OIZOM®
REDEFINING RESOURCES

Changing the way
We monitor Air Quality!

About Company

Oizom® is an environmental company that offers accurate air quality monitoring solutions designed to deliver air quality insights for better decision-making. Using our patented e-breathing technology, we measure key environmental parameters including air quality, noise, odour, weather, radiation, etc. Our AI-enabled data analytics platform can derive various actionable insights and predict data for authorities, communities, and industries.

With a strong focus on data accuracy and reliability, our devices are powered by advanced technology and smart algorithms. From fixed installations to portable monitors, Oizom® offers scalable solutions that fit a wide range of applications, including construction, mining, industrial safety, smart infrastructure, and environmental compliance. Over the past decade, Oizom® has deployed over 3,500 environmental monitoring devices across 90+ major cities, helping track the environmental health of over 250 million people through a strong partner network in 80+ countries.

Vision : Keeping the Environment at the core, we envision empowering industries and authorities with Accurate, Accessible & Scalable solutions for better decision-making.

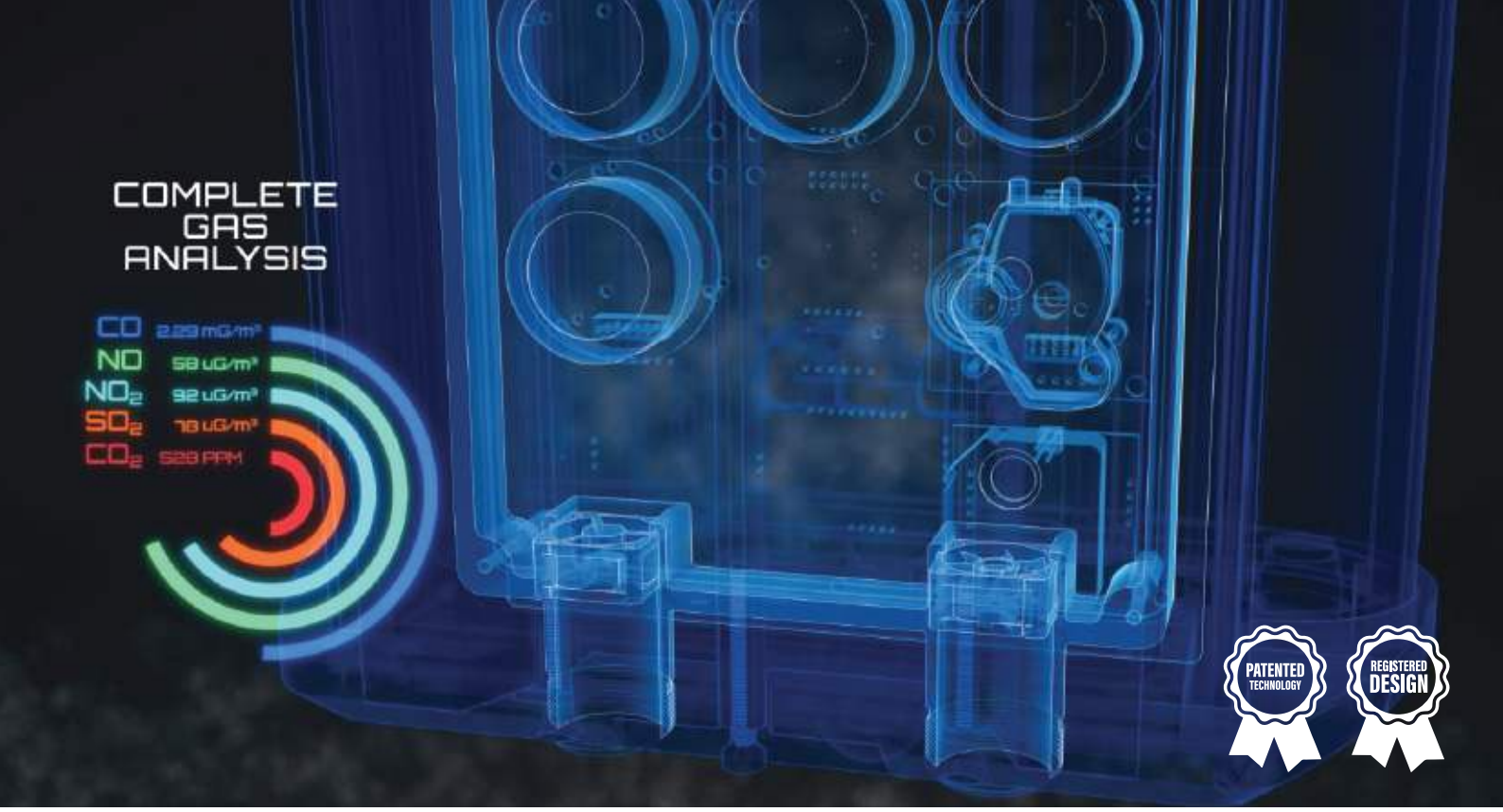
Mission : By offering cutting edge Environmental Monitoring Solutions, becoming sustainable backbone of 300+ Global Cities and 1000+ Leading Industries by 2030.

Certifications

CE FC RoHS PTCRB SASO MCERTS NEMA 4X IP66 ICASA AQMD TÜV INDIA ISO 9001:2015 ISO 14001 MADE IN INDIA

Knowledge Partners

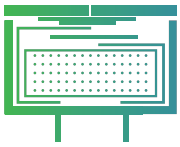
THE UNIVERSITY OF WARWICK
UNIVERSITY of York
ATIRA
UNIVERSIDAD DE GRANADA
BERGISCHE UNIVERSITÄT WUPPERTAL
NWU



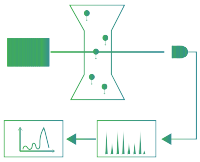
About Technology

Our smart, accurate, and scalable monitoring solutions are equipped with advanced features, including on-device calibration, patented e-breathing, a wide range of communication protocols, Heated Inlet Technology for high-humidity zones, and data compensation algorithms utilizing large language models (LLMs) to correct environmental interference in real-time. Oizom Gas Sensors (OGS) work on proven technologies like NDIR, MPS, PID, electrochemical, and laser scattering technology, ensuring precise detection of pollutants, even in harsh environmental conditions. Our patented Micro Active Sampling technology (e-breathing) uses a controlled suction–exhaust system to isolate air samples, minimizing external interference and delivering up to 13% higher accuracy than industry standards.

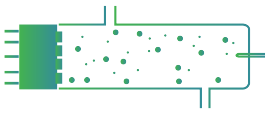
At the core of our technology ecosystem is Envizom™, an advanced environmental analytics platform that transforms raw sensor data into actionable insights. With intuitive dashboards, predictive alerts, and historical analytics, Envizom™ empowers users to monitor, analyze, and act on air quality data with confidence and precision.



Electrochemical



Laser Scattering



Non Dispersive Infrared

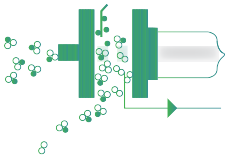


Photo-ionization Detection

Data Communication

GSM · LTE · NB-IoT · LoRa · Wi Fi · ETHERNET · sigfox · RELAY · Modbus · STARLINK

Oizom® devices support a variety of communication protocols, including GSM, LTE, Wi-Fi, LoRa, Sigfox, Satellite NB-IoT, Ethernet, and Modbus, for uninterrupted and secure data transmission across various terrains and connectivity scenarios. Depending on deployment requirements, communication can be configured as either wired or wireless. This flexibility enables users to select the most suitable communication method for their location, ensuring seamless and uninterrupted access to real-time environmental data.

Hardware Solutions

Polludrone®

Polludrone® is a continuous ambient air quality monitoring system (CAAQMS). It monitors up to 9 gas pollutants, particulate matter, and meteorological parameters simultaneously, providing real-time data on ambient air. With its multi-parameter monitoring capabilities, Polludrone® empowers industries, smart cities, airports, construction sites, seaports, campuses, schools, highways, tunnels, and other locations to track real-time data and take timely, informed action.

Sensors	Working Principle
Particulate Matter (PM_1, $PM_{2.5}$, PM_{10}, PM_{100})	Laser Scattering
CO, NO, NO_2, O_3, O_2, H_2S, SO_2	Electrochemical
CO_2	Non-Dispersive Infrared
Noise	Capacitive
Solar Radiation (Light Intensity, Visible Light, UV Radiation, UV Index)	Photoconductivity
Temperature, Humidity, Pressure	Resistive / Photoacoustic

EXTERNAL MODULES : Wind, Rain & Vibration Sensors

Odosense®

Odosense® is an odour monitoring system designed to detect and measure a wide range of odorous gases, even at extremely low concentrations. It continuously monitors critical odourous parameters, offering a complete overview of ambient air quality. The data collected can be visualised in the Envizom™ in different values like ppm, ppb, µg/m³, and OU (odour unit) in the real-time dashboard. Equipped with smart features, Odosense® is useful for various applications, such as wastewater treatment plants, landfills, STPs and the oil and gas industries.

Sensors	Working Principle
SO_2, H_2S, NH_3, CH_3SH, CH_2O, NO_2, Cl_2, HCl, ClO_2	Electrochemical
TVOC, BTEX, Hydocarbon / NMHC	Photo Ionization Detection (PID)
CH_4	MEMS
Temperature, Humidity, Pressure	Resistive / Photoacoustic

EXTERNAL MODULES : Wind, Rain, Noise & Vibration Sensors

Dustroid®

Dustroid® is an MCERTS-certified outdoor dust monitoring system designed to monitor dust levels in real time with high accuracy. It measures a wide range of particulate sizes, from 1 to 100 microns, including UFPM, SPM, RSPM, and TSP along with noise. With a unique combination of accuracy, durability, and integration-ready features, Dustroid® is ideal for industries and locations where dust emissions are a concern, such as construction sites, mining areas, quarries, ports, and metal processing facilities.

Sensors	Working Principle
Particulate Matter (PM_1, $PM_{2.5}$, PM_{10}, PM_{100})	Laser Scattering
Temperature, Humidity, Pressure	Resistive / Photoacoustic
Solar Radiation (Light Intensity, Visible Light, UV Radiation, UV Index)	Photoconductivity
Noise	Capacitive

Heated Inlet for Air-sample Dehumidification

EXTERNAL MODULES : Wind, Rain & Vibration Sensors

Weathercom®

Weathercom® is an Automatic Weather Station (AWS) designed to provide continuous, real-time monitoring of local weather conditions. It measures key weather metrics including wind speed and direction, rainfall, ambient temperature, humidity, barometric pressure, light intensity, UV radiation, and even parameters like visibility and ambient noise. Its versatility makes it suitable for a broad range of applications, including seaports, coastal infrastructure, urban monitoring, roads, highways, agriculture, forestry, disaster management, and environmental research.

Sensors	Working Principle
Wind Speed, Wind Direction	Ultrasonic
Rain	Tiping Bucket
Solar Radiation (Light Intensity, Visible Light, UV Radiation, UV Index)	Photoconductivity
Temperature, Humidity, Pressure	Resistive / Photoacoustic
Noise	Capacitive

EXTERNAL MODULES : Leaf Wetness & Temperature, Vibration & Soil Sensors

AQBOT™

AQBot™ is an industrial-grade air quality monitoring device designed to measure a specific gas or environmental parameter in real time. AQBot unit monitors one chosen pollutant (such as a particular gas, particulate matter, or noise), instead of monitoring dozens of contaminants. AQBot™ features a built-in digital display on the device, built-in relay outputs, and attachments like a siren and strobe lights. This allows the monitor to trigger immediate alarms or control external mitigation equipment when a pollutant exceeds a threshold.

Sensors	Working Principle
NH_3, H_2S, Cl_2, HCl, CH_2O, CH_3SH, SO_2, NO_2, CO, NO, ClO_2, O_2	Electrochemical
CH_4	MEMS
TVOC, BTEX, Hydocarbon / NMHC	Photo Ionization Detection (PID)
Particulate Matter (PM_1, $PM_{2.5}$, PM_{10}, PM_{100})	Laser Scattering
CO_2	Non-Dispersive Infrared
Noise	Capacitive

Pollusense™

Pollusense™ is a portable air quality monitoring device that measures multiple toxic gases and particulate matter. It offers a range of customizable parameters, making it ideal for various applications such as Industries, environmental audits, mining, leak detection, construction, landfills, and research. Pollusense™ is a compact and briefcase-sized device that can be carried anywhere to get accurate air quality data.

Sensors	Working Principle
NH_3, H_2S, Cl_2, HCl, CH_2O, CH_3SH, SO_2, NO_2, CO, NO, O_2, O_3	Electrochemical
CH_4	MEMS
TVOC, BTEX, Hydocarbon / NMHC	Photo Ionization Detection (PID)
Particulate Matter (PM_1, $PM_{2.5}$, PM_{10}, PM_{100})	Laser Scattering
CO_2	Non-Dispersive Infrared
Temperature, Humidity, Pressure	Resistive / Photoacoustic

EXTERNAL MODULES : Rain and Wind Sensors

Data Accuracy and Calibration

The Oizom® Gas Sensor (OGS) module is designed to accurately measure low concentrations of various gases at ppb and ppm levels in the ambient air. The sensor is capable to monitor the point source gases on real-time basis. Each sensor is integrated into a metal casing along with the ultra-low-noise support electronics, which makes it compact and reliable. This allows accurate gas detection even at very low concentrations in the atmosphere.

1. Proprietary gas sensing technology
2. Independent calibration of each sensor
3. Low-noise electronic design

Three Step Calibration

1 Laboratory Calibration

All air quality monitoring systems are calibrated at the ISO/IEC 17025:2017 certified calibration laboratory using standard NIST traceable calibration gas standards as per the international guidelines by U.S. EPA. (Vol II, Section 6.0 Rev.1)

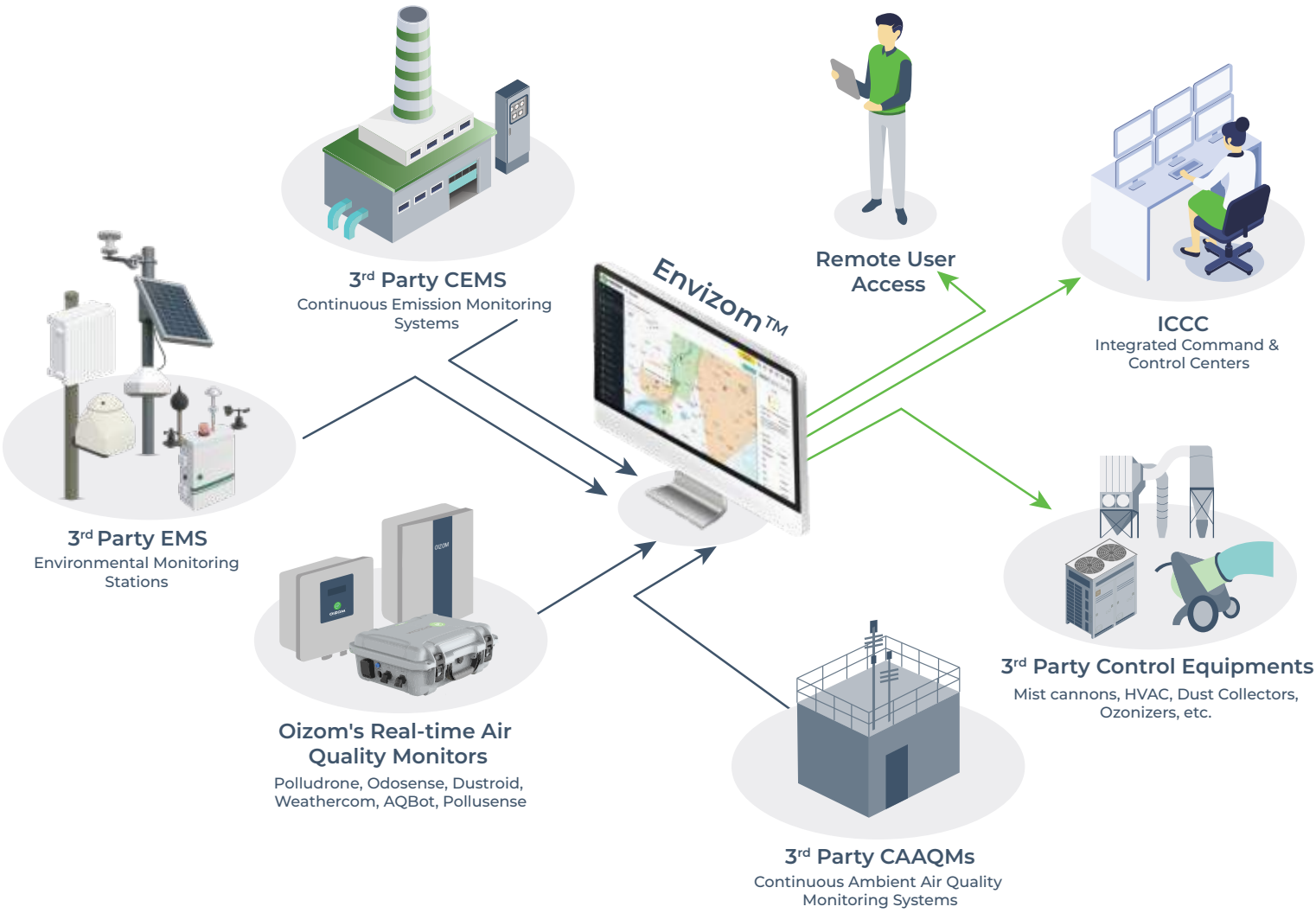
2 Collocation Calibration

Post lab calibration, the monitors are operated adjacent to a custom-built reference station housing U.S. EPA-designated Federal Equivalent Method (FEM)/Federal Reference Method (FRM) for collocation calibration to ensure optimum data quality.

3 On-site Calibration

On-site calibration of Oizom® devices can be performed using standard calibration gas cylinders of known concentration or by co-locating with a reference standard.

Solution Architecture



Envizom™

Data Visualisation and Analytics Platform

Envizom™ is Oizom's Environmental visualisation & analytics platform, built to turn complex air quality data into actionable insights. Providing remote visibility & control, it consolidates data from multiple sites, parameters, & devices into a single, intuitive dashboard. Our Environmental Data Interpretation Engine, powered by Artificial Intelligence & Machine Learning algorithms, provides accurate, real-time data, helps identify pollution sources, & understands directional trends. From city-wide comparisons to site-specific trends, smart multi-dimensional analytics enable comparisons across locations, parameters, & time spans. Envizom™ uses secure servers for data storage and on-premise storage is also supported.

Envizom™ Capabilities

- Real-Time Hotspot Detection
- Custom Thresholds
- AI-Based Forecasting
- Historical Data & Trend Analysis
- Smart Alerts
- Process Automation

Privacy First Platform

Data Privacy

The data shared with the client uses an encryption server through Secure Socket layers. Envizom™ also uses AES encryption for connection that adds to data safety.

Data Ownership

Envizom™ creates a secure and encrypted password combination for the user login. Oizom® ensures 100% privacy of the data and doesn't share without relevant permissions.

Data Transparency

Data collected from Oizom® equipment runs through the Environment Data Interpretation Engine. It processes various algorithms and eliminates environmental impact interferences on the sensors.

SANS | OWASP | IEC IEC 62443-4-1 | API Security Tested | 100w Cybersecurity Practices | TCM SECURITY

Solution Applications

Industrial Monitoring

Air quality monitoring in industries is essential to limit hazardous gas and particulate emissions. It safeguards worker health, ensures compliance, and supports a shift toward cleaner industrial practices.

Construction

Monitoring air quality at construction sites is essential to track dust pollution in real-time. This helps protect workers and nearby communities while maintaining adherence to environmental guidelines.

Mining

Air quality monitoring in mining operations is crucial for controlling dust and pollutant emissions. It helps pinpoint pollution sources and guides corrective actions, creating safer and more sustainable mining practices.

WWTPs/STPs

Monitoring air quality, including odour emissions at wastewater treatment plants, is crucial to detect harmful gases. This allows timely maintenance and protects plant workers and surrounding communities.

Solution Applications

Airport

Monitoring air quality across airport premises ensures cleaner air for travelers and staff, making the journey safer and more comfortable.

Seaport

Environmental monitoring at seaports supports smooth logistics while safeguarding workers and nearby marine ecosystems.

Railways and Metro

Air quality monitoring at stations helps identify pollution hotspots, ensuring a healthier commute and enabling timely action by authorities.

Roads and Tunnels

Monitoring air and weather conditions on roads and in tunnels helps manage vehicle emissions and provides timely alerts for weather-related risks.

Solution Applications

Smart City

Air quality monitoring across smart cities is vital for providing authorities with clear, actionable data to support better pollution control and healthier urban living.

Smart Campus

Monitoring air pollution on campus helps raise awareness among students and staff about their environmental conditions, encouraging more responsible practices.

Environmental Automation

Real-time monitoring of air pollution and odour is key to improving process controls, making environmental management more efficient and proactive.

Research

Air quality monitoring generates valuable data for research, supporting a deeper understanding of pollution sources and their impacts on health and the environment.

Case Studies

Ensuring Environmental and Community Safety at Dangote Cement Plant

Oizom's Polludrone® and Dustroid® systems are monitoring pollution and dust levels at the Dangote Cement Plant, addressing the environmental safety and air quality concerns raised by neighbouring communities. The data confirms that the air quality at the site is safe for all.

Ethiopia | Polludrone Smart | Cement Industry

Advancing Odour Monitoring in Metro Depot with Odosense

ASA Bhanu Technical Services Ltd (ABTS) installed Oizom's Odosense® at the Gyaspur Metro Depot in Ahmedabad to monitor odour levels from a nearby wastewater treatment facility. This improved operational response ensured worker safety and strengthened environmental control at the site.

India | Odosense Custom | Metro Depot

Smart City Air Quality Monitoring in Agra, India

Air pollution in Agra is impacting historic landmarks, including the Taj Mahal. To support better environmental management, Oizom® deployed Polludrone systems across the city, providing actionable air quality data to local authorities.

India | Polludrone Custom | Smart City Monitoring

Case Studies

Dubai is leading the Way to a Cleaner Future with Oizom's Odosense®

Oizom's Odosense® systems have been installed by Dubai Municipality across the city to monitor toxic and odorous gases in real-time. The data helps authorities take timely actions to maintain safe and healthy air quality.

UAE | Odosense Custom | Smart City

World's Largest Gold Mine Chooses Oizom's Dustroid® for Dust Monitoring

The Guinness World Record holder for the deepest and richest gold mine adopted Oizom's Dustroid® to improve worker safety and reduce environmental impact from mining operations.

South Africa | Dustroid Smart | Mining

Ensuring Workers' Safety by Dust Monitoring at the Red Sea Airport

To safeguard workers and improve site readiness during sandstorms, the Red Sea Development luxury project installed Oizom's Dustroid Smart at its airport site. The system enables real-time dust monitoring and early warnings for safety measures.

Saudi Arabia | Dustroid Smart | Airports

Case Studies

Adani Solar Boosts Solar Plant Performance with Oizom's Weathercom

To maximize energy output and ensure predictive maintenance, Adani Solar installed Oizom's Weathercom. The system provides real-time weather insights for optimizing solar plant performance and operational planning.

India | Weathercom | Energy Generation

Empowering Nepal's Craft Industry with Portable Air Monitoring

SWAT Lab in Nepal chose Oizom's Pollusense™ to monitor air quality in craft and textile processes. The solution helps identify pollution sources and creates a healthier workspace for artisans, supporting sustainable development in the local industry.

Nepal | Pollusense | Textile Industry

Chlorine Gas Monitoring at a Common Effluent Treatment Plant in Jetpur

A Common Effluent Treatment Plant (CETP) in Jetpur installed Oizom's AQBot™ Cl_2 to monitor chlorine gas levels in real time for safer plant operations and to help maintain efficient wastewater treatment.

India | AQbot Cl_2 | Wastewater

Trusted by
80+ Countries

Solutions Installed in
90+ Cities

Total Devices Installed
3500+

Total Population Covered
250 million+

Oizom Customers

Global Presence

Changing the way Industries monitor air quality

Get in touch

OIZOM
REDEFINING RESOURCES

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