European Network on New Sensing Technologies for Air Pollution Control and Environmental Sustainability - *EuNetAir*

COST Action TD1105

WGs and MC Meeting at Rome, 4-6 December 2012

Action Start date: 01/07/2012 - Action End date: 30/06/2016

Year: 2012-2013

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WG4 Sub-WG 4.3 Leader

•Benchmarking of new products and market of commercial AQC sensors

COST is supported by the EU Framework Programme

ESF provides the COST Office through a European Commission contract

Scientific context and objectives of WG 4.3

Background

- Equivalence testing procedures (for real-time automatic monitors for pollutants regulated in the Air Quality directive for emerging air quality monitoring instruments and sensors
- Identify test sites which could be used for field testing of sensors and sensor networks
- If EuNetAir partners and other companies would like to provide sensors:
  - field testing could be done by nationally accredited test laboratories
  - Alphasense, SenseAir for CO2 testing, SGX (?)
  - Rod Jones at Cambridge for lab and field
- Consider the implementation of the new air quality monitoring strategies in near future air quality research programmes in the EU

MoU objective:

- Report on scaling up, applications and commercialisation of AQC gas sensors

Deliverables:

- Evaluation Summary of AQC gas sensors performance through validation for selected case studies of environmental monitoring in the air-quality plans
- Recommendations on environmental applications of low-cost AQC gas sensors

Alphasense Current research activities

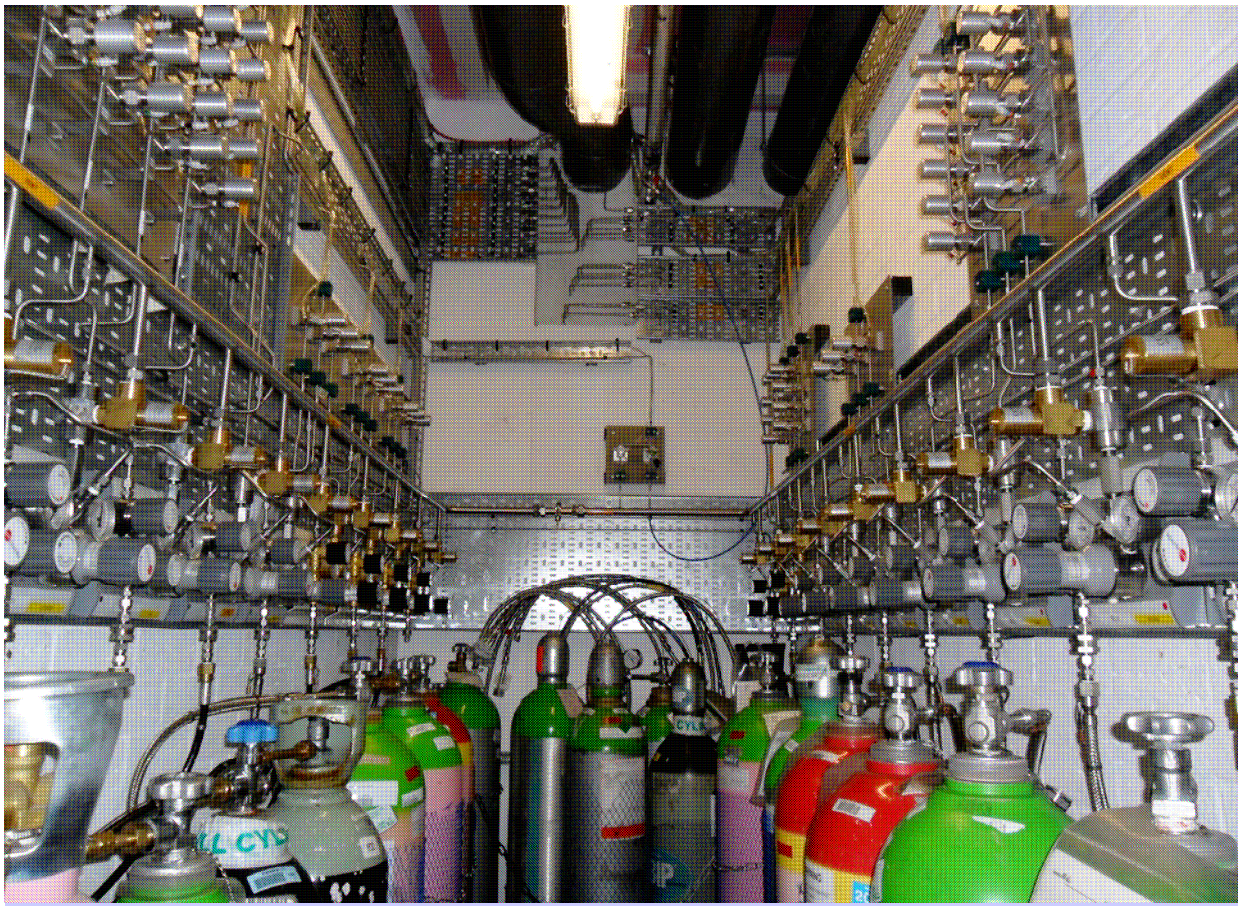
Gas sensors:

- ppb air quality electrochemicals
- ppb-ppm metal oxides
- optical: NDIR, TDLS, UV spectroscopy
- smart sensors with custom ASICS
- screenprinted electrochemicals

Research:

- explosives detection
- CITISense (FP7)

Test Facilities



gas test system:

120 DMFCs
110 gas bottles
70 VOC perm tubes
1.5 km of SS316 tubing
7 fume cupboards
8 channel PC control VOC generator
2 channel ppt silanised test rig

WG 4.3 Target Analytes

We will focus on:

- **thiols/ mercaptans** for odours
- **other odorants** (to be defined)
- **formaldehyde, benzene**
- **$PM_{2.5}$, PM_{10},** ultrafine and BC
- **CO_2** (ventilation surrogate)