OIZOM
REDEFINING RESOURCES

Without us !

With us :)

DIPP Department of Industrial Policy & Promotion | innovify ideate. incubate. accelerate. | t-hub | FRENCH TECH TICKET | SparkLabsIoT | SOLARIMPULSE FOUNDATION | cije | Katapult Accelerator

Environmental Impact using Technology

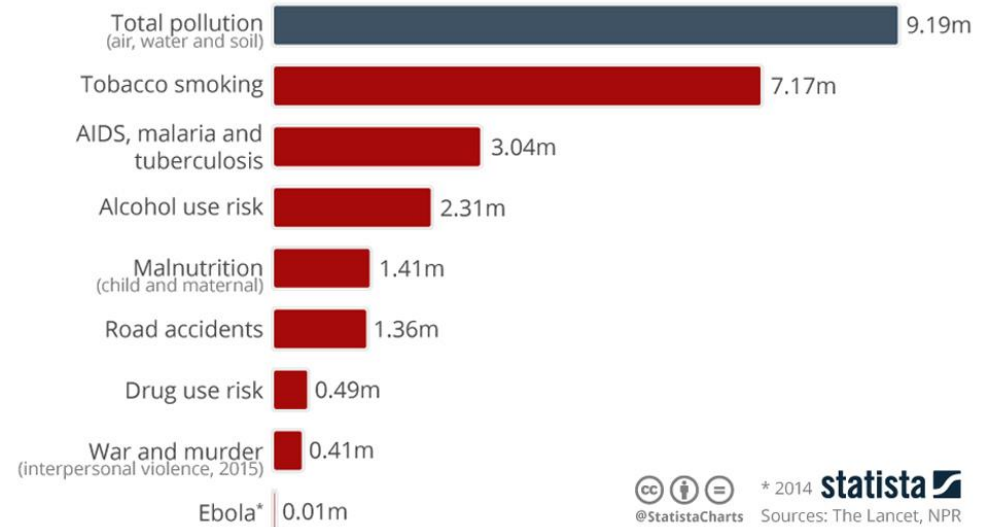*"9 out of 10 people worldwide breathe polluted air"* - WHO

"14 out of world's 20 most polluted cities are in India" - WHO

"Meeting Air-Quality levels can add 4-years to Indians' lives" - THE UNIVERSITY OF CHICAGO

"Air Quality is 5th largest killer in India" - GBD REPORT

"India tops global pollution deaths (2.5Mn) of 9Mn a year." - THE LANCET COMMISSION

BECAUSE
Pollution Kills 3x As Many As AIDS, TB & Malaria Combined

Category	Deaths
Total pollution (air, water and soil)	9.19m
Tobacco smoking	7.17m
AIDS, malaria and tuberculosis	3.04m
Alcohol use risk	2.31m
Malnutrition (child and maternal)	1.41m
Road accidents	1.36m
Drug use risk	0.49m
War and murder (interpersonal violence, 2015)	0.41m
Ebola*	0.01m

@StatistaCharts   * 2014 statista   Sources: The Lancet, NPR

Problem : Bottleneck on scalability

Present Environmental Monitoring Solutions are Expensive, Complicated and Human-intensive. Market is fragmented. End-to-end Solutions are not available.

Our Solution

Simple | Cost-effective | Highly-scalable
Environmental Data Monitoring and Analytics

ATMOSPHERE
TEMP HUMID LIGHT
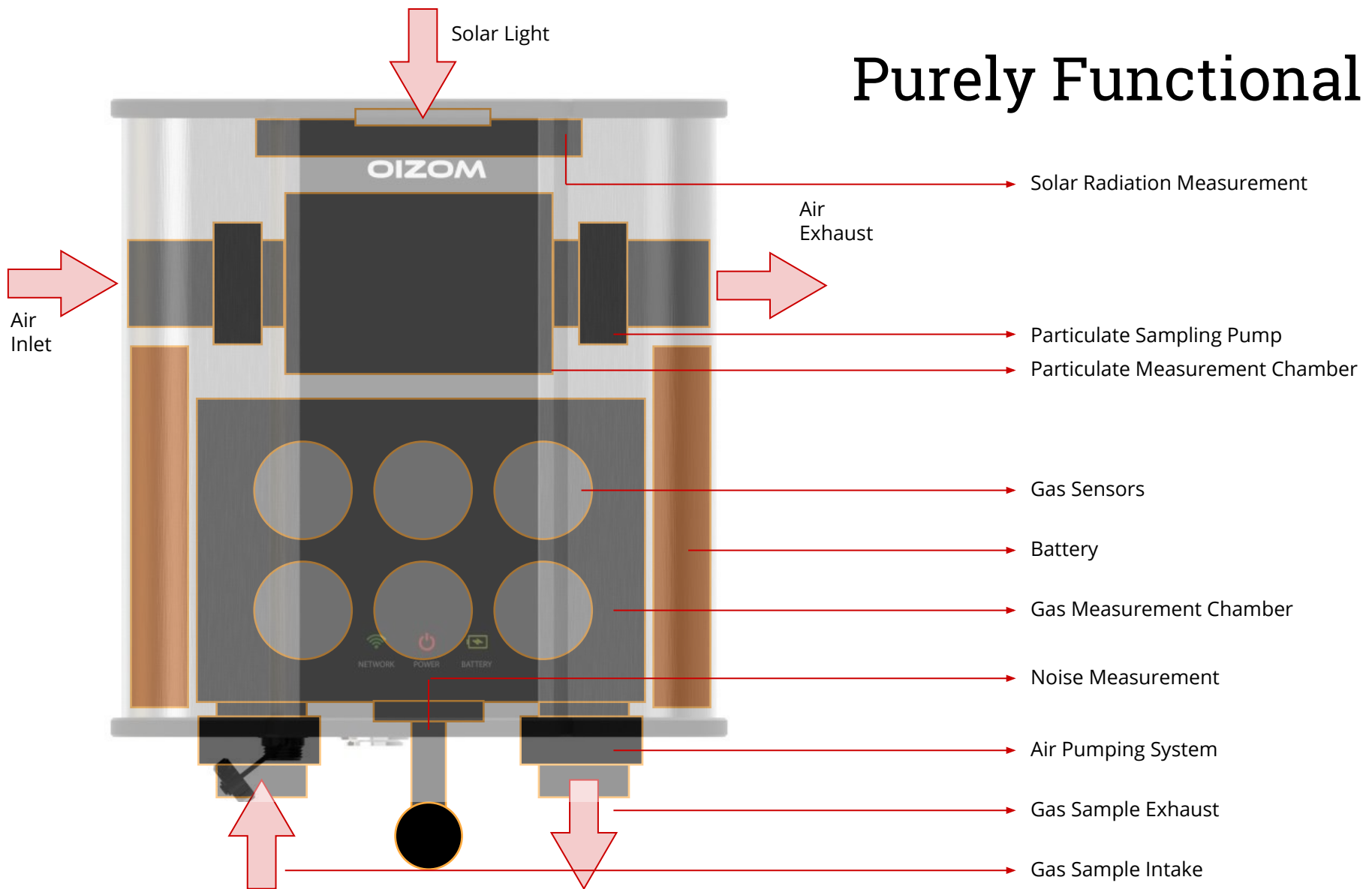
RADIATION
EM GAMMA RF UV

FLOOD

PARTICULATES
PM1 PM2.5 PM10

NOISE

Environmental
Data
Acquisition

WEATHER
WIND RAIN

PATENT PENDING

REGISTERED DESIGN

GASEOUS POLLUTANTS
SOx NOx CO O3

ODOUR
NH3 H2S

HYDROCARBON
TVOC CH4 CH2O

ENV. GASES
CO2 O2

Solar Light

Purely Functional

Solar Radiation Measurement

Air Exhaust

Air Inlet

Particulate Sampling Pump

Particulate Measurement Chamber

OIZOM

Gas Sensors

Battery

Gas Measurement Chamber

NETWORK   POWER   BATTERY

Noise Measurement

Air Pumping System

Gas Sample Exhaust

Gas Sample Intake

REAL TIME DATA TRANSFER

100% WEATHERPROOF (IP65)

THEFT RESISTANT

TAMPER PROOF

100% SOLAR POWERED

GSM / WIFI / LORA / LTE / Ethernet

UPTO 3 DAYS BATTERY BACKUP

PM10 : DUST PARTICLES
RANGE : 0 - 1000 UG/M3

SPM2.5 : MICRO-PARTICLES
RANGE : 0 - 1000 UG/M3

TOXIC GASES
CO_2 + SO_2 + NO + NO_2 + CO + O_3

AMBIENT LIGHT
UV + LIGHT INTENSITY

NOISE MONITORING
RANGE : 0 - 140 DB

TEMPERATURE

HUMIDITY

STATE OF ART
POLLUTION MONITOR

OIZOM

NETWORK   POWER   BATTERY

Polludrone Variants

Parameters	Working Principle	Lite	Smart	Pro
PM1 - Ultrafine Particulate Matters 1μ				Y
PM2.5 - Suspended Particulate Matters 2.5μ		Y	Y	Y
PM10 - Particulate Matter 10μ	Laser Scattering	Y	Y	Y
T-H - Temperature Humidity	Resistive measurement	Y	Y	Y
N - Ambient Noise	Microphone Sensing	Y	Y	Y
Li - Light Intensity		Y	Y	Y
UV - Ultraviolet Light		Y	Y	Y
Lv - Visible Light	Photovoltaic Operation	Y	Y	Y
CO2 - Carbon Dioxide	Nondispersive Infrared Detector (NDIR)	Y	Y	Y
CO - Carbon Monoxide		Y	Y	Y
NO -Nitric Oxide			Y	Y
NO2 -Nitrogen Dioxide			Y	Y
O3 - Ozone			Y	Y
SO2 - Sulphur Dioxide	Electrochemical Sensing		Y	Y

External Modules

Solar Panel

Wind Speed,
Wind Direction Module

Rain Sensor

Flood Sensor

OIZOM

Solar Power Management System

Parameters	Working Principle
R - Rainfall Monitoring	Electrical Feedback
W - Wind Speed + Direction	Ultrasonic Sensing
Flood	Ultrasonic Sensing

ODOURFUL GASES
NH3 + H2S + METHYL MERCAPTAN

TOTAL VOC
BTX + FORMALDEHYDE

TOXIC GASES
CO + SO2

HYDROCARBON
CH4

RADIATION
GAMMA RADIATION

AMBIENT LIGHT
UV + IR + LIGHT INTENSITY

TEMPERATURE
HUMIDITY

OIZOM

STATE OF ART
ODOUR MONITORING SOLUTION

Odosense Variants

Parameters	Working Principle	Lite	Smart	Pro
T-H - Temperature Humidity	Capacitive Sensing	Y	Y	Y
H2S - Hydrogen Sulfide	Electrochemical Sensing	Y	Y	Y
CO - Carbon Monoxide		Y	Y	Y
CH2O - Formaldehyde		Y	Y	Y
CH4 - Methane	NDIR	Y	Y	Y
NO -Nitric Oxide			Y	Y
NO2 -Nitrogen Dioxide			Y	Y
SO2 - Sulphur Dioxide	Electrochemical Sensing		Y	Y
NH3 - Ammonia			Y	Y
TVOC - Total Volatile Organic Compounds	PID - Photoionization detection			Y

External Modules

Solar Panel

Wind Speed,
Wind Direction Module

Rain Sensor

OIZOM

Solar Power Management System

Parameters	Working Principle
R - Rainfall Monitoring	Electrical Feedback
W - Wind Speed + Direction	Ultrasonic Sensing
Flood	Ultrasonic Sensing

WIND SPEED
ULTRASONIC MONITORING

WIND DIRECTION
ULTRASONIC MONITORING

RAINFALL
REAL TIME RAINFALL IN INCH/CM

AMBIENT LIGHT
UV + IR + LIGHT INTENSITY

TEMPERATURE

HUMIDITY

ONLINE
WEATHER MONITORING SOLUTION

Weathercom - AWS

Solar Panel

Light + UV

Rain Sensor

Solar Power Management System

Temp. Humidity, Pressure

Wind Speed, Wind Direction System

Parameters	Working Principle
R - Rainfall Monitoring	Electrical Feedback
W - Wind Speed + Direction	Ultrasonic Sensing
Li - Light Intensity	
UV - Ultraviolet Light	
Lv - Visible Light	Photovoltaic Operation
Temperature, Humidity, Pressure	Resistive Measurement

Real-time Data Analytics

Custom Dashboard
Customised dashboard as per customer requirement and use-case.

Data Analytics
Realtime and Historical data analysis with 3 different approaches.

Smart Notifications
Email, SMS and Push-notifications when environmental condition crosses a threshold.

Automated Reports
System generated scheduled reports on daily, weekly, monthly basis (as per industry standards).

Environmental Widget
Environmental data-widget to be embedded in 3rd party web pages.

Pollution Heatmap
Street-by-street pollution heatmap of the city to analyze pollution at a granular level.

Data Accessibility

The accumulated data can be visualized and analysed as preferred and suited best for end use-case application.Better data accessibility enables the end customer to take better data-driven actions.

MQTT/HTTP APIs

TV Interface

Outdoor LED

Web Widget

Smart Notifications

Print Ready Reports

Mobile App

Voice Activation

Pollution Heatmap

KAKINADA
SMART CITY
BE PART OF THE TRANSFORMATION

Surat
SMART CITY

Smart City
GANDHINAGAR

Smart City Varanasi

PALAVA
City of opportunity

isbak
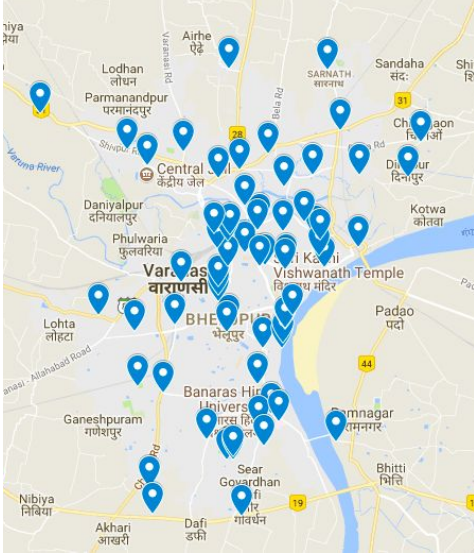İstanbul IT and Smart City Technologies Inc.

6 Smart city Projects + 3 in Pipeline

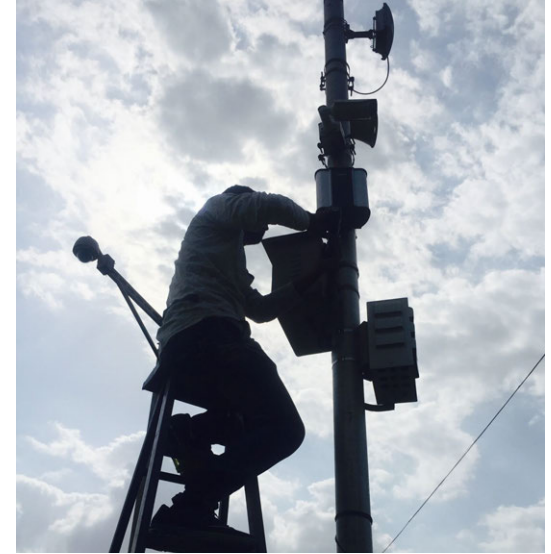# Integrations & Collaborations

End-to-End Solution

Planning & Mapping

Our team conduct site surveys and historical analysis of available environmental data to decide the locations of the various environmental solutions in the city.

Solution delivery & Calibration

We build the solution as the the requirement and deliver the lab-calibrated solutions to ensure data accuracy.

Solution Implementation and O&M

Our team helps the system integrator to implement (install) the solution as per the guidelines and further takes care of operation and maintenance activity for the entire tenure of the project.
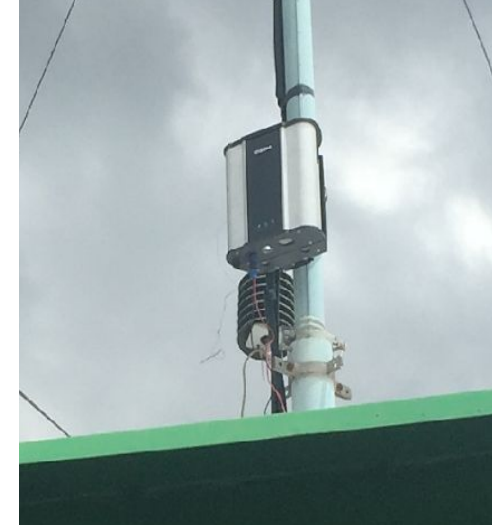
Types of Calibration

Factory Calibration

All the Polludrone sensors are calibrated by our sensor manufacturing partner before leaving the factory. All the sensors are kept under lab condition and calibrated with Pure (Zero) Air and with calibration gas (between 1-100 PPM depending on the sensor range).

Lab Calibration

Equipments are calibrated with pure air and calibration gases with high range concentration in clean and controlled lab environment. All the fine tuning is done in the configuration if required. The typical high range concentration ranges between 1-10 PPM and standard flow rate is kept at 0.5 L/min.

Spot Calibration

All the devices pass through calibration process once again after device assembly to ensure data quality.
Devices are calibrated with pure air and calibration gases with high range concentration in clean and controlled lab environment. All the fine tuning is done in the configuration if required.
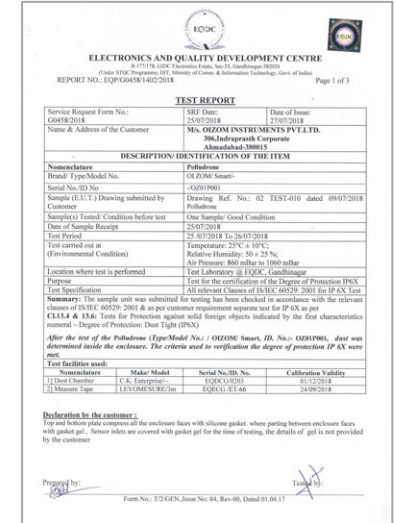
	Palava City	Kakinada Smart City	Alwar Highway	Kanjurmarg Landfill
Our Customer	LODHA BUILDING A BETTER LIFE	Sterlite	Quantela	ESS Enviro
Application	Real Estate	Smartcity	Smart Highway	Odour Monitoring
Data Use Case	Data driven health-care actions for residents	Data driven city management and planning	Measure effectiveness of automated toll-booths	Odour treatment actions based on environmental data
Project Size	6 Pollution Monitors 2 Odour Monitors	14 Pollution monitors with Flood sensors	2 Pollution Monitors	5 Odour Monitoring sensors
Location	Mumbai	Kakinada	Rajasthan	Mumbai

200+ Solutions Live in Action

All the Required Certifications

- ISO-9001
- ISO-14001
- CE Safety
- FCC
- IP65
- ROHS
- SASO CoC

OIZOM

Oizom is an Environmental Solution Company. Started with a life-centric approach, Oizom builds data-driven solutions for natural resources like Air, Water, Soil, Energy etc.
By evolving with technology and through extensive R&D, Oizom aspires to set a class apart in its measurement accuracy and precision. Through an ecosystem of products, Oizom aims to make the environment understandable and predictable. With a dense network of Oizom Instruments and deep-learning data-science, Oizom strives to create a sustainable living. Oizom is currently focusing on ambient air-quality and will expand the solutions in other areas in future. Along with commercial activities, Oizom also participates in community initiatives through strategic partnerships. Oizom provides solution to Government bodies, NGOs, Public Sector Units, SMEs, etc to evolve as an eco friendly entity.

Vision

Blend advanced technology with Natural resources to create Artificial Intelligence for the environment.

Mission

Create a dense network of environmental data acquisition points for data driven decision making and predictions.

AIR   WATER   SOIL

Oizom Instruments Pvt. Ltd.
306 Indraprasth Corporate, Anand Nagar Road
Prahladnagar, Ahmedabad - India
+91-8866660025 | contact@oizom.com

Oizom - Savoie Technolac
House Boat 9, 12 Allee Du Lac De Garde,
Le Bourget du lac, France
+33 (0) 783426695 | hello@oizom.com

Without us !

With us :)