

Smart Odour Management at Re Sustainability's Hyderabad Landfill with Real-Time Monitoring



INTRODUCTION: Enabling Smart Odour Monitoring for Sustainable Waste Management

Re Sustainability is India's largest integrated resource management company, serving over 40,000 healthcare facilities and multiple municipalities across the country. With a strong presence in solid and hazardous waste management, biomedical waste, and environmental services, Re Sustainability is committed to ESG-driven operations and technological innovation.

To strengthen its landfill operations in Hyderabad, Re Sustainability partnered with Oizom and installed Odosense Smart, a real-time odour monitoring system. The deployment on 1st July 2023 enabled proactive odour control, reduced community complaints, and supported compliance with environmental standards.



THE CHALLENGE: Managing Odour in a High-Impact Waste Environment

Managing odour at a large-scale landfill is critical not just for regulatory compliance but also to ensure the well-being of nearby communities and on-ground staff. Re Sustainability's Hyderabad site, serving a high-density urban region, needed a reliable, automated odour control system.

- 1. Complex Odour Sources:** Handling mixed waste materials results in the emission of multiple odour-causing gases like SO_2 , H_2S , NH_3 , CH_3SH , TVOCs, along with Temperature, humidity, and pressure, which needed to be continuously tracked.
- 2. Regulatory Pressures for Compliance:** Environmental authorities require continuous data-backed reporting to ensure the site meets air quality norms, especially for odour emissions.
- 3. Community Complaints Near Urban Zones:** The landfill is located near residential areas, increasing the sensitivity around odour-related disturbances.
- 4. Manual Response Was Inefficient:** Traditional odour control measures relied on scheduled spraying and manual monitoring, leading to delays in response and overuse of neutralizers.
- 5. Lack of Real-Time Visibility:** Without continuous monitoring, it was difficult to predict or react quickly to spikes in odour levels.
- 6. Need for Scalable, Future-Proof Solutions:** With growing volumes of waste and stricter environmental scrutiny, Re Sustainability needed a tech-enabled system that could scale and evolve.

The existing approach had limitations. A shift to real-time, automated odour monitoring was essential to improve control, efficiency, and transparency.

THE SOLUTION: Real-Time Odour Management with Odosense Smart

To address these challenges, Re Sustainability installed Oizom's Odosense Smart, a compact IoT-based ambient odour monitoring device designed for complex waste management environments.

- 1. Smart Odour Monitoring System:** The unit was configured to monitor key parameters, including SO_2 , H_2S , NH_3 , CH_3SH , and TVOCs, targeting the most common landfill gas pollutants.
- 2. Real-Time Monitoring and Data Access:** Odosense Smart provided continuous odour data accessible via Oizom's cloud platform, enabling 24/7 visibility.
- 3. Automated Activation of Neutralizers:** The system was integrated with odour control mechanisms that automatically trigger neutralizing sprays based on gas levels, eliminating the need for manual checks.
- 4. Time-Stamped Reporting for Compliance:** Accurate,



downloadable reports support compliance with pollution control board requirements and audits.

- 5. Minimal Maintenance and High Accuracy:** With robust build quality and low maintenance needs, the device was well-suited for challenging landfill conditions.
- 6. Scalable, Modular Infrastructure:** The system is future-ready, allowing more sensors or control features to be added as operational needs evolve.

By deploying Odosense Smart, Re Sustainability moved from reactive to proactive odour control, integrating sustainability with smart automation.

THE TRANSFORMATION: Smarter, Safer, and More Efficient Waste Operations

The shift to real-time odour monitoring has brought significant improvements in how Re Sustainability manages its landfill site in Hyderabad.

- 1. Real-Time Odour Detection and Instant Action:** Odour-causing gases are now tracked continuously, with instant neutralizer response triggered when levels exceed the set limit.
- 2. Fewer Community Complaints:** Odour events are now managed proactively, reducing complaints from nearby areas and supporting positive public relations.
- 3. Improved Regulatory Readiness:** The system provides continuous, auditable data that simplifies compliance documentation and reporting.
- 4. Reduced Chemical Usage:** Neutralizers are now used only when needed, resulting in cost savings and less environmental impact.
- 5. Lower Manual Dependency:** Automation has reduced the need for constant manual checks, improving workforce efficiency.
- 6. Data-Backed Operational Insights:** Odosense analytics help the operations team understand trends and make better planning decisions.

What was once a manual, reactive process is now a data-driven, automated operation, enhancing performance and accountability across the board.

BROADER IMPACT: Strengthening ESG Goals Through Technology

Re Sustainability's adoption of smart odour monitoring is a strong example of how technology can directly support environmental and social goals.

- 1. Direct Contribution to ESG Targets:** Odosense data supports measurable impact in air quality management, aligning with Re Sustainability's ESG framework.
- 2. Enhanced Public Trust and Community Relations:** Proactive odour control improves perception among nearby residents and stakeholders.
- 3. Better Resource Optimization:** Targeted spraying reduces chemical usage and improves operational efficiency.

This project not only solves a key environmental challenge but also sets a new standard for tech-led, ESG-aligned waste management.

CONCLUSION: *Setting a Benchmark in Sustainable Odour Management*

By integrating Oizom's Odosense Smart at its Hyderabad landfill, Re Sustainability has taken a measurable step toward safer, smarter, and more sustainable operations. The solution offers real-time insights, automated responses, and full regulatory support, transforming odour management into a strategic advantage. As one of India's largest waste management players, Re Sustainability continues to lead by example in combining environmental technology with real-world impact.

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.