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, we monitor various environmental parameters related to air quality, noise, odor, 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

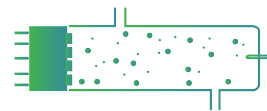|	
CO	2.23 mG/m³
NO	58 uG/m³
NO₂	92 uG/m³
SO₂	78 uG/m³
CO₂	528 PPM

PATENTED TECHNOLOGY

REGISTERED DESIGN

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.
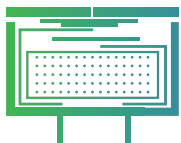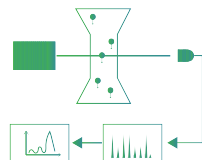
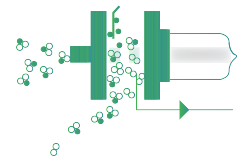| Electrochemical	Laser Scattering	Non Dispersive Infrared	Photo-ionization Detection

Data Communication

GSM LTE NB-IoT

LoRa ETHERNET sigfox

Wi Fi Modbus RELAY

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, 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 all key pollutants like air-pollution, radiation, noise, etc. Using external probes/attachments, it can monitor other peripheral parameters like weather, traffic, disaster, etc. Polludrone® is an ideal choice for urban monitoring applications such as smart-city infrastructure, roadside, campus, airport, etc.

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_2S)	
Equipment Size	360mm (H) x 328mm (W) x 200mm (D)
External Modules (optional)	Wind Speed, Wind Direction, Rain (Customizable)

CE FC RoHS COMPLIANT SASO PTCRB MCERTS TÜV INDIA

Odosense®

Odosense® is an E-nose based Odor Monitoring System designed to monitor various odourful and toxic gases. It continuously detects, measures, and monitors odourful parameters such as Sulphur Dioxide, Hydrogen Sulfide, Ammonia, Methyl Mercaptan, Total Volatile Organic Compounds, Formaldehyde , Nitrogen Dioxide, Chlorine, Temperature and Humidity. Users can visualize the collected data on the Envizom™ environmental monitoring platform in the form of real-time dashboards. The odor data can also be useful for various industrial automation applications in an Industrial IoT (IIoT) environment.

Parameter	
Hydrogen Sulfide (H_2S), Sulfur Dioxide (SO_2), Ammonia (NH_3)	
Methyl Mercaptan (CH_3SH), Total Volatile Organic Compounds (TVOCs)	
Chlorine (Cl_2), Nitrogen Dioxide (NO_2), Formaldehyde (CH_2O)	
Temperature, Humidity, Pressure	
Equipment Size	360mm (H) x 328mm (W) x 200mm (D)
External Modules (optional)	Wind Speed, Wind Direction, Rain (Customizable)

CE FC RoHS COMPLIANT SASO PTCRB

Dustroid®

Dustroid® is a Real-time Particulate Monitoring System for Ambient Applications. It is capable to monitor various particulate matter of various sizes from 1 micron to 100 microns like Ultrafine Suspended Particulate Matter (UFPM), Suspended Particulate Matter (SPM), Respiratory Suspended Particulate Matter (RSPM) and Total Suspended Particulates (TSP). Dustroid® is an ideal choice for applications like construction sites, mines, quarries, ports, research projects, etc.

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)

CE FC RoHS COMPLIANT SASO PTCRB MCERTs

Weathercom®

Weathercom® is an Automatic Weather Station which measures real-time Wind Speed, Wind Direction, Rainfall, Flood, Temperature, and Humidity. The data can be visualized on Envizom™ for real time data visualization and analytics.

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)

CE FC RoHS COMPLIANT SASO PTCRB

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 with monitoring various critical environmental parameters like toxic gases, particulate matter, and noise. Its real-time data display allows industries to monitor what's crucial for them. It also has a siren and strobe light system for immediate attention to 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	Sensor Life
Ammonia (NH_3)	OZNH3_1* OZNH3_2* OZNH3_3	0-20 ppm 0-100 ppm 0-1000 ppm	0.3 ppm 0.3 ppm 2 ppm	0.3 ppm 0.3 ppm 2 ppm	Electrochemical	2 Years
Methane (CH_4)	OZCH4_1 OZCH4_2	500-1500 ppm 50-10,00,000 ppm	1 ppm 1 ppm	500 ppm 500 ppm	Molecular Property Spectrometer (MPS)	2 Years
Hydrogen Sulfide (H_2S)	OZH2S_1* OZH2S_2 OZH2S_3 OZH2S_4	0-1.5 ppm 0-50 ppm 0-200 ppm 0-2000 ppm	0.001 ppm 0.05 ppm 0.2 ppm 2 ppm	0.01 ppm 0.05 ppm 0.2 ppm 2 ppm	Electrochemical	2 Years
Total Volatile Organic Compounds (VOC)	OZTVOC_1* OZTVOC_2	0-40 ppm 0-200 ppm	0.001 ppm 0.05 ppm	0.005 ppm 0.05 ppm	Photo Ionization Detection (PID)	18 Months
Particulate Matter (PM_1, $PM_{2.5}$, PM_{10}, PM_{100})	OZPM_1*	Upto 5000 µg/m³ for PM_1, $PM_{2.5}$, PM_{10} Upto 30 mg/m³ for PM_{100}	0.1 µg/m³	1 µg/m³	Optical Particle Counter	18 Months
Noise	OZN_1*	Up to 140 dB	1 dB	0.5 dB	Capacitive	2 Years
Chlorine (Cl_2)	OZCl2_1* OZCl2_2	0-20 ppm 0-50 ppm	0.05 ppm 0.1 ppm	0.05 ppm 0.1 ppm	Electrochemical	2 Years
Hydrogen Chloride (HCl)	OZHCl_1 OZHCl_2	0-50 ppm 0-100 ppm	0.5 ppm 1 ppm	0.5 ppm 1 ppm	Electrochemical	2 Years
Formaldehyde (CH_2O)	OZCH2O_1* OZCH2O_2	0-10 ppm 0-50 ppm	0.05 ppm 0.1 ppm	0.05 ppm 0.1 ppm	Electrochemical	2 Years
Methyl Mercaptan (CH_3SH)	OZCH3SH_1*	0-10 ppm	0.1 ppm	0.1 ppm	Electrochemical	2 Years
Sulfur Dioxide (SO_2)	OZSO2_1* OZSO2_2 OZSO2_3	0-10 ppm 0-100 ppm 0-2000 ppm	0.001 ppm 0.2 ppm 5 ppm	0.01 ppm 0.2 ppm 5 ppm	Electrochemical	2 Years
Nitrogen Dioxide (NO_2)	OZNO2_1* OZNO2_2 OZNO2_3	0-10 ppm 0-100 ppm 0-500 ppm	0.001 ppm 0.2 ppm 0.5 ppm	0.01 ppm 0.2 ppm 0.5 ppm	Electrochemical	2 Years
Carbon Monoxide (CO)	OZCO_1* OZCO_4 OZCO_2 OZCO_3	0-5 ppm 0-50 ppm 0-100 ppm 0-1000 ppm	0.01 ppm 0.05 ppm 0.1 ppm 0.75 ppm	0.01 ppm 0.05 ppm 0.1 ppm 0.75 ppm	Electrochemical	2 Years
Nitric Oxide (NO)	OZNO_1* OZNO_2	0-5 ppm 0-100 ppm	0.001 ppm 0.5 ppm	0.01 ppm 0.5 ppm	Electrochemical	2 Years
Carbon Dioxide (CO_2)	OZCO2_1*	0-5000 ppm	1 ppm	400 ppm	Non-Dispersive Infrared	2 Years

*Indicates standard delivery timeline

Data Accuracy and Calibration

The Oizom® Gas Sensor (OGS) module can accurately measure low concentrations of various gases at ppb level in the ambient air. The design is capable to monitor the point source gases on real-time basis. The low noise support electronics makes it compact & reliable and allows accurate gas detection even at very low concentrations in the atmosphere.

• Proprietary gas sensing technology

• Independent calibration of each sensor

• Electronic noiseproof 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 USEPA.

2 Collocation 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

3rd Party CEMS
Continuous Emission Monitoring
Systems

**Oizom's Real-time Air
Quality Monitors**

Polludrone, Odosense, Dustroid,
Weathercom, AQBot

Envizom™

3rd Party CAAQMs
Continuous Ambient Air Quality
Monitoring Systems

Remote User
Access

ICCC
Integrated Command &
Control Centers

3rd Party Control Equipments
Mist cannons, HVAC, Dust Collectors,
Ozonizers, etc.

Envizom™
Data Visualization and Analytics Platform

Envizom™ is an Environmental monitoring soft-ware for real-time air quality data acquisition, visualization, and analytics. The Oizom® environ-mental data interpretation engine fetches the data from the Oizom® Environmental monitoring stations. On receiving the data, the engine runs necessary corrections and compensation algo-rithms. Envizom™ uses secured HTTPS servers for data storage. Alternatively, this data can also be stored on-premise local servers.

Envizom™ Capabilities

- Real-time Data
- Smart alerts
- User friendly interface
- Easy to Integrate
- Analytics
- 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 62443-4-1 | API 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.

Odor Emissions

Odor 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 | 2021 | Fenceline Monitoring

Bioreactor Landfill odor 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 odors and various air pollutants.

Croatia | 2022 | 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 | 2019 | Smart City Monitoring

Case Studies

Empowering authorities to monitor the air quality and odor 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 odor levels at this location, helping the authorities implement effective corrective actions.

Oman	2022	Sea Port Monitoring

World's Largest Gold Undermine 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	2021	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	2020	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   2019   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   2022   Industrial Emission

Monitoring chlorine gas at a common effluent treatment plant in Jetpur

Oizom's AQbot Cl$_2$ 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   2022   Wastewater

Trusted by
70+ Countries

Solutions Installed in
65+ Cities

Total Devices Installed
3000+

Total Population Covered
200 million+

Oizom Customers

MSHEIREB PROPERTIES

ANGLO AMERICAN

STC

EFKON

LODHA

Quantela

flexsol INFRA-SOLUTIONS

saudi aramco

VEOLIA

Sterlite Tech

ENGIE

king khalid int'l airport

Oizom Ecosystem

NOKIA Connecting People

IBM

CISCO

vodafone

wipro

sigfox Make Things Come Alive

Hewlett Packard Enterprise

RAMBOLL

ATIRA

LoRa Alliance

FLUENTGRID

TATA COMMUNICATIONS

Global Presence

mCERTs NABCB TÜV INDIA ISO 9001:2015 ISO 14001 MAKE IN INDIA

Changing the way Industries monitor air quality

Get in touch

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