

SCENTROID



CTair

Continuous Urban Air Quality Monitor

Product Brochure

Letter from Scentroid's CEO

Scentroid's mission is to empower our clients with vast in-depth knowledge, state-of-the-art instruments, and the most extensive customer support. To this end, we strive in every aspect of our operation to put our client first and to use our research expertise to develop the most innovative and effective products and services in the sensory industry. We envision a future where environmental impacts will be easily and accurately measured and mitigated.



Dr. Ardevan Bakhtari
CEO, Scentroid

INTRODUCTION 02

- Introducing CTair 03
- A Brand New Way of Sensing 04

CTAIR OVERVIEW 05

- Specifications 06
- A Sensor For Every Situation 07
- Traffic Counters 08
- Installation Overview 09
- Advanced Reporting 10

COMMUNICATION CAPABILITIES 11

- Communication Methods 12
- Mesh Networking 13

SIMS2 14

- SIMS2 Overview 15
- SIMS2 Features 16
- Setting Up New Facilities 17
- SIMS2 Pro and Lite 18

CALIBRATING YOUR CTAIR 19

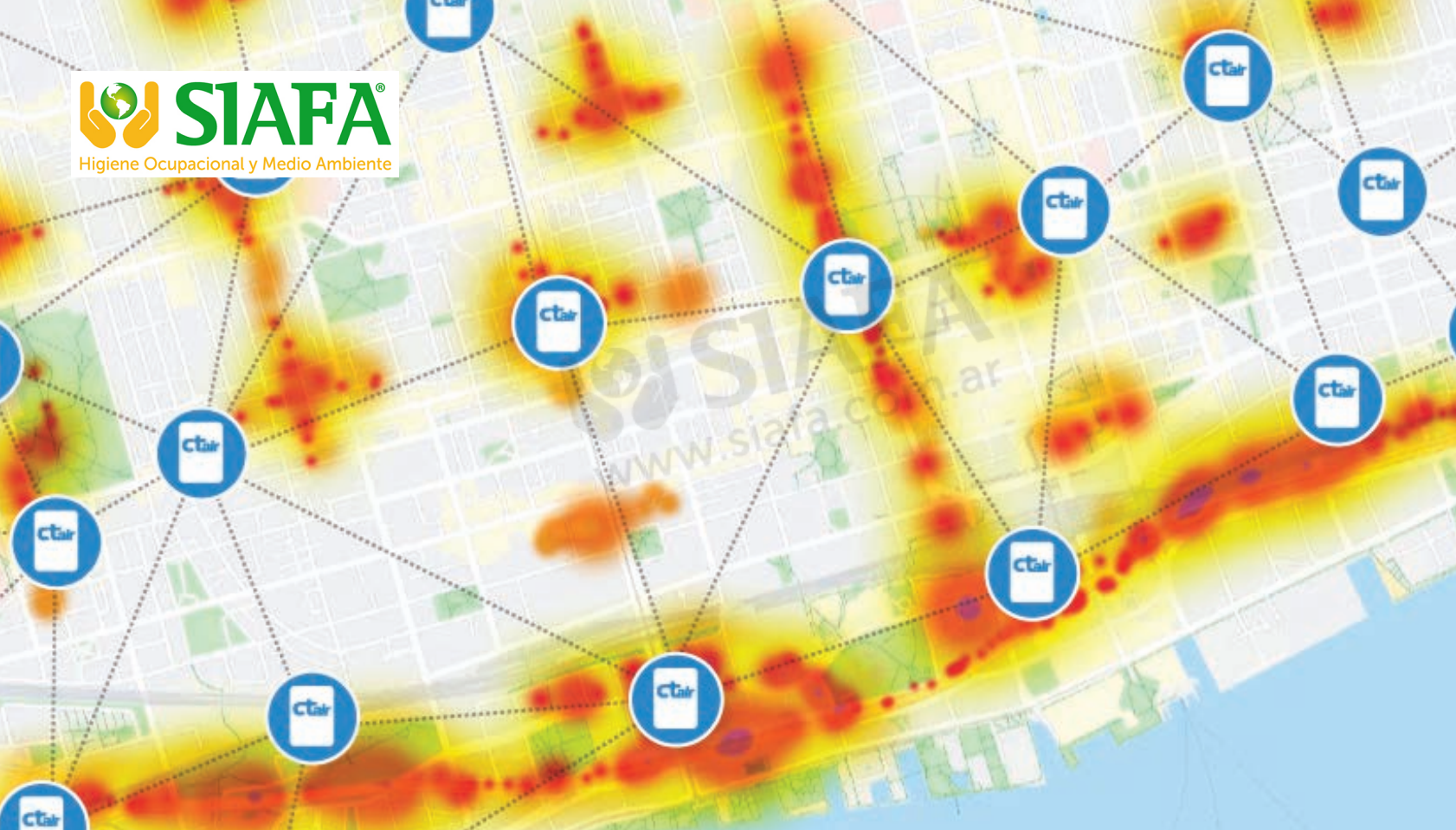
- Method 1: Change Sensors 20
- Method 2: Co-location 21
- Method 3: GD600 22

AFTER-SALES SUPPORT 23

- Training & Warranty 24
- Technical Support 24
- Find Us on Social 25

INTRODUCING THE CTAIR





Compact, cordless, easy to use, high accuracy sensing. The CTair revolutionizes the air quality monitoring network industry. Understanding urban air pollution and the potential impact on health is fundamental to both city structure and planning.

The CTair+ monitoring station is a fixed unit that collects information from a variety of sensors and presents the data in an easy to understand

graphical interface. By applying information collected from multiple data points, the CTair allows the user to gain a complete understanding of the chemical compounds being monitored. It has been designed to be dispatched into a network of CTair units. Due to its lightweight design the CTair unit can easily be installed and mounted to a light fixture or utility pole.

The CTair has been designed to monitor target

gases (which can be specified at the time of ordering). A full list of sensors is available on our website.

Please contact us for any questions or clarifications at info@scentroid.com OR call us at +1.416.479.0078



Solar Powered Option

No power? No problem! The Ctair features an optional solar power generating system. Just angle the panel and turn on your unit!



Powerful Dust Analysis

High accuracy dust analysis (PM1, 2.5, and 10) using a patented multi-beam laser counter and heated sampler.



Small and Lightweight

The CTair is smaller than comparable analysers minimizing cost and spatial real estate.



Smart Networking

CTair units work in tandem to predict and collect data for an accurate air quality assessment in a large urban landscape.



AI Compensation

The temperature and humidity compensation utilized by our AI modeller is able to predict pollutant levels to 96% of true concentration



Wide Variety of Sensors

With over 300 million different sensor combinations available, no application is too big or too small. Scentroid has you covered!

A New Method of Sensing

The CTAIR uses new technology in electro-chemical sensing. Each sensor is equipped with a novel ASIC chip that provides a wide range of functions such as digital signal filtration, adaptive amplification, re-zeroing, and impedance spectroscopy. Scentroid's patented technology uses impedance spectroscopy to effectively compensate for temperature and humidity changes in the environment.

This technology works so well, that **independent studies have shown a 98% accuracy retention** even in extreme weather conditions.

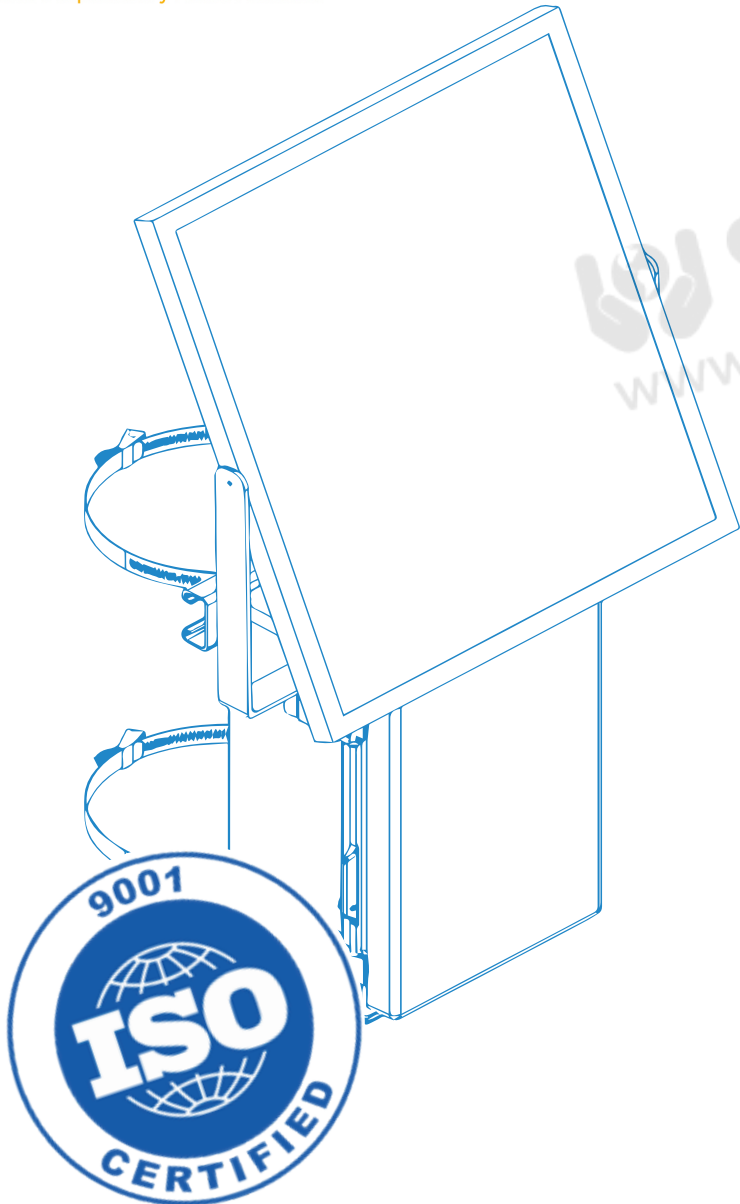




SCENTROID

ctair

CTAIR OVERVIEW



Specifications

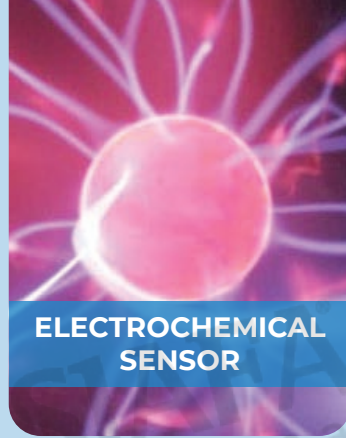
Product name	Scentroid CTair
Maximum # of sensors	11 (4xEC, 1xCO2, 1xPID, 1xCH4, 1xPM, T, RH, Barometer)
Type of sensors	PID, NDIR, EC, Laser Particulate Counter, Temperature and Relative Humidity, and Barometric Pressure
Sampling rate	Approximately 1/m
Weight	4.5kg with solar panel
Size	19 x 29 x 14cm CTair unit, 37 x 34cm for solar panel mounted on top
LED Indicator	Color-changing LED Light displaying unit status
Communication	WiFi, 3G, 4G, LoRa
Power Requirement	Solar power and AC power, 110 - 240 VAC
Cloud server	Data logging, analysis, alarms, remote management
Alarm Equipped	On cloud, not on the unit itself
Temperature range	-40 to 40 °C
Operating R. Humidity	10 - 90%
Device Health	Daily sensor health checks and provides sensor replacement reminders
Warranty	24 months full warranty to all parts including sensors
Sensor replacement	Sensor dependent - first 2 years covered by warranty
Mounting	Configurable for wall or pole mount
Battery Only Runtime	36 hours (base model)
Traffic Information	Vision-based traffic classification and count
Design Rating	IP53
Local Storage	SD card - long term continuous logging
Internal Access	Securable by cable/pad lock
Calibration	Factory calibration to fully documented procedures in accordance with our ISO 9001 quality management system



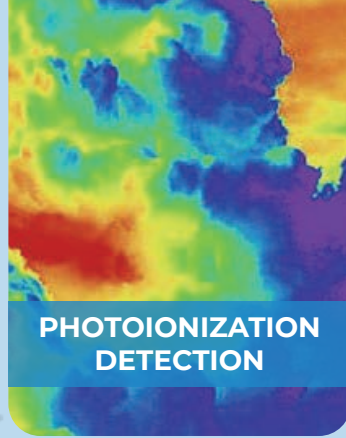
**LASER SCATTERED
SENSOR**



**METAL OXIDE
SENSOR**



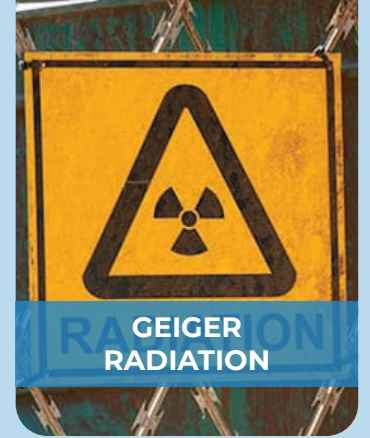
**ELECTROCHEMICAL
SENSOR**



**PHOTOIONIZATION
DETECTION**



**NON DISPERSION
INFRARED**



**GEIGER
RADIATION**

AIR CONTAMINANTS	HYDROGEN CHLORIDE	PARTICULATE MATTER 2.5	HYDROGEN
AMMONIA	HYDROGEN CYANIDE	PARTICULATE MATTER 10	OZONE
BENZENE, ETHYLBENZENE	HYDROGEN SULFIDE	PHOSPHINE	VOCS
CARBON DIOXIDE	METHANE	RADIATION	HYDROCARBON
CARBON MONOXIDE	METHANE (LEL)	RADON GAS	OXYGEN
CARBON DISULFIDE	METHANOL & ETHANOL	SULFUR DIOXIDE	TSP (PM REQUIRED)
CHLORINE	METHYL MERCAPTAN	TERT BUTYLTHIOL	FORMALDEHYDE
CHLORINE DIOXIDE	NITRIC OXIDE	TETRAHYDROTHIOPENE	ORGANIC SOLVENTS
ELECTROMAGNETIC FIELD	NITROGEN DIOXIDE	TOULENE	TRS AND AMINES
ETHYLENE	NITROUS OXIDE	XYLENEPLUS MORE! SEE OUR WEBSITE

A Sensor for Every Situation!

The CTair can be equipped with up to 12 sensor varieties, including pressure, temperature, relative humidity, dust (PM1, 2.5, and 10), noise, radiation, traffic, wind, and more. As a matter of fact, you can create up to 300 million different sensor combinations! No application is too big or small. Scentroid has you covered!



Traffic Counters

Upon request, our CTair units will be equipped with a full, non-contact vehicle counter. A proprietary target tracking algorithm allows simultaneous tracking of multiple vehicles traveling in adjacent lanes, further facilitating accurate counting.

Our sensors offer the greatest value in traffic counting and speed detection available. These sensor systems are easy to install and priced right for any budget. They will allow you to collect and view traffic details in real time from anywhere.

Our counter also features a passerby, bicycle, and scooter counter resulting in accurate direct speed measurement and readings. The built in vehicle classification system recognizes more than 4 vehicle size classes. A counter in conjunction with our AI system will provide you with a direct correlation between traffic and pollution.

Technical Specs

Ambient Operational Temperature of Traffic Camera:
-40°C to 60°C degrees celcius

Ambient Relative Humidity:
0% to 100% relative humidity

Ideal Weather Conditions:
All, including snow, rain, and other inclement weather.



Easy to Install and Operate

The CTair is smaller and lighter than comparable analyzers minimizing both costs and spatial real estate. Each unit is equipped with four mounting feet used to mount it to a wall or post. These mounts are shown as illustrated here. Should you require a different method of mounting the units, Scentroid can assist you and provide new and innovative solutions.

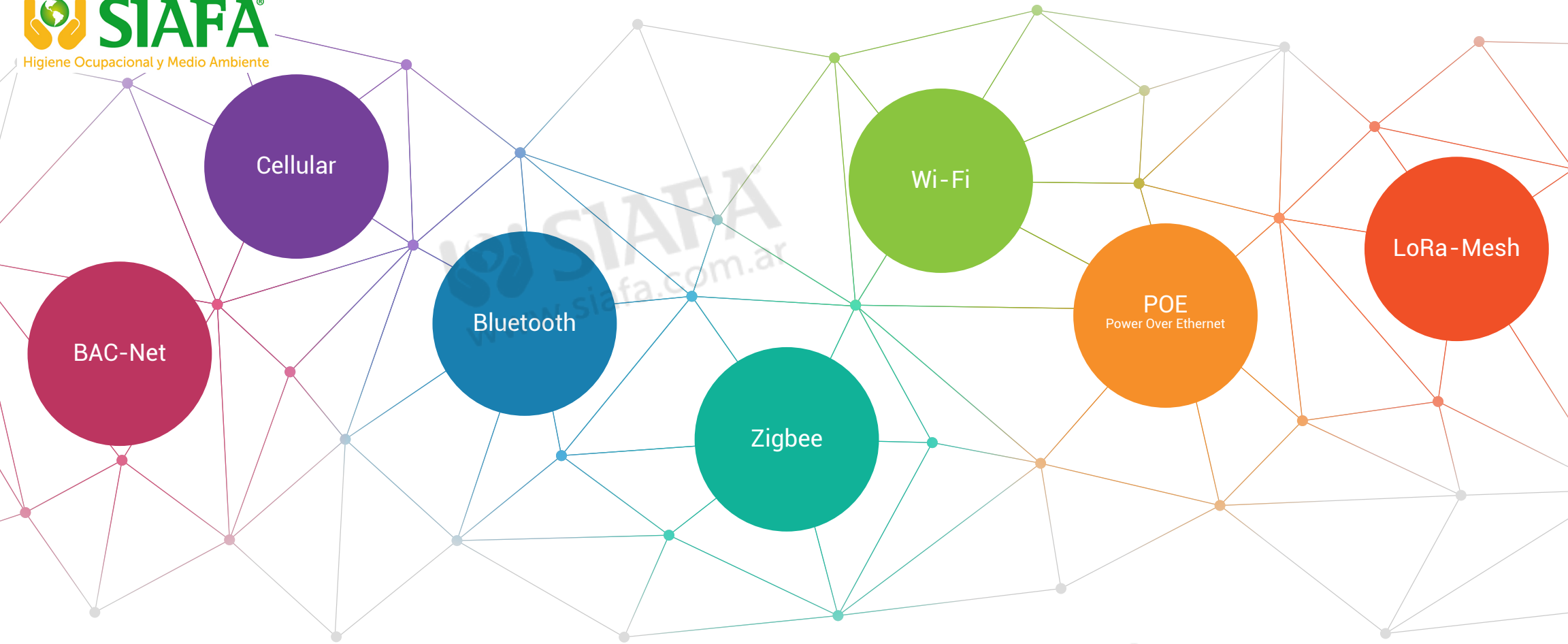


Advanced Reporting

Our advanced reporting module found within our SIMS2 system will provide you with the tools you need to make informed decisions regarding your monitoring projects. Generated with the click of a button, our document will provide you with averages along with a thorough individual sensor report.

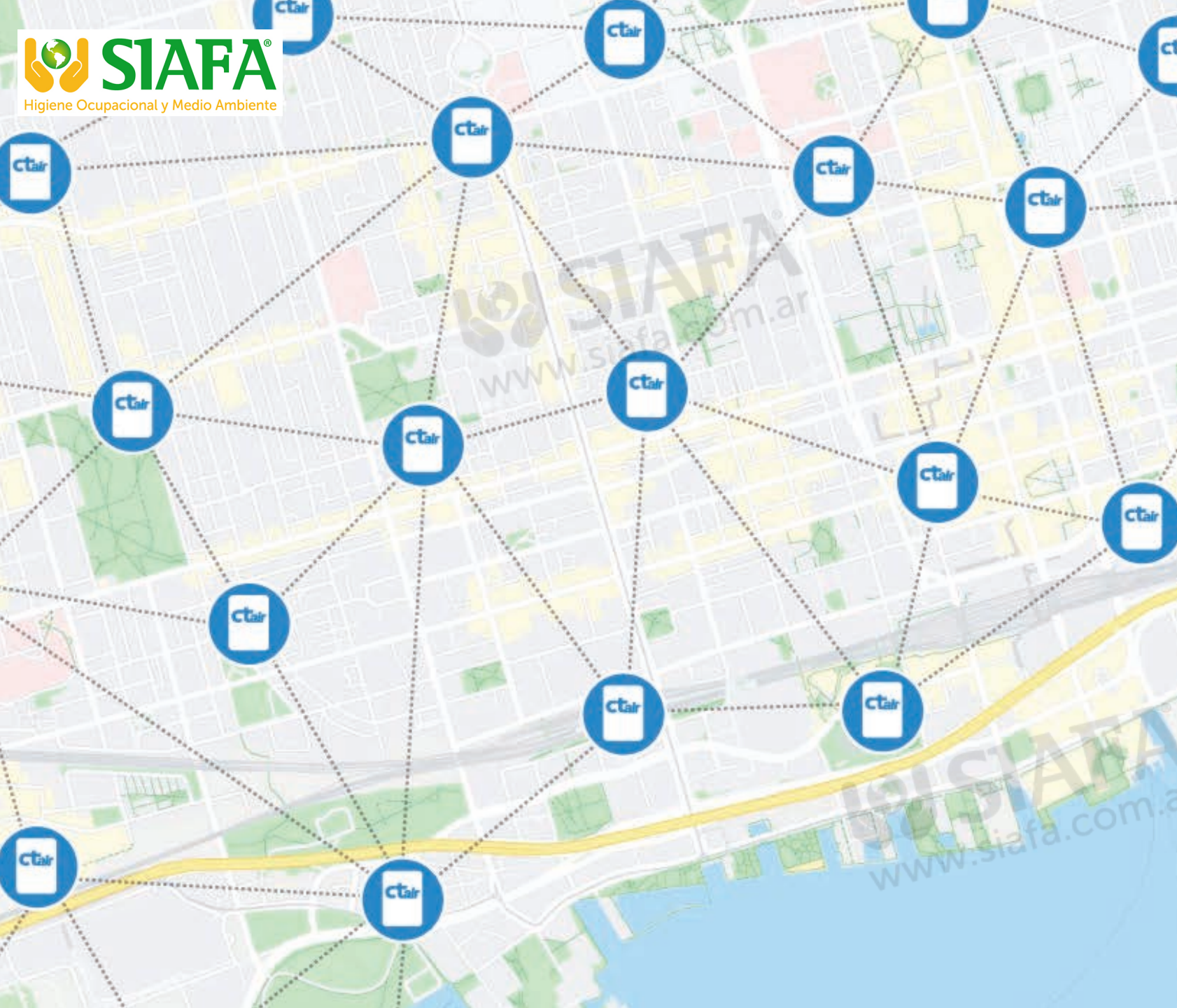


COMMUNICATION CAPABILITIES



Communication Methods

The Scentroid CTair will arrive pre-configured to work with multiple communication protocols. We can easily integrate it into your system, whether it's through bluetooth, cellular, or wifi. Cross product integration has never been easier! If you required a connection between multiple CTair units, or if your facility required some form of communication between a different Scentroid Analyzer, for instance, the AQSafe or the Scentinal SL50, Scentroid has you covered!



Mesh Networking

If you happen to purchase multiple Ctair units, they can be deployed as a network mesh. This allows you to monitor an entire perimeter or a facility as a singular, coherent unit. Each individual Ctair form a mesh based connection with one another through a LoRa network.

Individual communication protocols can be costly with the required purchase of multiple modems and operational SIM cards. By utilizing a LoRa-Mesh network, you eliminate costs associated with having each unit communicate with our cloud server independently.

Each analyzer network will only require 1 or 2 gateways, and the gateway will communicate directly with our cloud service, SIMS2. As mesh networking encourages multi node hopping, if any node were to be disabled or if a communication path were to be broken, the Ctair units will automatically communicate with one another in order to find a different pathway to a gateway.

This robust and sophisticated system ensures your data is always live and frequently updated. When the encrypted LoRa-mesh data reaches SIMS2, we can then visualize data, and apply AI to determine patterns, heat maps, and trends.

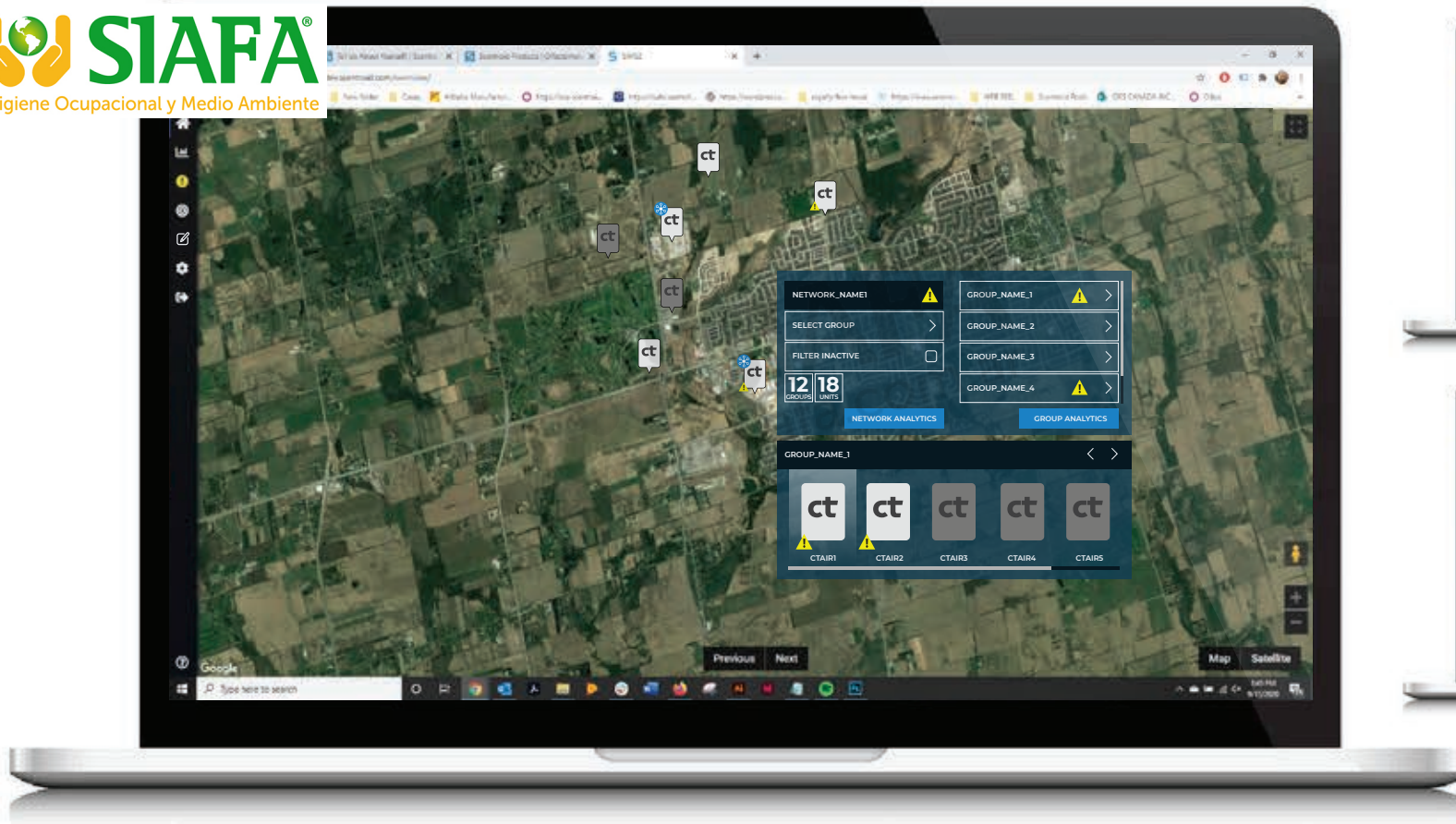


SIMS2 Overview

The Scentroid Sensor Information Management System, SIMS2, is our all-inclusive software used to view historical data, run diagnostics, and configure various settings for the CTair. Provided as part of the CTair continuous air quality monitoring package, the software can be accessed with any stable internet connection.

Plus, as a valued Scentroid customer, you will receive a free one-year subscription to our SIMS2 cloud software.





User Interface

SIMS2 provides easy analysis tools for an operator to determine pollutant threats, air quality alarms, historical data, sampled areas, and much more. The easy to use graphical interface allows anyone to run complicated data analytics without being a GIS expert.

Easy Analysis

SIMS2 is capable of displaying data from multiple CTair units in the same network. Users can analyze data and monitor progress remotely from a single platform. Here you can select a date and time range for an assessment of your device's recordings, and export your results.

Settings Page

Scentroid has recently developed our SIMS2 settings page – giving you an easy to use environment to easily adjust any of your analyzer's notification thresholds, all of their calibration parameters and more. The built-in AQI interface provides information regarding the current air quality index.

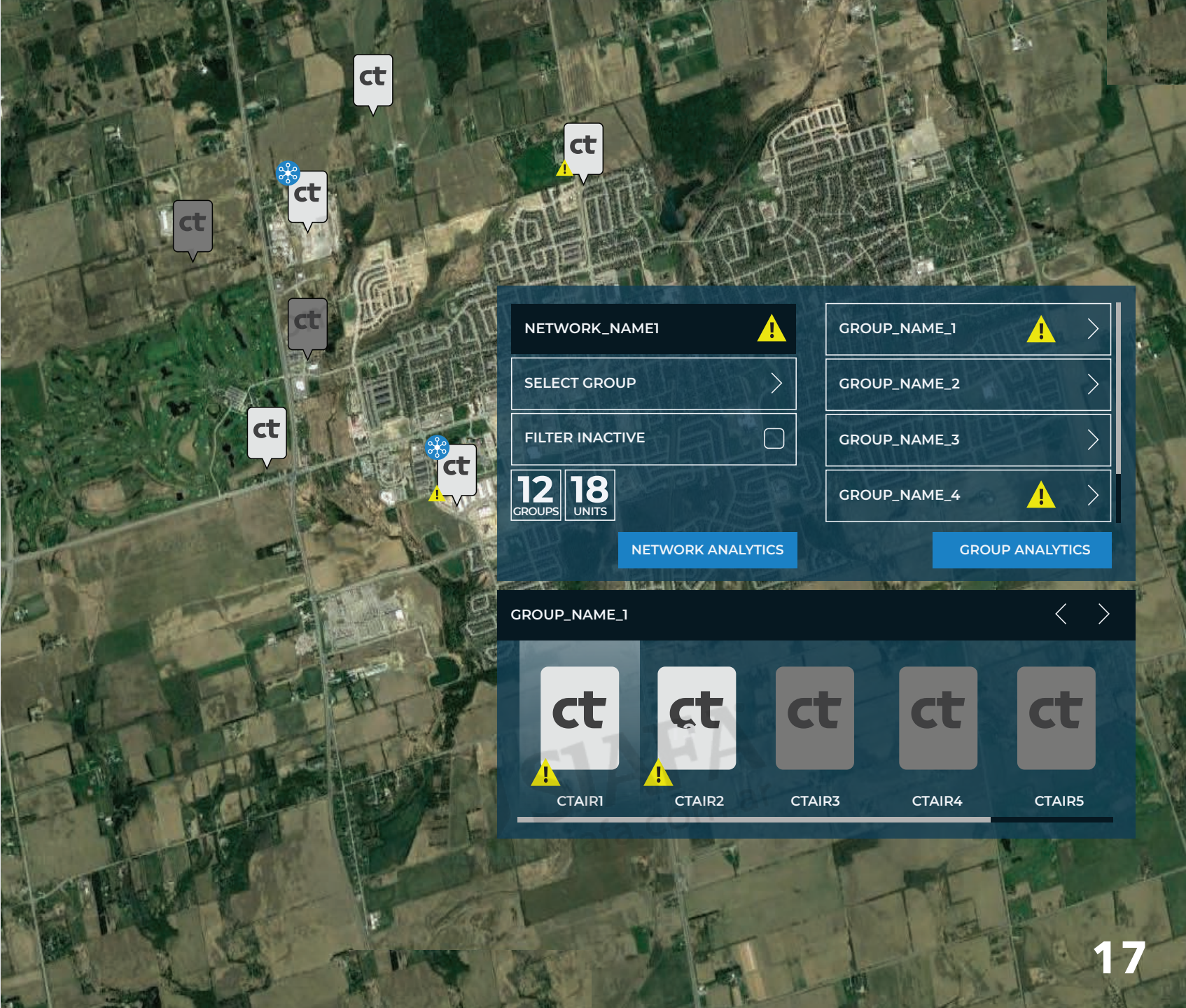
Notifications

Our revamped SIMS2 notification center allows you to quickly view your analyzer's activity, health, and alarms through a clean and organized interface. Here, you can access your CTair, look up a specific sensor, display all of your established alarms/alarm rules, and detailed alarm status.















Setup of New Facilities & Networks

An intelligent air quality monitoring system must work efficiently with any network size. Having an organized and easy to understand software solution is essential. The CTair SIMS2 platform has you covered. Regardless of network size, you are now able to organize every CTair subgroup, and rename them as you see fit.

Recalling a previous CTair unit / group has never been easier! With a friendly, user-intuitive naming system and built-in search functionality, finding any CTair within your network can be completed within a matter of seconds.



SIMS2: commitment free structure

	Pro	Lite
 Number of guest users per account	15	0
 Secure data storage	Unlimited	Previous 2 Years
 Graphing of multiple sensors per individual equipment	○	○
 Equipment error notifications	○	○
 Over-the-air firmware upgrades	○	○
 Export of raw data to Excel	○	○
 Setup of new facilities and networks (AQSafe only)	○	○
 Email and SMS alarm system	○	✗
 Zone of influence calculation (SL50 + CTair only)	○	✗
 Radar plotting (SL50 + CTair only)	○	✗
 Graphed sensor comparison mode	○	✗
 Automatic event detection	○	✗
 Automatic report generation	○	✗
 API for external data retrieval and 3rd party integrations	○	✗

As a special thank you for being a Scentroid customer, our SIMS2 Pro service is **FREE** for 1 year from the date of initialization!



CALIBRATING YOUR CTAIR

METHOD 1: Change your sensors



Factory Calibrated Sensors

Calibrating your CTAir can now be completed in under 10 minutes! By annually removing your sensor and replacing it with a brand new factory calibrated sensor. The new calibration factors will be automatically updated on the cloud. Not only will this keep your CTAir calibrated, but will also ensure you always have a fresh sensor installed. SIMS2 can even be setup to remind you to order your new sensors before calibration is due.

METHOD 2: Co-location using a USEPA approved reference station

Step 1: CTAIRS are brought to the location of a fixed reference station which measures the same parameters. The station must output data at least once every 5 min.

Step 2: Collect data for 24 hours or more.

Step 3: Upload data from the reference station (in CSV format) to SIMS calibration module. SIMS powerful AI algorithm will conduct a full calibration of all sensors and provide you with accuracy and confidence of the new calibration parameter.

Step 4: Reinstall CTAIR back at location.



METHOD 3: Using calibration gas and GD600 (If a reference station is not available)

Step 1: Install the inlet connector to the CTAIR being calibrated and connect it to the GD600 automated calibration module.

Step 2: Connect calibration gas to the GD600.

Step 3: Program the GD600 to output 3 concentrations of the gas along with zero air.

Step 4: In SIMS calibration module select the calibration time/date range and provide the gas concentrations used. The parameters are automatically created, and the instruments are updated by SIMS.



AFTER-SALES SUPPORT

Training

Training is the key of using any instrument, and Scentroid provides worldwide training programs for our clients and distributors. Training can be conducted by Scentroid or your local distributor. Scentroid training tools include: online training, videos, brochure, operation manual and on-site workshops. We also offer a hands-on training program using our high-tech simulation room. Scentroid's state of the art simulation room is located at our headquarters in Toronto, Canada. You are more than welcome to visit us and meet with the people behind these products

Warranty

We are so confident of the reliability of our products, that we are glad to offer our clients a comprehensive 24 month warranty for every CTair. Additionally, warranties can be extended for the 3rd, 4th and 5th year. For more information about our extended warranties, speak to us today.

Technical Support

We are responsible for any products that exit from our manufacturing warehouse! Our support team offers different ways to help you. Choose the one most convenient for you below!



Local Support

We have developed a vast growing network of distributors and repair facilities. To find your local support please check our distributors map.



Phone Support

Our highly professional customer services are here to serve you, for any technical issue reach them easily via phone: 416.479.0078 – Ext 210



SME Support

Connecting you to the Subject Matter Experts! Our customer support is unique in that you can talk directly to the designer or programmer of each product.



Live Chat

If you feel it more convenient to solve your technical issue via chat, No problem! Reach our highly professional customer services through our website-hosted Live Chat.



Email Support

For any technical issue you may encounter, our engineers are happy to assist via email. For fast and efficient support, simply email our team at support@scentroid.com

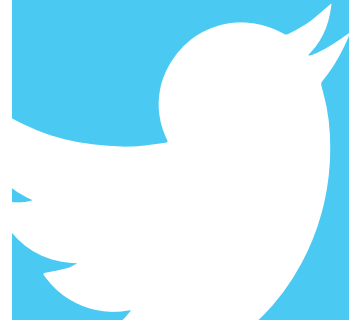
LET'S
BUILD OUR
NETWORK

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FULL
PICTURE

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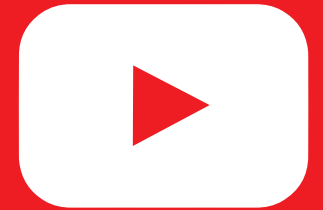
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