

# 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 the 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



THE UNIVERSITY OF  
WARWICK



UNIVERSITY  
of York



UNIVERSIDAD  
DE GRANADA



BERGISCHE  
UNIVERSITÄT  
WUPPERTAL



NWU®  
NORTH-WEST UNIVERSITY  
LEARNERS' SUPPORT CENTRE  
LIBRARY & STUDENT SERVICES



## COMPLETE GAS ANALYSIS

CO 2.29 mg/m<sup>3</sup>  
NO 58 ug/m<sup>3</sup>  
NO<sub>2</sub> 92 ug/m<sup>3</sup>  
SO<sub>2</sub> 78 ug/m<sup>3</sup>  
CO<sub>2</sub> 528 PPM

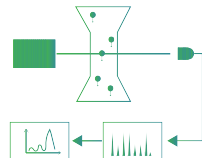


# About Technology

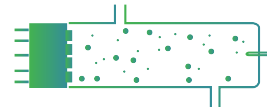
Oizom<sup>®</sup> has years of experience in stimulating innovation by creating groundbreaking technology for environmental monitoring. With the platform-based development approach, Oizom<sup>®</sup> has been able to successfully unlock multiple solutions catering to various industries. Our sensing technology 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 it 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

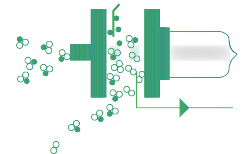


Photo-ionization Detection

## Data Communication











Oizom<sup>®</sup> 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<sup>®</sup> 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 <sub>2.5</sub> & PM <sub>10</sub>
	Ultra Fine Particulate Matter (PM <sub>1</sub> ), Total Suspended Particulate Matter (PM <sub>100</sub> )
	Carbon Monoxide (CO) and Carbon Dioxide (CO <sub>2</sub> )
	Noise, Solar Radiation, Temperature, Humidity, Pressure
	Gaseous Pollutants (SO <sub>2</sub> , NO, NO <sub>2</sub> , O <sub>3</sub> )
	Hydrogen Sulfide (H <sub>2</sub> S)
	Equipment Size <span style="float: right;">360mm (H) x 328mm (W) x 200mm (D)</span>
	External Modules (optional) <span style="float: right;">Wind Speed, Wind Direction, Rain (Customizable)</span>



## 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 (SO<sub>2</sub>), Hydrogen Sulfide (H<sub>2</sub>S), Ammonia (NH<sub>3</sub>), Methyl Mercaptan (CH<sub>3</sub>SH), Total Volatile Organic Compound (TVOC), Formaldehyde (CH<sub>2</sub>O), Nitrogen Dioxide (NO<sub>2</sub>), Chlorine (Cl<sub>2</sub>), Temperature, Humidity and Pressure. The data collected can be visualised in the Envizom environmental monitoring platform in different values like ppm, ppb, µg/m<sup>3</sup> 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 <sub>2</sub> S), Sulfur Dioxide (SO <sub>2</sub> ), Ammonia (NH <sub>3</sub> )
	Methyl Mercaptan (CH <sub>3</sub> SH), Total Volatile Organic Compounds (TVOCs)
	Chlorine (Cl <sub>2</sub> ), Nitrogen Dioxide (NO <sub>2</sub> ), Formaldehyde (CH <sub>2</sub> O)
	Temperature, Humidity, Pressure
	Equipment Size <span style="float: right;">360mm (H) x 328mm (W) x 200mm (D)</span>
	External Modules (optional) <span style="float: right;">Wind Speed, Wind Direction, Rain (Customizable)</span>



# 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 <sub>1</sub> )
	Suspended Particulate Matters - PM <sub>2.5</sub> , PM <sub>10</sub>
	Total Suspended Particulate Matter (TSP-PM <sub>100</sub> )
	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, Visibility, Light Intensity, Solar 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, and 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 sensors are 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	
	Ammonia (NH <sub>3</sub> )
	Methane (CH <sub>4</sub> )
	Total Volatile Organic Compounds (VOC)
	Particulate Matter (PM <sub>1</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> , PM <sub>100</sub> )
	Gaseous Pollutants (SO <sub>2</sub> , NO, NO <sub>2</sub> , O <sub>3</sub> )
	Noise
	Equipment Size (HxWxD) <span style="float: right;">210MM(W) x 258mm(H) X 105mm(D)</span>



# Pollusense™

Pollusense is a Portable Air Quality Monitoring System that measures multiple Toxic Gases, Particulate Matter, and Noise. 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.

Parameter	
	Particulate Matter - PM <sub>2.5</sub> & PM <sub>10</sub>
	Ultra Fine Particulate Matter (PM <sub>1</sub> ), Total Suspended Particulate Matter (PM <sub>100</sub> )
	Carbon Monoxide (CO) and Carbon Dioxide (CO <sub>2</sub> )
	Noise
	Gaseous Pollutants (SO <sub>2</sub> , NO, NO <sub>2</sub> , O <sub>3</sub> )
	Hydrogen Sulfide (H <sub>2</sub> S)
	Equipment Size <span style="float: right;">503mm (L) x 406mm (W) x 193mm (H)</span>





# 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.

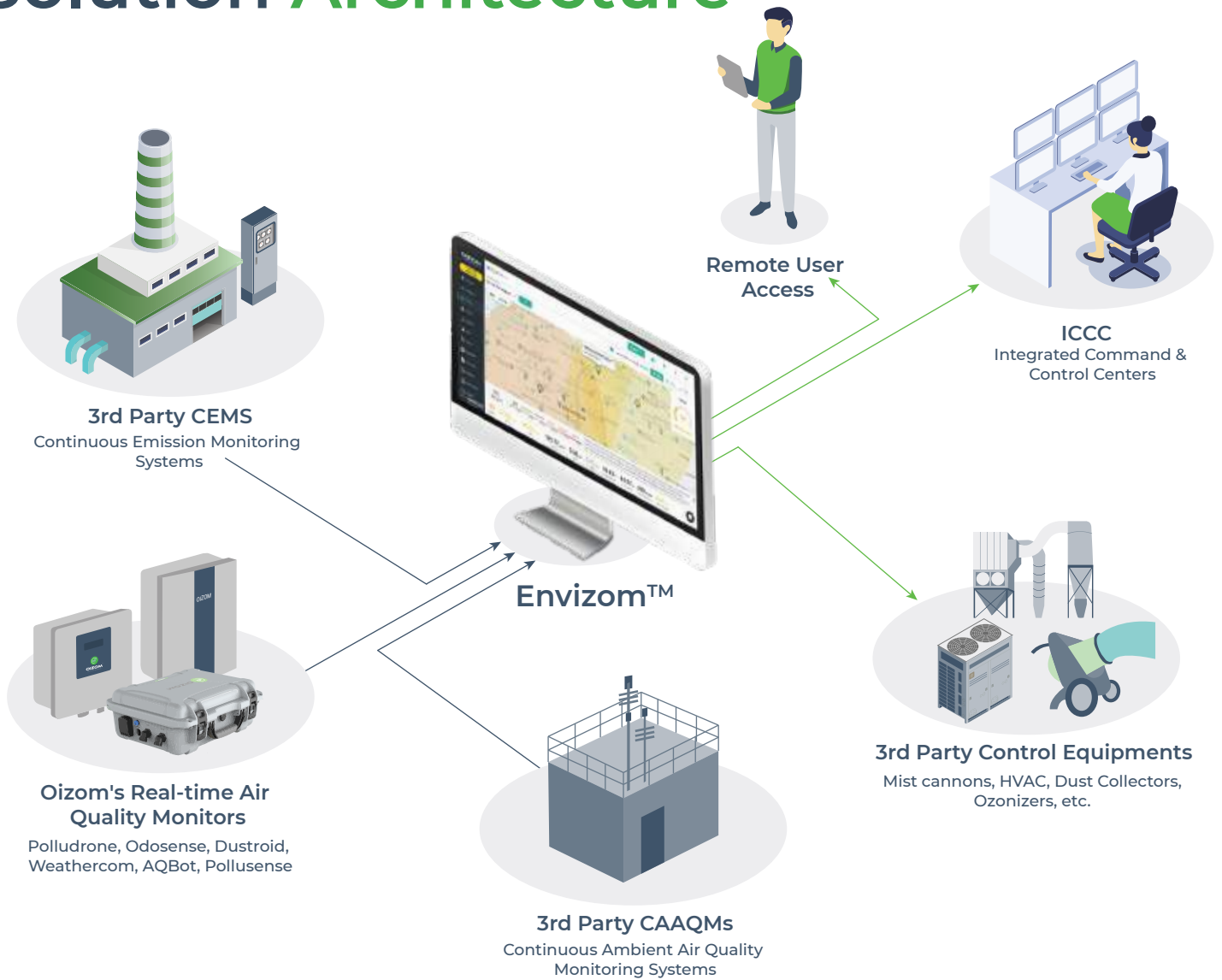


### 3 On-site Calibration

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 the 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 undermine chose 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 at 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® to monitor the various dust parameter levels, humidity, temperature, and light intensity.



Saudi Arabia



Dustroid  
Smart



Airports



# Case Studies



## Air Quality Monitoring at the 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™ Cl<sub>2</sub> 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 Cl<sub>2</sub>



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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