Monitoring of Odors

Most of ambient air monitoring stations is measuring concentration of pollutants with direct, or indirect impact on human health and natural environment.
Inconvenient odors may be caused by different trace pollutants. Human nose is more sensitive for those than most of the analyzers. It is also not necessarily sure that odor feeling caused by several “odor pollutants” would add up.
Instrument to determine odor effect of a certain gas sample are called olfactometers.

Portable, mobile or on-line stationary odor monitoring analytic instrumentation is interpreting the gas detector information in terms of odor units. Proper interpretation is periodically set using olfactometers.

Odor Samplers

Odor pollution is a widespread problem. Unfortunately, odor is a complex issue to manage. The difficultly for many assessors and officers is arriving in the area being polluted in time to get a valid sample. This makes detecting the source of the emission and the identification of remediation actions challenging.
Performing a timely and accurate assessment is essential.

ODORPREP® is the on-demand ambient air sampling system. Odor is sampled as it happens. Sampling can be remotely managed or set for being automatic thanks to the OdorPrep® IoT environmental monitoring platform that integrates information from receptors alerts and remote sensing solutions for odors, gas pollutants and dust.

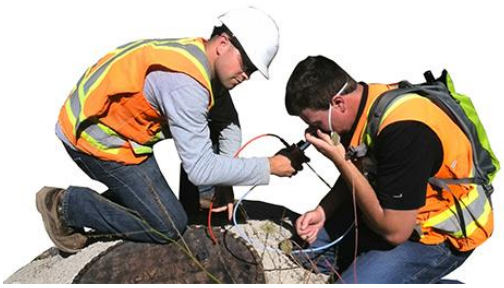
At the fence

The systems can be installed at the fence of the plant for taking into account the emissions of the entire plant: regularly verifying the real behaviour of the fugitive emissions on the basis of environmental parameters and air quality. Air sampling takes place via OdorPrep ® : on-demand air sampling system that captures and stores the air for later chemical and olfactometric analyses. The instruments used for monitoring, called e-nose or IOMS, are equipped with array of sensors that learns to recognize types and intensities of odors thanks to artificial intelligence. The sampling systems can also monitor the main weather parameters in the points of interest in order to carry out an objective analysis of the odor phenomenon with respect to the position of sources and receptors.

At the receptor

Odor monitoring can also be implemented or assisted through the reports of citizens or receptors, which serve to objectify and correlate the perception of olfactory harassments with the emissions monitored at the border. Even in this case, monitoring and sampling takes place through the integrated OdorPrep ® monitoring and sampling system. Sampling can be activated directly by citizens via mobile App. Activation is based on a series of parameters predefined by the campaign manager such as, for example: the number of reports, the levels of odor intensities, receptors rating and positions, rather than the weather conditions.

Infield Olfactometer



- Conduct daily odor emissions monitoring of industrial operation
- Determine odor source contributions
- Verify lab results and dispersion model predictions
- Immediate odor level assessment
- Natural gas odorization’s verification

Laboratory Olfactometer

- Determine Odor Concentration in OU/m3 per EN13725 Standard
- Conduct Hedonic Tone assessment of odor emissions
- Conduct panellist training and N-butanol screening

Fixed Stations

Ambient odor emission monitoring based on high accuracy (ppb level) detection of odorous gases such as H2S, Ammonia, VOCs, and SO2. The flexible intelligent station allows live monitoring of plant emissions on Scentroid's cloud servers. Odor emission is reported in OU/m3 based on correlation determined based on periodic measurements using field olfactometry.

- Flexible sensing and modular design
- Self-configuration for plug and play installation
- Time synchronized readings

Flying Laboratory

Can be used to sample and analyze ambient air at heights of up to 150 meters above ground level that was previously impossible to accomplish. Air quality mapping, model verification, analysis of potentially dangerous sites are all made possible by this novel innovation.

- Sampling from hazardous sources
- Direct flare plume sampling
- Continuous chemical monitoring
- Above 30 chemicals
- Dust monitoring
- Thermal imaging

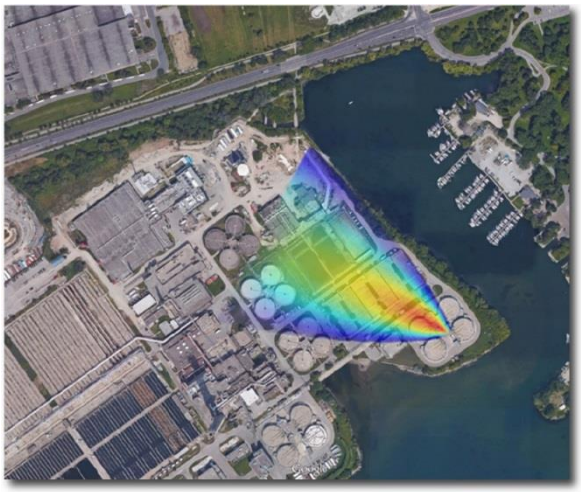
The drone adds a new dimension to air sampling. The drone can be used to sample ambient air at heights of up to 125 meters above ground level or directly sample from stack plumes. Height sampling and direct plume sampling opens a new avenue that can be used to increase accuracy of emission and impact assessment.

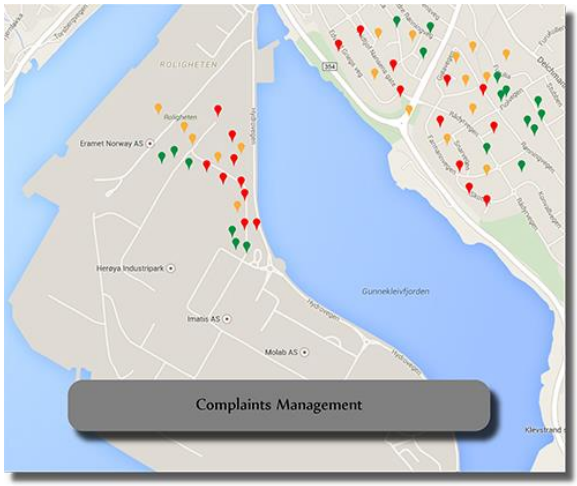
Vigi e-nose

- Isothermal gas chromatograph
- Automatic calibration/validation of the data, with embeded permeation tube for lusfurs
- Continuous monitoring with automatic online sampling
- Extremely low maintenance
- Intelligent system with tunable and interactive alarm levels
- Monitored conoizbds are: H2S / SO2 / MM / EM / DMS / DMDS / DES / Total VOC / TBM / NPM / 2BM / IBM / NBM / THT / IPM
- In accordance to standards: ISO 19739:2004, DIN 51855/7, ASTM D 7493-08, EN13 725 / ASTM 679-E04

The vigi e-nose is the first analyzer able to track VOC & Sulfurs at ppb/ ppt levels. It is more sensitive than human nose. It is an auto GC (gas chromatograph based) with specific detector for sulfurs and VOC.

TOMS (Total odor management system)





TOMS offers a complete, integrated suite for odor management. The system provides a perfect integration of real-time odor impact estimation with management of odor complaints from neighboring residents. The simple to use software uses field-olfactometry and live weather data to produce real time odor plumes showing you exactly the location and amount of your odor emission. Complaints are automatically logged and compared to odor emissions for fast and efficient validation.

For detailed information on solutions of your interest we are gladly available:

ECM ECO Monitoring, a.s.
Nevädzová 5, 821 01 Bratislava
Slovak Republic

Tel.: +421 2 4342 9417
E-mail: ecm@ecm.sk
www.ecomonitoring.com