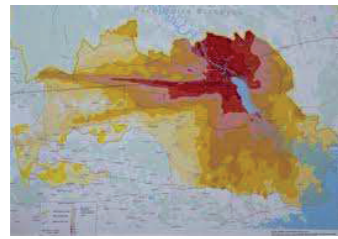
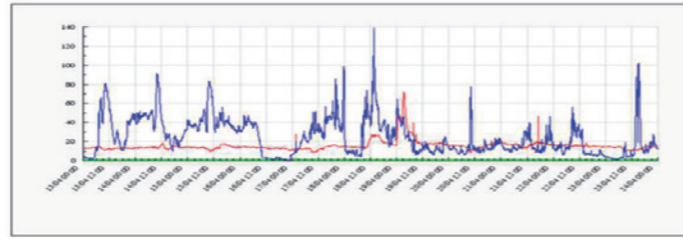


## Software

Designed to monitor one or more industrial site(s), the WT 1 measurement network provides you with real-time key information for efficient management of chemicals and olfactory pollution.



DISPERSION PLUME



■ O.U. (ODOR UNITE) ■ H2S ■ NH3

### Off line dispersion plume

- Dynamic 3D mapping of dispersion plumes
- Calculations of concentrations in the vicinity of the site(s)
- Automated dispersion reports

### On line alerts and source identification

- Configurable alert threshold
- Process control (Bio filters, scrubbers, ventilation ...)
- Pattern matching software ( PCA, LDA, PLS )

### Real-time alerts

- Configurable alert threshold
- Notification by warning siren, flashing light, SMS, email, ...

### Control of air treatment facilities

- Automatic activation & deactivation based on emissions levels
- Amount of additives adjusted to the odor concentration

### Cloud SAS Based Hosting

The central monitoring station is hosted on a secure cloud based server allowing remote access via any internet based computer. The access is restricted and the data is encrypted for maximum security. Users are given a password and user name which will define their permission level. Operator access can simply view the results and create reports while administrator access can reconfigure the system and set all parameters.

### Graphic Emission Representation and Reporting

The monitoring system continuously provides real-time readings of all sensors in the grid plus has the capability to show data for any defined instance in time. Furthermore reports such as specified period mean, high, low and variance for each sensor can be shown. Other reporting options such as sensor ranking in highest average reading and highest variation can also be requested.

## Technical specifications

- 4 Micro sensors MOS for fence line monitoring and sources identification
- Gas concentration on line via EC sensors (CO, N2 and more optional)
- Up to 6 Detected gases (with use of optional sensors) plus PID for VOC
- H2S, Mecaptans, Amines, NH2, SO2, CO2, CO, CL, C2HO4, H, HCl, HCN, NH3, O3, NO2, PH3, H2S, O2, SO2, CH4, NO, and VOC
- PM particles from 0,3 to 17 um (optional)
- FFT Microphone for noise monitoring
- Stand Alone Rechargeable battery (48 h autonomy) via a solar panel
- 48 h Data logger in case of loss of communication
- Wireless communication via LORA (1 to 2 km) or GPRS
- Software access anywhere via Secured servers
- Installation time 1 H
- Additional parameters Temperature, Relative Humidity
- Operating temperature range -30 to 60°C



## WATCHTOWER I



Odors



Air Quality



Gas



Particles



Noise for Fence Line monitoring

## Our Health depends on the Air Quality

Autonomous & Wireless

Fence line monitoring of Voc, Odors & Air pollutants

Network of field-based Gas & Odors analyzers

- Monitor Gas & VOC emissions 24/7
- Predict odor nuisance
- Identify odor sources

- Fence Line monitoring
- Monitor Particles sizes
- Receive real-time alerts
- Control process

## ➤ WT 1 : Monitor emissions and assess their impact in real-time

Watchtower 1 provides on line autonomous outside air emission monitoring station based on various gas sensors in arrays that provides low ppb gas, (H2S, RSH, NO2, NH3, SO2 ...). VOC, Odors, noise and particles detection correlated with Dynamic olfactometry with high accuracy in ppm, ppb or OU/M3 . Those on line Instruments provides the monitoring of plant emissions, and the process control capability with automatic triggering and sampling devices.

Watchtower 1 is equipped with up to 6 Electrochemical cells among 20 ( H2S NH3, RSH, NO2, NO, SO2, O3 ... ), 4 MOS sensors for odors, and PID in option. The instrument provides on line automatic reading of gas concentrations and you can create automatic alarm based on each MOS sensors or on their combined output for automatic alarms. Particle size monitoring can be added as an optional modules from 0,3 to 17 Qm. Correlation with OU can be provided via automatic on line sampling and dynamic olfactometry or field olfactometry and a simple correlation model building. The instrument provides on line (PC, Tablets, and phone) automatic reading of gas concentration, automatic alarms. Cutting Edge data processing provides on line correlation with gas and sensory perception and allows impact and plume prediction.

## ➤ Who use the WT 1

- Sewage
- Landfill
- Waste water
- Rendering
- Chemicals
- Petrochemicals
- Pulp & paper
- Food industry
- Aroma & fragrances
- Industrial sites
- Communities
- Engineering consultancies



## ➤ 24/7 measurement of emission concentrations



**ODOR,**  
• odor unit (EN 13725, ASTM E679)



**POLLUTANT GASES,** in ppm or ppb  
H2S , NH3 plus 4 micro MOS for

- Global VOC
- Mercaptans
- Ammonia
- Aldehydes Detection in low ppb



**AIR QUALITY STANDARD**

- USEPA ( 40 CFR Part 53)
- EU ( 2008 /50/EC)



**NOISE MONITORING** FFT Microphone for noise monitoring in DB

**MODULAR SYSTEM FOR FENCE LINE ANALYTICS**

## ➤ Why use

- Fence line monitoring with direct reading of gas concentration
- Direct reading of each mos sensors output and in combination for sources identification on line with propriatory data processing
- Communication via ethernet or 3g /4g
- Autonomous with rechargeable battery and solar panel in option
- Hour installation, 2 days of battery, plus 2 days of data storage in case of loss of communication
- Noise monitoring
- Particles monitoring 0,3 um to 17 um
- Sources identification with pattern recognition build in software and automatic sampling
- Autocalibration and easy maintenance
- Olfactory and chemical monitoring tailored to your industrial sector
- Improved communication with residents and authorities
- Better understanding of the odor problem enabling adjustment of on-site operations
- Optimized operation of odor control facilities leading to drastic cost reduction
- Efficiency of air treatment processes continuously monitored
- Reliable tool for decision making within a continuous improvement approach (iso 14001, iso 9001)

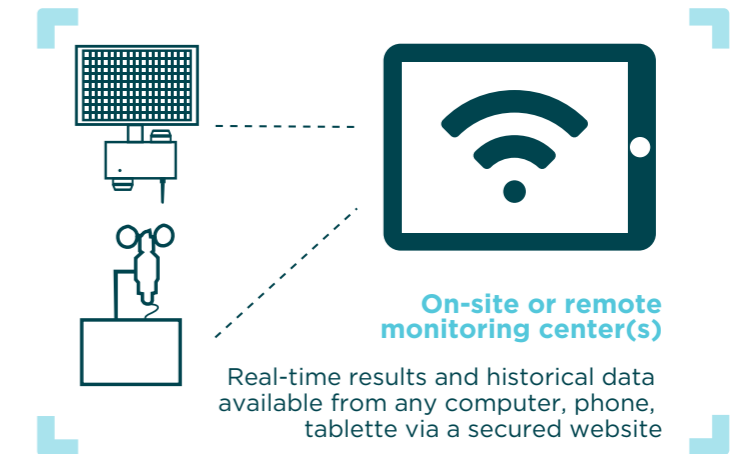
## ➤ How does this work?

### Network of WT 1 analyzers

- Suitable for any type of emission source
- Outdoor and indoor air analysis

### Field weather station(s)

Real-time measurement of local weather parameters influencing the dispersion of pollutants. (RH, T°, wind speed, wind direction , rain, pyranometer )



### A complete range of services

- Odor audit
- Odor diagnosis
- Impact assessment
- Zero state
- Technical support
- Training

### Multiple monitoring levels

Modular and scalable, the WT1 monitoring network is sized to your needs. Your results are available source by source, site by site or on a regional scale.

### On-line results

With the RUBIX Soft SAS secured web site, use your web browser to access your data, 24/7, anywhere in the world