

The collocation study confirmed Polludrone's accuracy against OSPCB's reference-grade station.



INTRODUCTION: OSPCB's Collocation Study with Oizom

Since its inception, the Odisha State Pollution Control Board (OSPCB) has been committed to safeguarding the environment and ensuring compliance with air quality standards across the state. Its primary role is to implement various pollution control laws within the state of Odisha, India. The board is committed to providing a pollution-free environment to the state's people. OSPCB conducts regular research to understand air pollution better and explore advanced technologies that can aid in mitigation efforts. For one of the collocation studies, OSPCB installed Oizom's Polludrone, offered by Envous Solutions, to evaluate sensor-based air-quality monitoring systems with internationally approved gold standard-based stations.



THE CHALLENGE: Ensuring Accurate Air Quality Monitoring

As Odisha's capital, Bhubaneswar faced several challenges due to deteriorating air quality:

- 1. Increasing Pollution Due to Human Activities:** Urbanization and industrial activities have increased pollution levels across Odisha, necessitating efficient monitoring.
- 2. Cost of Traditional Monitoring Systems:** Deploying gold standard-based reference

stations across multiple locations would have been much more expensive.

- 3. Delayed Response Times:** Traditional systems lacked real-time data, causing delays in addressing critical pollution events.
- 4. Need for Specific Source Identification:** Pinpointing emission sources required advanced technological interventions to enable data-driven decision-making.
- 5. Public Awareness:** A key objective was encouraging citizen engagement and scientific participation in environmental initiatives.

With rising health concerns and regulatory pressures, OSPCB needed a reliable, cost-effective solution to address these challenges, manage pollution effectively, and study them with a reference station.

THE SOLUTION: Oizom's Sensor-based Air Quality Monitor- Polludrone

Polludrone, equipped to monitor critical parameters such as PM, SO_x, NO_x, and CO_x, was installed at OSPCB's entry gate. The Polludrone offered the following key features:

- 1. Cost-Effectiveness:** Compared to second-generation instruments, Polludrone provided a cost-effective solution without compromising performance.
- 2. Real-Time Data Monitoring:** With Polludrone, OSPCB could access precise, real-time air quality data, enabling faster responses to pollution spikes.
- 3. Multi-Parameter Monitoring:** Polludrone measures critical pollutants, including particulate matter (PM), sulfur oxides (SO_x), nitrogen oxides (NO_x), and carbon oxides (CO_x), providing a holistic view of air quality.
- 4. Advanced Features:** Integration with Envizom software offered comprehensive data visualization, regular reporting, and threshold-based alerts, streamlining air quality management.
- 5. Ease of Use and Scalability:** Oizom's solutions were simple to deploy and offered exceptional scalability for monitoring multiple locations across the city.
- 6. Pinpoint Emission Sources:** Enabled OSPCB to identify pollution hotspots and target interventions effectively.

Additionally, Polludrone's study with reference stations for collocation studies validates accuracy and reliability, making it a trusted choice for air quality monitoring in different locations.



**INSTALLATION
DETAILS**

**2 UNITS of
POLLUDRONE**

THE TRANSFORMATION: Highest Air Quality Data Accuracy

The installation of Oizom's Polludrone has provided OSPCB with accurate, real-time data across multiple parameters, enabling more effective air quality management. By leveraging precise insights, authorities are getting:

- 1. Real-Time Air Quality Insights:** Instant access to accurate data enables authorities to respond proactively to pollution events, ensuring timely interventions.
- 2. High Data Accuracy with FRM Station:** Polludrone has demonstrated the highest accuracy with gold standard-based stations for key pollutants such as PM, SOx, NOx, and COx.
- 3. Scalable Monitoring Solutions:** Easily deployable across multiple locations, facilitating widespread environmental surveillance with minimal effort.
- 4. Data-Driven Decision Making:** Actionable insights support targeted mitigation strategies, leading to more effective pollution control measures.
- 5. Public Awareness and Engagement:** Interactive dashboards displaying real-time air quality data have fostered greater awareness among citizens and communities.
- 6. Operational Efficiency and Cost Savings:** Compared to traditional systems, Polludrone offers a cost-effective solution with reduced capital investments and lower maintenance expenses.

Polludrone's accurate data matches Federal Reference Method (FRM) station measurements, proving its reliability in air quality monitoring. This high level of accuracy ensures that Polludrone can be trusted to monitor various pollutants.

BROADER IMPACT: Creating a healthier and sustainable environment

Installing Oizom's Polludrone has proven to be an ideal air quality monitoring tool for OSPCB, enabling cost-effective, accurate, and scalable air quality monitoring. Using real-time data and advanced analytics, OSPCB has taken a significant step toward fostering a healthier, more sustainable environment in Odisha.

CONCLUSION: Driving Environmental Excellence with Oizom

The successful collocation study of Polludrone with OSPCB serves as a model for other pollution control boards across India. By adopting advanced monitoring technology, authorities can ensure regulation compliance and promote environmental responsibility. This study highlights how smart sensor-based solutions can support environmental initiatives and create positive impacts for both communities and policymakers.

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.