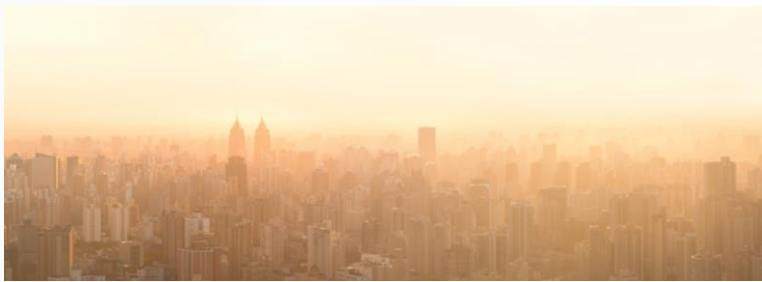# clarity

LEADING THE CLEAN AIR MOVEMENT

GLOBAL AIR POLLUTION CRISIS

Air pollution is the MOST PRESSING environmental health issue today.

7 Million Premature Deaths are linked to air pollution annually as the #1 environmental cause. <u>(WHO)</u>
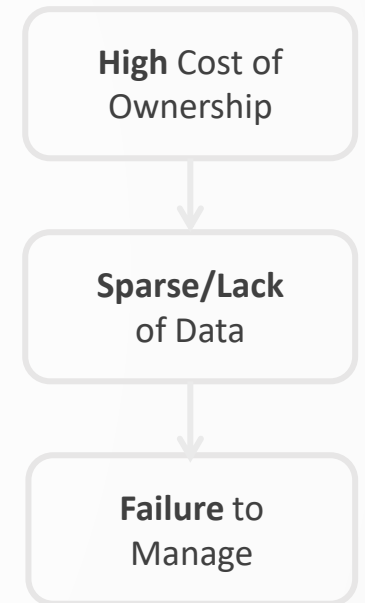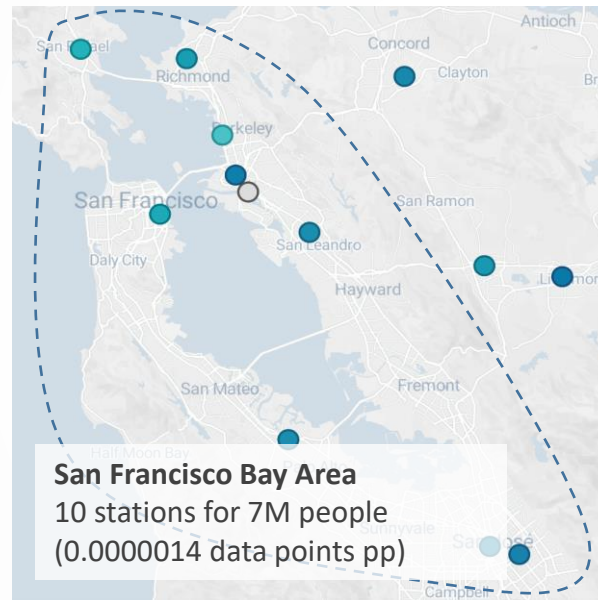
Air pollution is a **trillion dollar** problem.

Failure to manage air pollution costs governments and industries **$5 Trillion USD** annually. <u>(World Bank/IHME)</u>

WHAT'S THE PROBLEM?

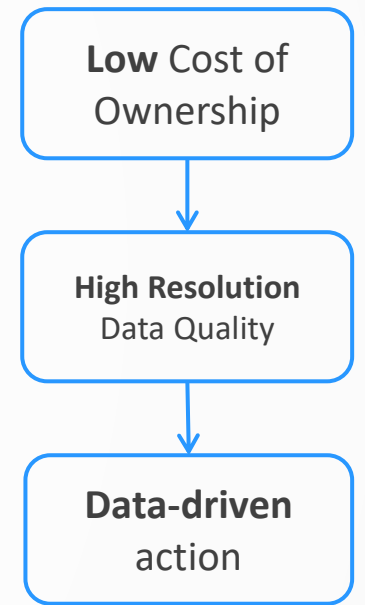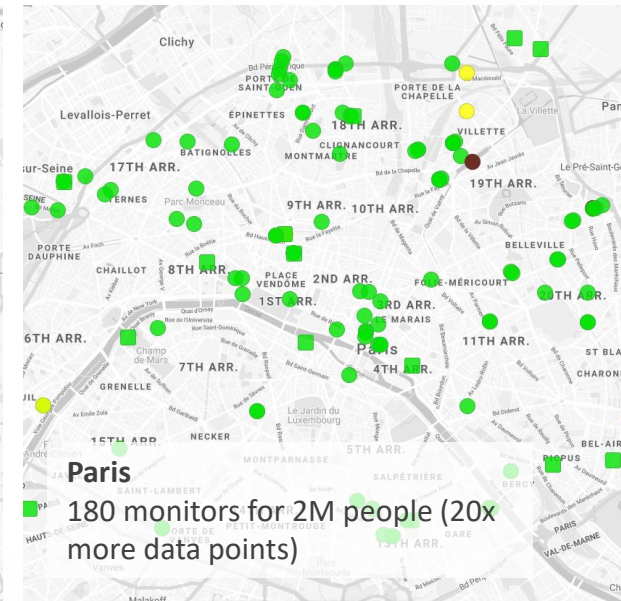## Lack of data results in unclear mitigation ROI and air pollution management failures.

Traditional Monitoring Technology

San Francisco Bay Area
10 stations for 7M people
(0.0000014 data points pp)

Paris
9 monitors for 2M people
(0.0000045 datapoints pp)

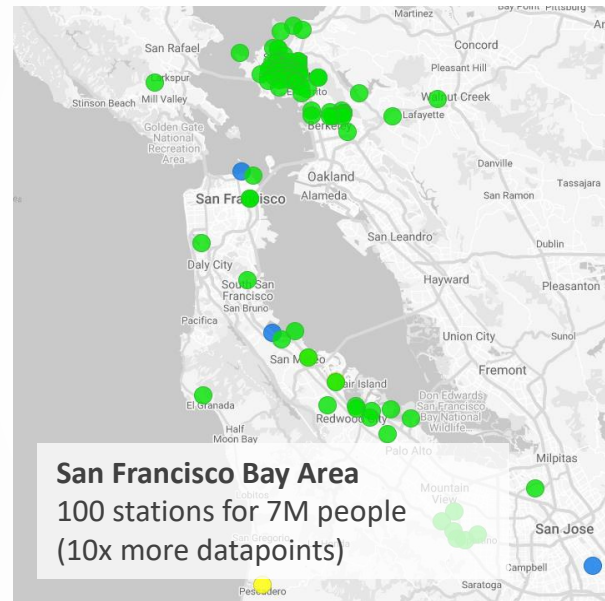**High** Cost of Ownership

↓

Sparse/Lack of Data

↓

Failure to Manage

"If you can't measure it, you can't manage it, and you can't fix it."

- Former Mayor of NYC

WHAT'S THE SOLUTION?

Clarity enables data-driven air quality management.

San Francisco Bay Area
100 stations for 7M people
(10x more datapoints)

Paris
180 monitors for 2M people (20x
more data points)

Low Cost of Ownership

↓

High Resolution Data Quality

↓

Data-driven action

Clarity Air Monitoring

"If you CAN *measure it, you* CAN *manage it, and you* CAN *fix it."*
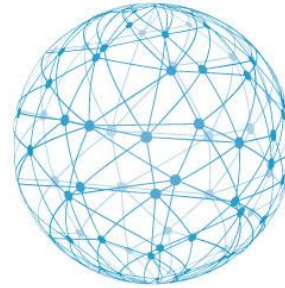
-Clarity Movement

SENSING-AS-A-SERVICE

Clarity's "Sensing-as-a-Service" is the most scalable air monitoring solution on the market.

01

02

03

CLARITY NODE

- PM$_{2.5}$, PM$_{10}$, NO$_2$, tVOC, temperature, humidity
- Easy self-guided deployment (**under 5 mins**)

CLARITY CLOUD

- Integrated cellular communication
- Secure cloud storage & access
- Intelligent data accuracy correction

CLARITY INSIGHTS

- Pollution hotspot analysis
- Policy evaluation & planning
- Better prediction models

Clarity Node-S

Measures PM2.5, NO2, tVOC, PM1, PM10

$PM_{2.5}$ accuracy: $R^2 > 0.8$

NO_2 accuracy: $R^2 > 0.7$

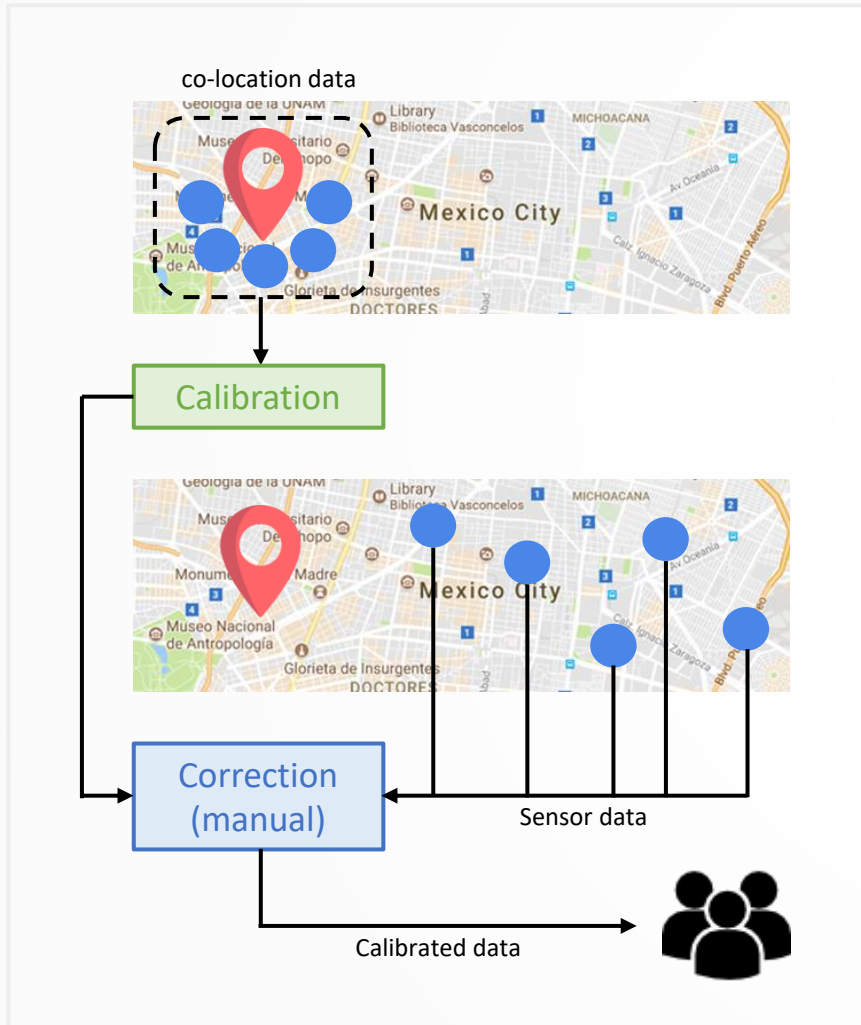Rated IPX3 Weather/UV Resistant

Solar Panel + Battery for self-powering capability

FCC + CE Certified

Cellular connection including global SIM & data costs

SmartCity, OpenMap, and API data access

Clarity Node

Measures PM2.5, NO2, tVOC, PM1, PM10

$PM_{2.5}$ accuracy: $R^2 > 0.8$

NO_2 accuracy: $R^2 > 0.7$

Rated IPX3 Weather/UV Resistant

External power supply for low sunlight

FCC + CE Certified
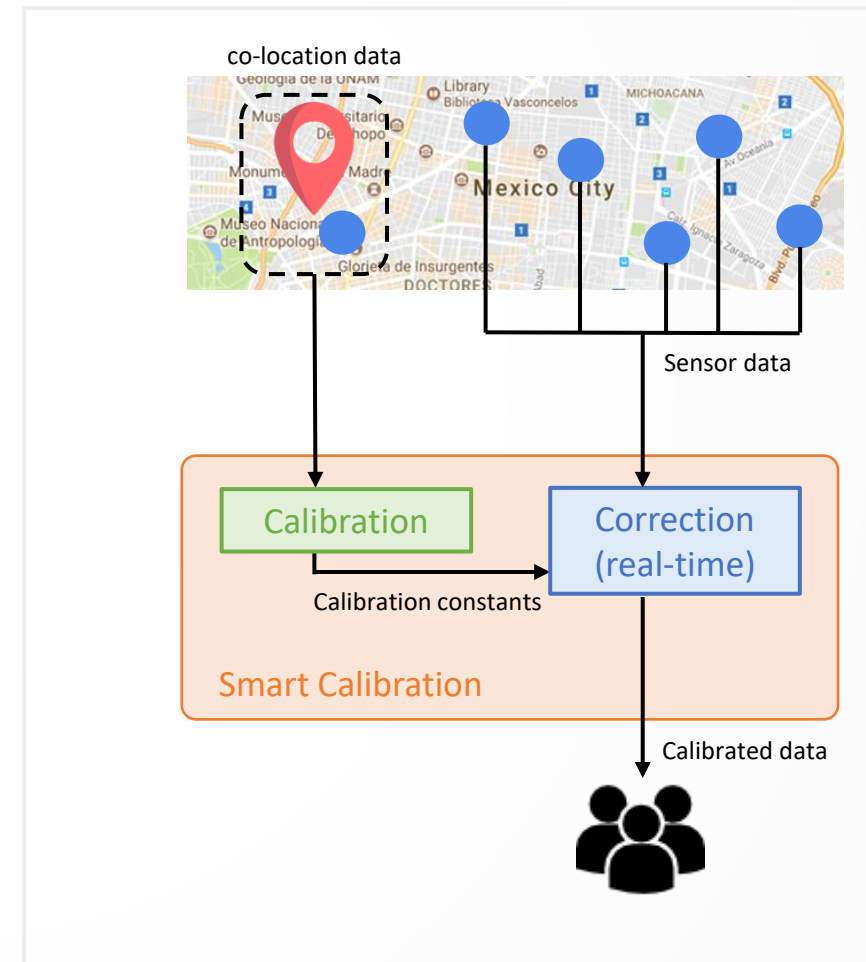
Cellular connection including global SIM & data costs

SmartCity, OpenMap, and API data access

Traditional Calibration

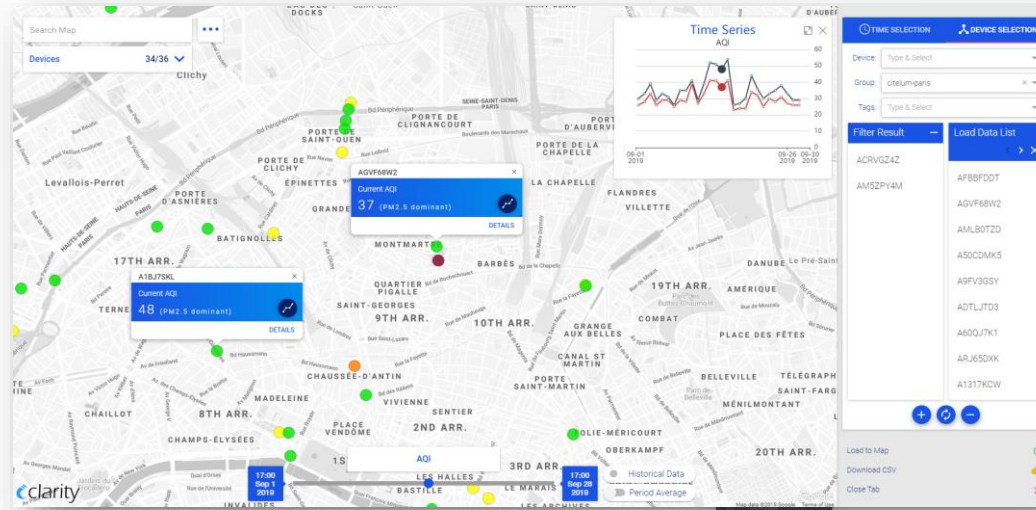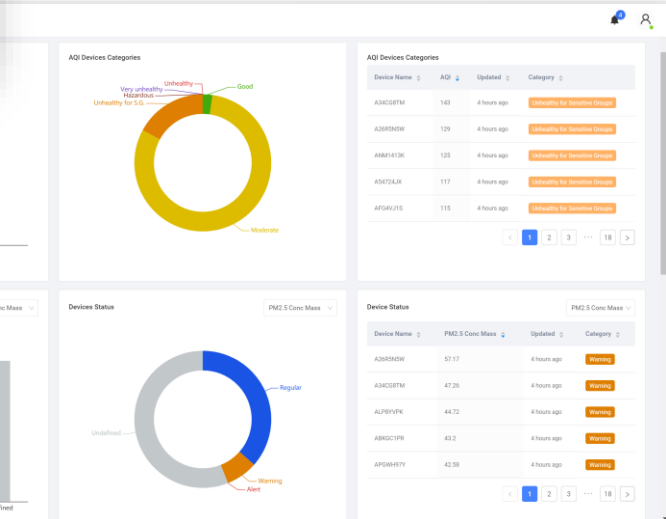# Clarity Smart Calibration™

SmartCity WebApp

- **User:** AQ scientist
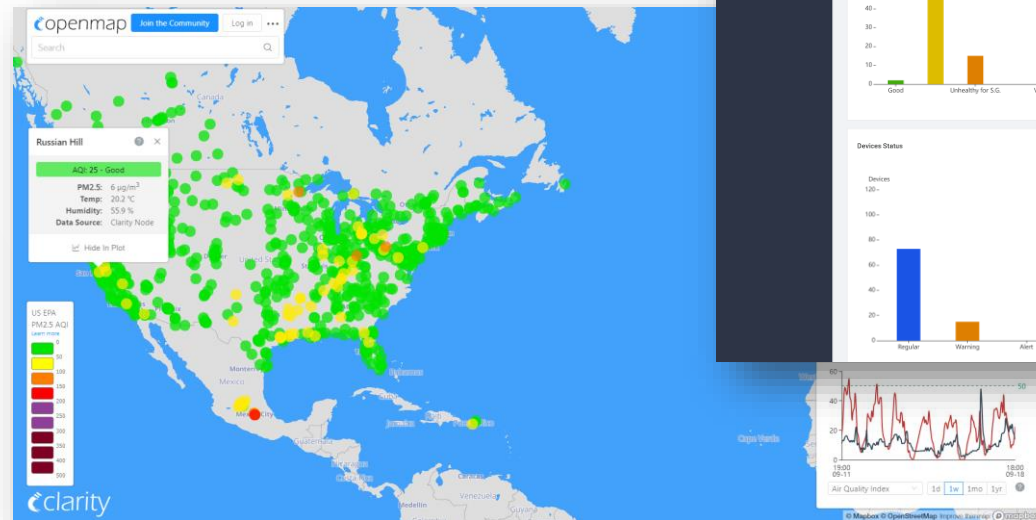- **Main function:** data search and download, preliminary data analysis

Clarity Dashboard (beta)

- **User:** Government & Industry
- **Main function:** network overview and insight creation

Clarity OpenMap

- **User:** Citizen
- **Main function:** allow institutional customers to share data with the public on a common platform

MAIRIE DE PARIS | Bloomberg Philanthropies

Exposure Study + Modeling

200 Clarity Nodes in Paris
- Save Millions of Euros avoiding ineffective policies
- Protect millions of children at their school

HEALTHY AIR COALITION | GCCA

Awareness Generation

40 Nodes in Bengaluru
- Monitor air quality at doctors and pediatricians' offices
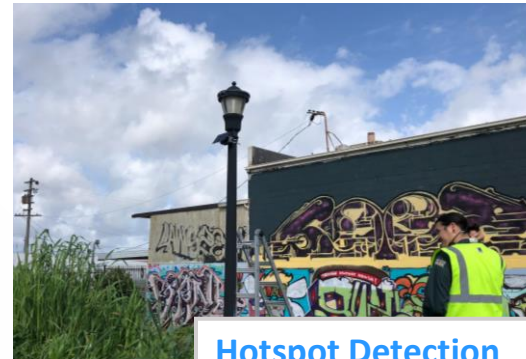- Raise patients' awareness of the risks of high pollution exposures

EDF ENVIRONMENTAL DEFENSE FUND

HOUSTON HEALTH DEPARTMENT

Emergency Response

20 Clarity Nodes in Houston
- Installed in <48 hours in response to petrochemical fire
- Continue to monitor emissions from refineries

RAMBOLL

CALIFORNIA AIR RESOURCES BOARD

GROUNDWORK Richmond

Hotspot Detection

50 Nodes in Richmond
- Identify unknown pollution sources
- Quantify emissions from refineries

THE WORLD BANK

Impact Analysis

30 Clarity Nodes in Kolkata
- Measure ROI of switching from diesel to electric buses
- Monitor exposure of citizens at bus stops

VALIDATED BY

TRUSTED BY

clarity

THANK YOU! LEARN MORE AT CLARITY.IO