

Changing the way **We** monitor Air Quality!



About Company



Oizom® is an environmental monitoring company that offers accurate air quality monitoring solutions for better decision-making. Using our patented monitoring technology, Oizom's system monitors various environmental parameters related to Air Quality, Noise, Odour, Weather, Radiation, etc. Our data analytics platform derives various actionable insights for authorities, communities, and industries. With smart environmental solutions, Oizom® aims to empower future cities with reliable and accurate environmental monitoring. Over the past decade, Oizom® has focused on environmental monitoring technology and solutions, and till now, we've deployed 3000+ devices. We are monitoring the environmental health of more than 200 million people worldwide. The solutions we provide are in 65+ major cities worldwide. With a network of partners, Oizom® has expanded its reach and made a strong presence in over 70 countries worldwide.



Vision : Keeping Environment at the core, we envision to empower various industries with highly scalable data-driven solutions for better decision making.



Mission : Implement our Environmental IoT and Environmental AI solutions in 100 Major cities of the world by 2024.



Certifications



Knowledge Partners



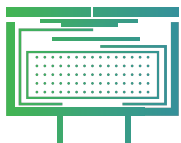
COMPLETE GAS ANALYSIS

CO 2.29 mg/m³
NO 58 ug/m³
NO₂ 92 ug/m³
SO₂ 78 ug/m³
CO₂ 528 PPM

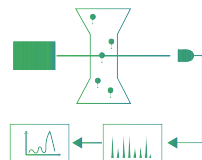


About Technology

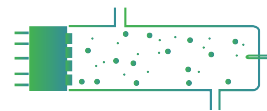
Oizom[®] has years of experience in stimulating innovation by creating groundbreaking technology for environmental monitoring. With the platform-based development approach, Oizom[®] has been able to successfully unlock multiple solutions catering to various industries. Our sensing technology is built on proven working principles like NDIR, Electrochemical, Semiconductor, Optical, Laser-Scattering, etc. As a part of our patented 'Micro Active Sampling' (e-breathing technology), we have a sophisticated suction and exhaust system to take a sample of air and monitor inside a controlled environment. This leads to zero effect of the external environment on measurement responsible for up to 13% higher accuracy than the industry standards.



Electrochemical



Laser Scattering



Non Dispersive Infrared

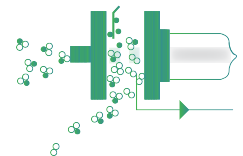


Photo-ionization Detection

Data Communication



Oizom[®] devices support a variety of device communication protocols. Depending on the user's needs and the deployment type, these modes can be wired or wireless. Oizom[®] products can support GSM, LTE, Wi-Fi, LoRa, Sigfox, Satellite, NB-IoT, Ethernet, and Modbus communication protocols. This wide range of options allows users to choose the most appropriate communication method for their location, ensuring seamless data transmission.

Hardware Solutions

Polludrone®

Polludrone® is a Continuous Ambient Air Quality Monitoring System (CAAQMS). It is capable of monitoring various environmental parameters related to Air Quality, Noise, Odour, Meteorology, and Radiation. Polludrone® measures the particulate matter and gaseous concentrations in the ambient air in real-time. Using external probes, it can also monitor other auxiliary parameters like traffic, disaster, and weather.



Parameter	
	Particulate Matter - PM _{2.5} & PM ₁₀
	Ultra Fine Particulate Matter (PM ₁), Total Suspended Particulate Matter (PM ₁₀₀)
	Carbon Monoxide (CO) and Carbon Dioxide (CO ₂)
	Noise, Solar Radiation, Temperature, Humidity, Pressure
	Gaseous Pollutants (SO ₂ , NO, NO ₂ , O ₃)
	Hydrogen Sulfide (H ₂ S)
	Equipment Size 360mm (H) x 328mm (W) x 200mm (D)
	External Modules (optional) Wind Speed, Wind Direction, Rain (Customizable)



Odosense®

Odosense® is an E-nose-based Odour Monitoring system designed to monitor various odourful and toxic gases. It offers real-time monitoring of odourful parameters such as Sulphur Dioxide (SO₂), Hydrogen Sulfide (H₂S), Ammonia (NH₃), Methyl Mercaptan (CH₃SH), Total Volatile Organic Compound (TVOC), Formaldehyde (CH₂O), Nitrogen Dioxide (NO₂), Chlorine (Cl₂), Temperature, Humidity and Pressure. The data collected can be visualised in the Envizom environmental monitoring platform in different values like ppm, ppb, µg/m³ and Ou (odour unit) in the real-time dashboard. The odour data is useful for different applications, such as Wastewater Treatment Plants, Landfills, Oil and Gas Industries, etc.



Parameter	
	Hydrogen Sulfide (H ₂ S), Sulfur Dioxide (SO ₂), Ammonia (NH ₃)
	Methyl Mercaptan (CH ₃ SH), Total Volatile Organic Compounds (TVOCs)
	Chlorine (Cl ₂), Nitrogen Dioxide (NO ₂), Formaldehyde (CH ₂ O)
	Temperature, Humidity, Pressure
	Equipment Size 360mm (H) x 328mm (W) x 200mm (D)
	External Modules (optional) Wind Speed, Wind Direction, Rain (Customizable)



Dustroid®

Dustroid® is an MCERTs-certified Real-time Particulate Monitoring System that measures the concentration of dust particles in ambient air. It is capable of monitoring various particulate sizes ranging from 1 micron to 100 microns, such as Ultrafine Suspended Particulate Matter (UFPM), Suspended Particulate Matter (SPM), Respiratory Suspended Particulate Matter (RSPM), and Total Suspended Particulates (TSP). The system works on the Active Sampling method to count particulate matter using a highly accurate laser beam.



Parameter

	Ultra Fine Particulate Matters (PM ₁)
	Suspended Particulate Matters - PM _{2.5} , PM ₁₀
	Total Suspended Particulate Matter (TSP-PM ₁₀₀)
	Temperature, Humidity, Pressure, Noise
	Heated Inlet for Air-sample Dehumidification
	Equipment Size (HxWxD) 360mm (H) x 328mm (W) x 200mm (D)
	External Modules (optional) Wind Speed, Wind Direction, Rain (Customizable)



Weathercom®

Weathercom® is an Automatic Weather Station (AWS) that provides a holistic view by continuously monitoring wind speed & direction, rainfall, road visibility, light intensity, UV radiation, temperature, humidity, and pressure. It goes beyond basic data collection. It analyses historical trends to provide accurate forecasts and timely alerts, empowering proactive decision-making. This makes it ideal for diverse applications such as Roads and Highways, Smart Cities, Mining Sites, Agriculture, Climate Research, Disaster Prevention, Airport and Seaport monitoring.



Parameter

	Wind Speed, Wind Direction
	Rainfall Monitoring
	Solar Radiation, UV Radiation, UV Index, Light Intensity
	Temperature, Humidity, Pressure, Noise
	Equipment Size (HxWxD) 360mm (H) x 328mm (W) x 200mm (D)



Class 1 Noise and Vibration sensor available as optional features upon specific customer request.

AQBot™



AQBot™ is an Industrial-Grade Single-Parameter air quality monitor with automation capabilities. It is compatible to monitor various critical environmental parameters like Toxic Gases, Particulate Matter, and Noise. This real-time air quality monitor allows industries to monitor what's crucial for them. It also has a display, siren, and strobe light system to get immediate alerts in critical situations. This system activates in real-time upon exceeding user-defined thresholds, providing a multi-sensory alert alongside software notifications.



Parameter	ID	Range	Resolution	Min. Det.	Working Principle	Expected Sensor Life
Ammonia (NH ₃)	OZNH3_1*	0-20 ppm	0.3 ppm	0.3 ppm	Electrochemical	2 Years
	OZNH3_2*	0-100 ppm	0.3 ppm	0.3 ppm		
	OZNH3_3	0-1000 ppm	2 ppm	2 ppm		
Methane (CH ₄)	OZCH4_1	500-1500 ppm	1 ppm	500 ppm	Molecular Property Spectrometer (MPS)	2 Years
	OZCH4_2	50-10,00,000 ppm	1 ppm	500 ppm		
Hydrogen Sulfide (H ₂ S)	OZH2S_1*	0-1.5 ppm	0.001 ppm	0.01 ppm	Electrochemical	2 Years
	OZH2S_2	0-50 ppm	0.05 ppm	0.05 ppm		
	OZH2S_3	0-200 ppm	0.2 ppm	0.2 ppm		
	OZH2S_4	0-2000 ppm	2 ppm	2 ppm		
Total Volatile Organic Compounds (VOC)	OZTVOC_1*	0-40 ppm	0.001 ppm	0.005 ppm	Photo Ionization Detection (PID)	2 Years #
	OZTVOC_2	0-200 ppm	0.10 ppm	0.10 ppm		
Particulate Matter (PM ₁ , PM _{2.5} , PM ₁₀ , PM ₁₀₀)	OZPM_1*	Upto 5000 µg/m ³ for PM ₁ , PM _{2.5} , PM ₁₀	0.1 µg/m ³	1 µg/m ³	Optical Particle Counter	18 Months
		Upto 30 mg/m ³ for PM ₁₀₀				
Noise	OZN_1*	Up to 140 dB	1 dB	0.5 dB	Capacitive	2 Years
Chlorine (Cl ₂)	OZCl2_1*	0-20 ppm	0.05 ppm	0.05 ppm	Electrochemical	2 Years
	OZCl2_2	0-50 ppm	0.1 ppm	0.1 ppm		
Hydrogen Chloride (HCl)	OZHCl_1	0-50 ppm	0.5 ppm	0.5 ppm	Electrochemical	2 Years
	OZHCl_2	0-100 ppm	1 ppm	1 ppm		
Formaldehyde (CH ₂ O)	OZCH2O_1*	0-10 ppm	0.05 ppm	0.05 ppm	Electrochemical	2 Years
	OZCH2O_2	0-50 ppm	0.1 ppm	0.1 ppm		
Methyl Mercaptan (CH ₃ SH)	OZCH3SH_1*	0-10 ppm	0.1 ppm	0.1 ppm	Electrochemical	2 Years
Sulfur Dioxide (SO ₂)	OZSO2_1*	0-10 ppm	0.001 ppm	0.01 ppm	Electrochemical	2 Years
	OZSO2_2	0-100 ppm	0.2 ppm	0.2 ppm		
	OZSO2_3	0-2000 ppm	5 ppm	5 ppm		
Nitrogen Dioxide (NO ₂)	OZNO2_1*	0-10 ppm	0.001 ppm	0.01 ppm	Electrochemical	2 Years
	OZNO2_2	0-100 ppm	0.2 ppm	0.2 ppm		
	OZNO2_3	0-500 ppm	0.5 ppm	0.5 ppm		
Carbon Monoxide (CO)	OZCO_1*	0-5 ppm	0.01 ppm	0.01 ppm	Electrochemical	2 Years
	OZCO_4	0-50 ppm	0.05 ppm	0.05 ppm		
	OZCO_2	0-100 ppm	0.1 ppm	0.1 ppm		
	OZCO_3	0-1000 ppm	0.75 ppm	0.75 ppm		
Nitric Oxide (NO)	OZNO_*	0-5 ppm	0.001 ppm	0.01 ppm	Electrochemical	2 Years
	OZNO_2	0-100 ppm	0.5 ppm	0.5 ppm		
Carbon Dioxide (CO ₂)	OZCO2_1*	0-5000 ppm	1 ppm	400 ppm	Non-Dispersive Infrared	2 Years

TVOC Sensor Housing: 2 Years, TVOC Lamp is user replaceable: 5,000 hours

Expected Sensor Life can vary, subject to actual concentration on-site. In the interest of continued product improvement, we reserve the right to change design features and specifications without prior notification. The data contained in this document is for guidance only, Oizom® accepts no liability for any consequential losses, injury or damage resulting from the use of this document or the information contained within.

*Indicates standard delivery timeline

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) 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 an Environmental visualisation and analytics platform for real-time air quality data acquisition. Our Environmental Data Interpretation Engine, powered by Artificial Intelligence & Machine Learning algorithms, provides highly accurate data and actionable insights, empowering users to make well-informed decisions. Envizom™ uses secured HTTPS servers for data storage. Alternatively, this data can also be stored on-premise local servers.

Envizom™ Capabilities



Real-time Data



Easy to Integrate



Smart alerts



Analytics



User friendly interface



Process Automation

Privacy First Platform



Data Privacy

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



Data Ownership

Envizom™ creates a secured 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
Open Web Application Security Project

IEC

IEC 62443-4-1



Security Tested



100w Cybersecurity Practices



TCM SECURITY

Solution Applications



Smart City

Pollution monitoring at strategic locations in a smart-city empowers city authorities to obtain actionable insights for pollution control.

Construction

Dustroid can be installed at construction sites to alert authorities when dust pollution breaches the threshold limit.



Mining

Monitoring dust and pollution levels in mines helps to reduce emissions by identifying sources more accurately and implementing effective measures to control pollution.

Solution Applications



Industrial Monitoring

Comprehensively monitoring industries is crucial to reducing emissions of hazardous gases and particles. This supports the development of cleaner and safer industrial practices.

Odour Emissions

Odour emission monitoring can help to identify harmful gases and take appropriate maintenance measures.



Oil and Gas

Maintaining and monitoring the environmental conditions is essential for the oil and gas industry to detect and prevent accidents and mitigate risks promptly.

Solution Applications



Smart Campus

Pollution monitoring at key locations on campus allows stakeholders to spread awareness about environmental conditions of the premises.

Environmental Automation

Improve your Environmental Process control by monitoring air pollution, odour and other environmental conditions on a real-time basis.



Research

Air quality monitoring provides invaluable data and insights for various studies that can lead to a deeper understanding of the sources and impacts of pollution.

Case Studies



Ensuring environmental safety and reassuring communities 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 neighboring communities that confirm the air quality at sites is safe for all.



Ethiopia



Polludrone
Smart



Fenceline
Monitoring

Bioreactor Landfill odour monitoring in the Republic of Croatia

The County Waste Management Centre Marišćina (CWMCM), a Bioreactor Landfill in Croatia, installed Oizom's Odosense® Smart odour monitoring system to track odours and various air pollutants.



Croatia



Odosense
Smart



Landfill
Monitoring



Smart city air quality monitoring at Agra, India

The pollution in Agra is affecting historic sites, including the Taj Mahal. To assist authorities in gaining insights into the city's atmosphere with air quality, Oizom® deployed Polludrone systems throughout the city.



India



Polludrone
Custom



Smart City
Monitoring

Case Studies



Empowering authorities to monitor the air quality and odour levels in the Port of Duqm, Oman

The Duqm Port, situated in the Al Wusta region of Central Oman, accommodates numerous cargo shipments. Oizom® is monitoring the air quality and odour levels at this location, helping the authorities implement effective corrective actions.



Oman



Odosense
Custom



Sea Port
Monitoring

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

A Guinness World Record holder of the deepest and richest mine sought a method to preserve excellent air quality. They chose Oizom's Dustroid® as the optimal solution for maintaining health & safety while protecting the environment.



South Africa



Dustroid
Smart



Mining



Ensuring Workers' safety by dust monitoring in the Red Sea Airport

The Saudi Arabian coast in the Red Sea often experiences sandstorms and requires a real-time monitoring system. Thus, Oizom® offered Dustroid® for monitoring the various dust parameter levels, humidity, temperature, and light intensity.



Saudi Arabia



Dustroid
Smart



Airports

Case Studies



Air Quality Monitoring at Granada University Campus

Granada University Campuses are spread across the city in Spain and aim to raise public environmental awareness. Oizom® assisted in this effort by installing Polludrone to assess the AQI and concentration of pollutants.



Spain



Polludrone
Smart



Smart Campus

Thermal Power plant monitoring in Tiroda, Maharashtra

Oizom® implemented the Polludrone® Smart at the Adani Thermal Power Plant in Tiroda to meet their need for a precise air quality monitoring system to track suspended particles and various toxic gases in the surroundings.



India



Polludrone
Smart



Industrial
Emission



Monitoring chlorine gas at a common effluent treatment plant in Jetpur

Oizom's AQbot™ Cl₂ was deployed at the Common Effluent Treatment Plant (CETP) to monitor chlorine gas, which was impacting the treatment process and resulting in an unhealthy environment for the operators.



India



AQbot Cl₂



Wastewater



Trusted by

70+ Countries



Solutions Installed in

65+ Cities



Total Devices Installed

3000+



Total Population Covered

200 million+

Oizom Customers



Oizom Ecosystem



Global Presence



Changing the way Industries monitor air quality



Get in touch



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