. **Sustainability Commitment:** Adoption of smart technology demonstrated Raj Transit Infra's proactive ESG and sustainability efforts.

This shift empowered the team to take timely action, ensuring smoother operations and consistent compliance throughout the project.

BROADER IMPACT: *Strengthening Infrastructure Development with IoT Technology*

Raj Transit Infra's adoption of Oizom's AQBot PM solution reflects a broader transformation in India's infrastructure sector, where technology-driven monitoring is fast becoming the norm for compliance and accountability.

1. **Direct ESG Impact:** Demonstrated environmental responsibility through transparent data-backed compliance.
2. **Enhanced Stakeholder Trust:** Transparent monitoring reassures regulators, the community, and investors.

CONCLUSION: *Building Compliant Infrastructure with Smart Air Intelligence*

By deploying Oizom's AQBot PM along with Envizom software, Raj Transit Infra Projects has set a benchmark in how infrastructure companies can leverage cutting-edge technology to ensure compliance, avoid penalties, protect community health, and strengthen sustainability practices. With real-time monitoring, easy compliance reporting, and data-driven decision-making, the project in Mira Bhayandar stands as an example of future-ready, environmentally responsible development.

Through this proactive step, Raj Transit Infra has not only maintained compliance but also demonstrated that smart technology is essential for efficiency, sustainability, and long-term trust in urban infrastructure projects.

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.