

Remote Sensor Technology via the Cloud

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WHEN YOU NEED TO BE SURE

SGS

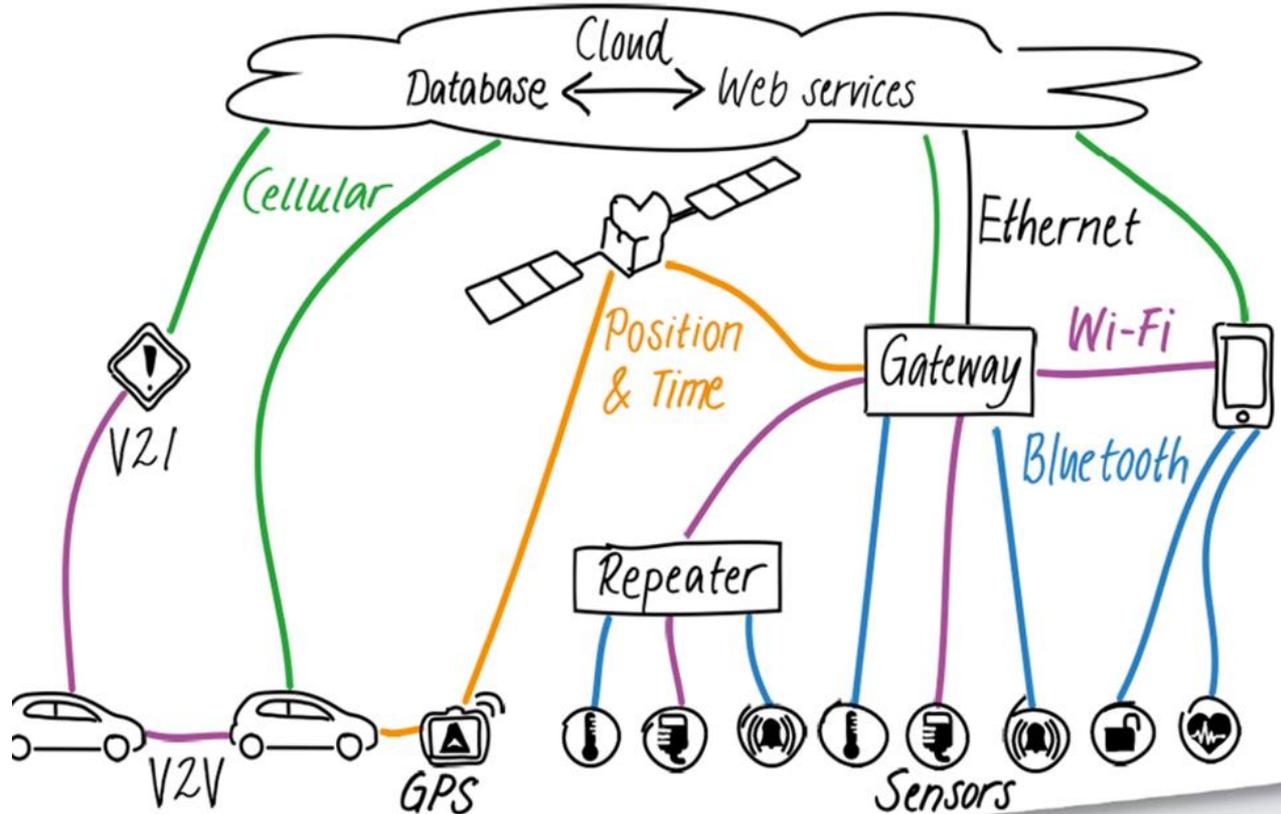


Advantages - The desire for real-time data

- Don't have to "be there" at the right time?
- Monitor "there while you are here"
- Call location for corrective action.
- Data logging once every minute per sensor, compile large amounts of data for risk mitigation.
- IH Tech in the field that is "billable"
- Protect and promote workers safety.



Cloud Connect



Cloud Sensor
Technology:
Most
manufacturers
buy product
from a few
suppliers
worldwide



Sensor List

Temperature,
Humidity and
Pressure

PM1, PM2.5,
PM10

NO₂

SO₂

O₃

CO₂

CO

H₂S

NO

H₂

Continued



Wind Speed and Direction



Noise



Pressure Differential



Field GC (NEW)

What is
available
today?

- SGS Galson SmartSense
- AWAIR
- airthinx IAQ
- PurpleAir

SmartSense Remote Cloud Monitor



With:
Wind
Speed
Direction



FL2 – Smart Sense™ Fence Line with 2 Sensors

VOC: Range 0-20 ppm

WIND: Range 0-25 meters/second

Comes with 3G cellular uplink, outdoor mounts and includes temperature, relative humidity and barometric pressure sensors.

[See Full Specs >](#)

[Quote Request](#)



With:
Sound
Level
Meter



CP2 – Smart Sense™ Construction Perimeter with 2 Sensors

NOISE: Range 0-150 dB

PM 2.5, 10: Range 0-2000
microgram/m³

Comes with 3G cellular uplink, outdoor mounts and includes temperature, relative humidity and barometric pressure sensors.

[See Full Specs >](#)

[Quote Request](#)

AWAIR IAQ

AWAIR 2nd Edition

See the Invisible

Awair tracks invisible fine dust and chemicals in your air and gives you personalized recommendations to help you stay safe and healthy.



airthinx IAQ

airthinx IAQ
an instrument for professionals

[Learn more](#) ▾



PurpleAir

A proven air quality monitoring solution for home enthusiasts and air quality professionals alike

Using a new generation of laser particle counters to provide real time measurement of (amongst other data), PM1.0, PM2.5 and PM10. PurpleAir sensors are easy to install, requiring a power outlet and WiFi. They use WiFi to report in real time to the PurpleAir Map.

[STORE](#)



AIR QUALITY SENSORS

Limitations



WEATHER



COMMUNICATIONS
PATH



POWER



THEFT



SENSITIVITY /
SPECIFICITY



COMFORT LEVEL

Weather



Rain



Fog



Heat



Cold

Communications



CELLULAR SIM
CARD



WI-FI
NETWORKS

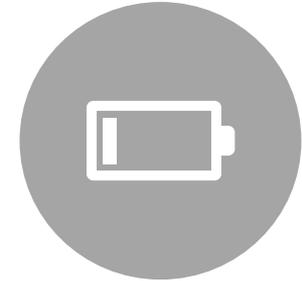


LORAWAN

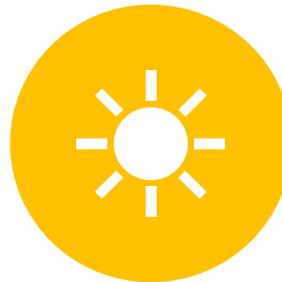
Power & Theft



110-240 V 50/60 HZ



EXTERNAL BATTERY

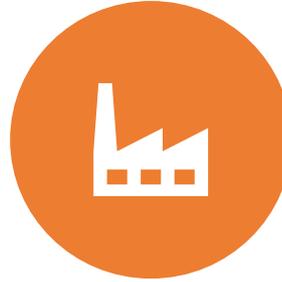


SOLAR FOR OUTDOOR
REMOTE PROJECTS



THEFT IS A CONCERN

Sensitivity and Comfort Level



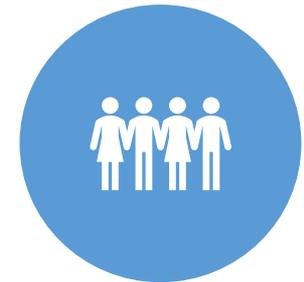
3 PRIMARY SENSOR
MANUFACTURERS
WORLD WIDE



SYSTEMS ARE
DELIVERED PRE-
CALIBRATED



SOME SYSTEMS CAN BE
RECALIBRATED VIA THE
CLOUD



SOME PEOPLE ARE
AFRAID OF NEW
TECHNOLOGY

Sensor Technology

SENSOR SPECIFICATIONS ¹

PARAMETER	DISPLAY UNIT	MEASUREMENT RANGE	ACCURACY	SENSOR TYPE
Temperature	°F or °C	0 – 120°F	0.02°F	–
Humidity	%	0 – 100	0.04%	–
Pressure	hPa	950 – 1050 hPa	1 hPa	–
Particulates (PM1, PM2.5, PM10)	µg/m ³	0 – 3000 µg/m ³	4 µg/m ³	Optical
Nitrogen Dioxide	ppb or µg/m ³	0 – 5 ppm	10 ppb	Electrochemical
Sulphur Dioxide	ppb or µg/m ³	0 – 5 ppm	10 ppb	Electrochemical
Ozone	ppb or µg/m ³	0 – 5 ppm	6 ppb	Electrochemical
Carbon Dioxide	ppm	0 – 5000 ppm	40 ppb	Nondispersive Infrared
Carbon Monoxide	ppm	0 – 50 ppm	10 ppb	Electrochemical
Hydrogen Sulphide	ppb or µg/m ³	0 – 20 ppm	50 ppb	Electrochemical
Nitric Oxide (NO)	ppb or µg/m ³	0 – 5 ppm	10 ppb	Electrochemical
Hydrogen (H ₂)	ppb or µg/m ³	0 – 150 ppm	600 ppb	Electrochemical
Volatile Organic Compounds (VOC) eq. isobutylene	ppb or µg/m ³	0 – 20 ppm	20 ppb	Photoionization Detector (10.6 eV)

1. Specifications are guaranteed provided that sensors are calibrated per manufacturer's recommendations.

POWER OPTIONS

- Mains power supply (100-240 V 50/60 Hz)
- External battery
- Solar panel
- Street light columns

COMMUNICATIONS

- Ethernet
- Direct Wi-Fi connection
- Internal cellular SIM module
- External 3G/4G hotspot
- IoT networks (LoRaWan, Zigbee, Sigfox, etc.)

Examples of Real Life Applications



Railroad Example



California Wild Fires

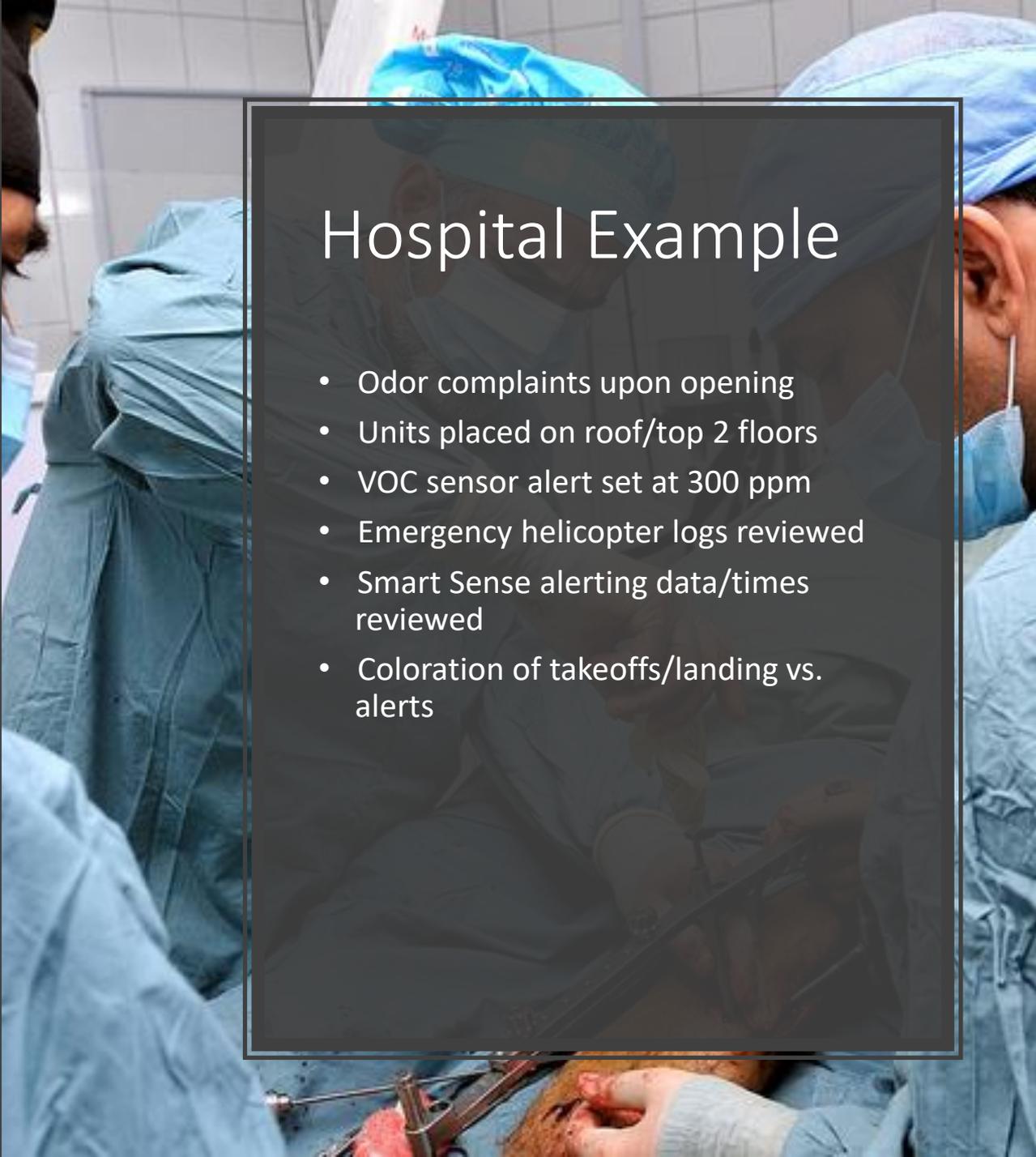
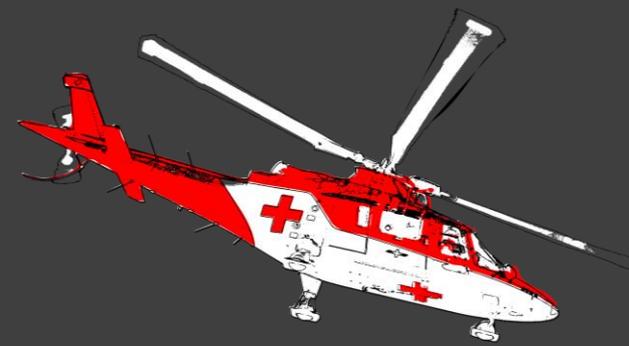
- Sampling post wildfire.
- Project length: 6 months
- Locations: Perimeter outdoor and indoor.
- 14 monitors
- Sensors: CO₂, NO₂ & PM 2.5 & 10.
- Outdoor units in protective cases.
- Plug-in power & external battery
- Connectivity: School Wi-Fi Network



Wild Fire / CALOSHA

- Units deployed inside & outside of target warehouses in CA., OR. and WA. for the 2019/2000 Wild Fire season?
- Warehouse doors open/close many times a day, PM 2.5 is the concern.
- New CALOSHA standard (CA only) states new actionable level to be 151+ for PPE.
- Single dashboard.
- Color coordinated warning system plus text/email alerting.





Hospital Example

- Odor complaints upon opening
- Units placed on roof/top 2 floors
- VOC sensor alert set at 300 ppm
- Emergency helicopter logs reviewed
- Smart Sense alerting data/times reviewed
- Coloration of takeoffs/landing vs. alerts

Cloud Portal



To view your online data



Run reports



Look at graphs

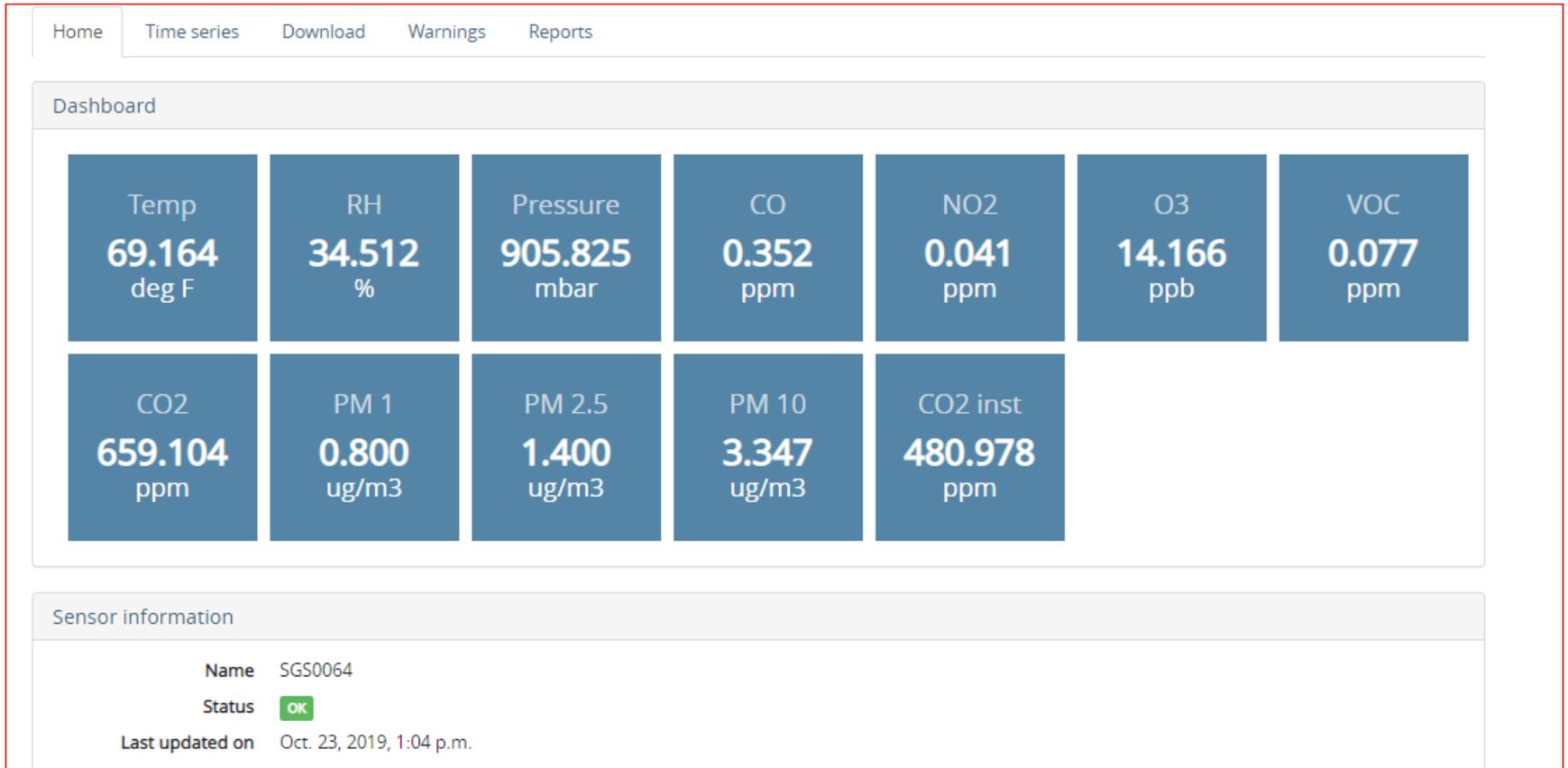


View alerts

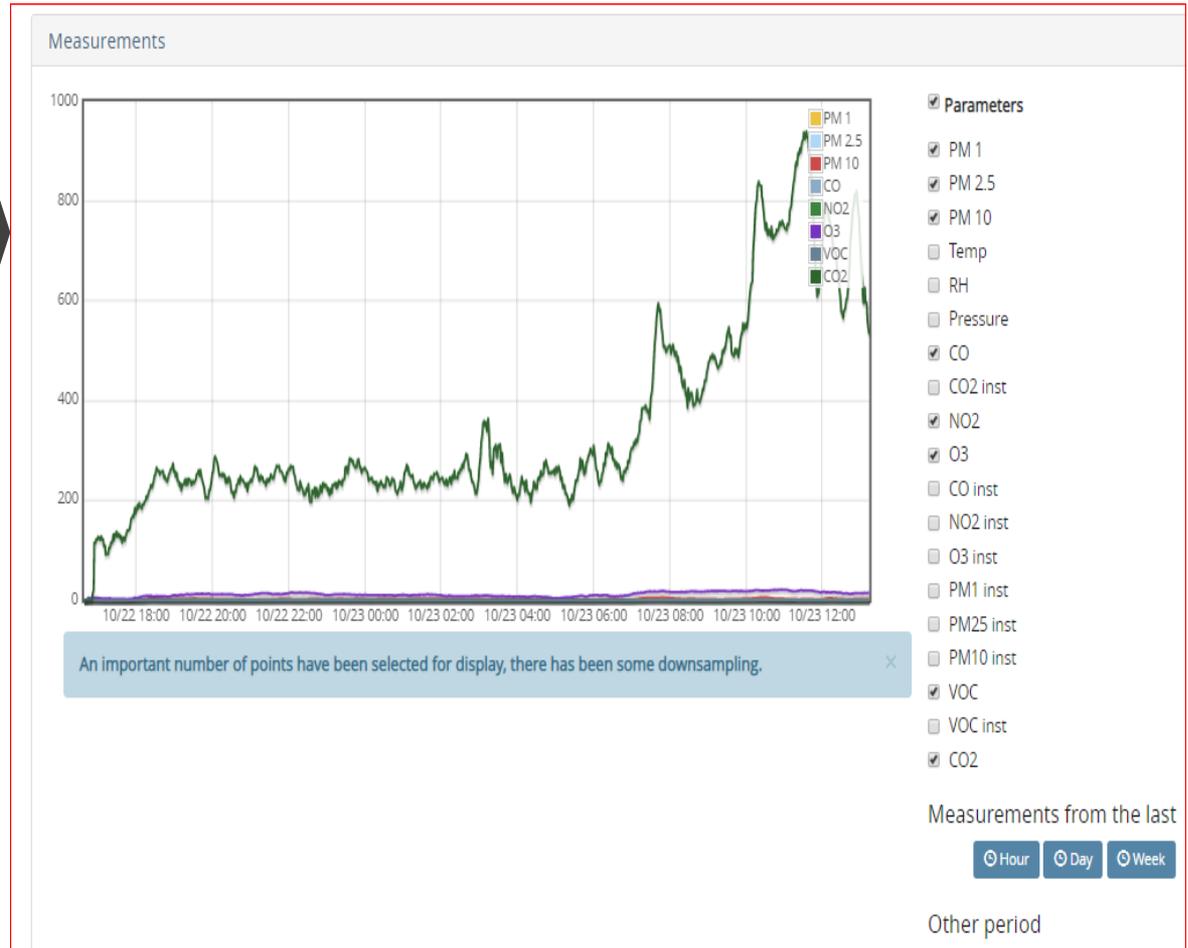
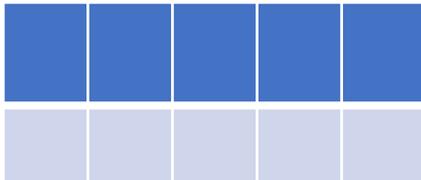


Communicate with your field team

User Interface



Graphical



Statistical Data

ECM - SGS0001-CL-1.56b

[Home](#) [Time series](#) [Download](#) [Warnings](#) [Reports](#)

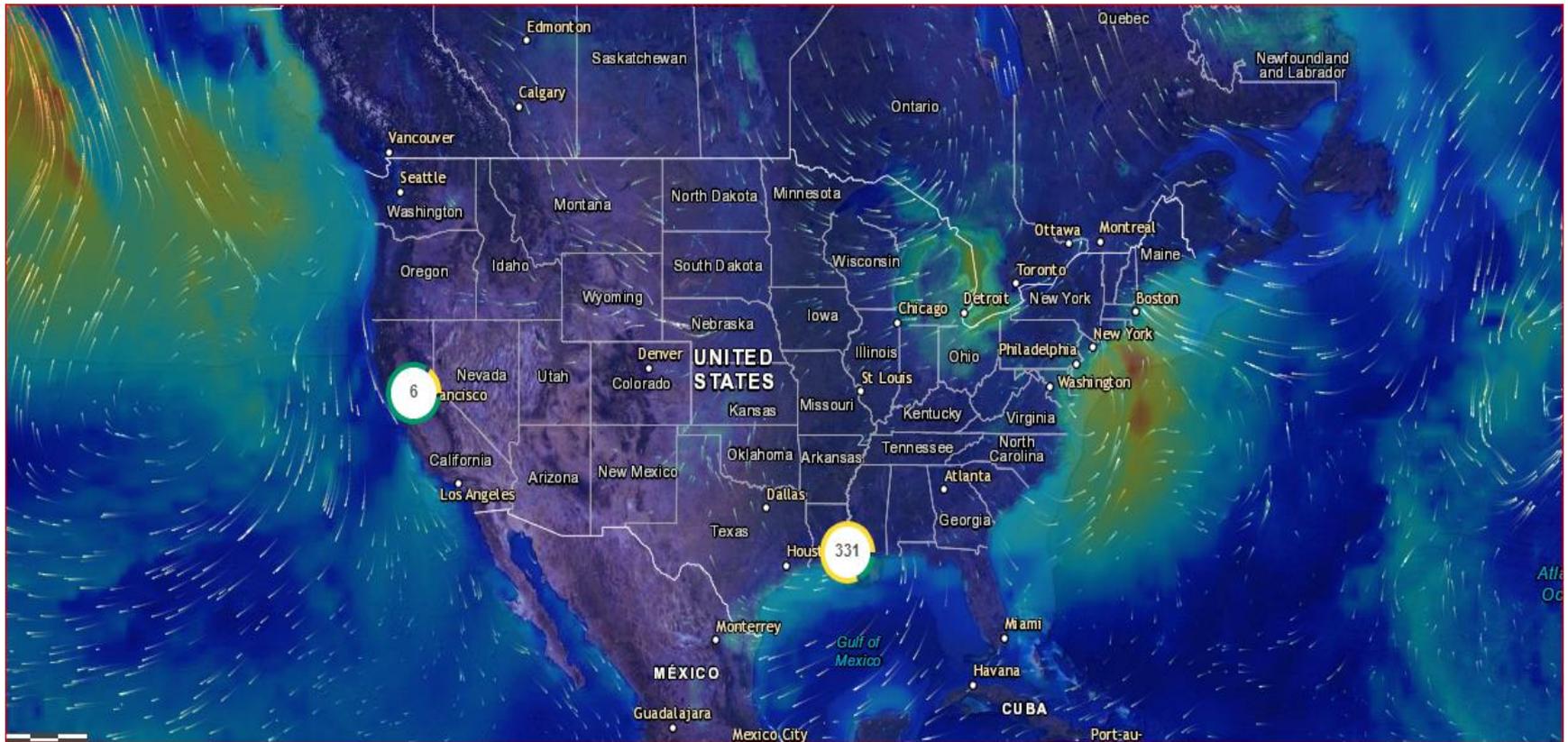
Time series

Date	9 minutes ago	an hour ago	an hour ago	an hour ago	an hour ago
Temp (deg F)	81.710	81.728	81.765	81.821	81.931
RH (%)	30.222	30.034	30.006	29.971	29.997
Pressure (mbar)	1003.536	1003.675	1003.655	1003.730	1003.824
CO (ppb)	207.390	176.652	172.880	166.446	173.252
NO2 (ppb)	13.860	6.628	6.557	7.010	7.888
SO2 (ppb)	0.000	0.000	0.000	0.000	0.000
VOC (ppb)	1836.344	1836.344	1836.344	1836.344	1836.344
CO instant (PPB)	207.390362324	191.443383868	191.739052209	192.182967865	152.835915013
NO2 instant (PPB)	13.8600220917	8.63776861528	6.9126136741	5.19691519054	5.2536391084
VOC instant (PPB - Isobutylene)	1836.34440104	1836.34440104	1836.34440104	1836.34440104	1836.34440104

USA Smoke Map

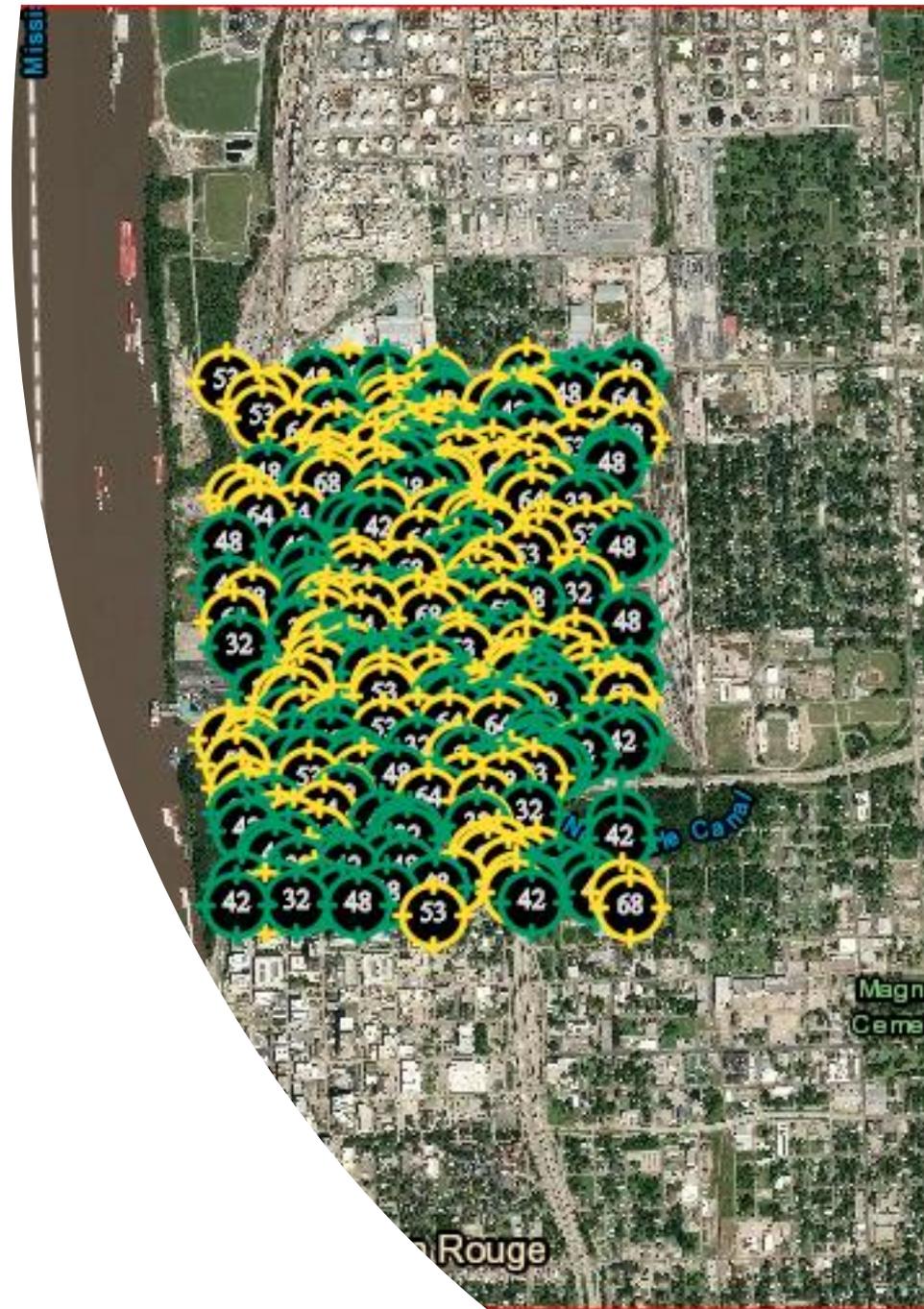


Wind Direction and Speed



Micro View

- View your monitor data from 1 unit to over 1000
- Instantly know if you have issues by the color coded rings
- The numbers represent a job cluster.



Summary



Investigate known or suspected air quality issues, indoor and out



Supplement traditional and regulatory defined monitoring methods with continuous cloud monitoring



Remotely and autonomously capture air samples for lab analysis



Collect large amounts of data with reporting capability

Monitor
their while
you Are
here!

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