

**European Network on New Sensing Technologies for Air Pollution
Control and Environmental Sustainability - *EuNetAir*
COST Action TD1105**

**1st EuNetAir Air Quality Joint-Exercise Intercomparison
*Sensors versus Analyzers for Air-Pollution Monitoring in Aveiro City***

**Institute for Environment and Development - IDAD
Aveiro, Portugal, 13 - 27 October 2014**

Action Start date: 01/07/2012 - Action End date: 30/06/2016 - Year 3: 2014-15 (*Ongoing Action*)

CO₂ Sensors for AQ monitoring



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SenseAir AB

World leading company in
Research & Development and
manufacturing of cost-
effective IR gas sensing

Develops and produces
affordable precision carbon
dioxide sensors for high volume
applications

Competence centre for infrared gas
measurements



Gas and Air Sensors





Background / Problem statement:

- Usage of carbon dioxide (CO₂) for monitoring of Indoor Air Quality is well accepted and in common use in the building automation/ventilation industry.
- For outdoor air quality, it is less commonly used (garages and tunnels are the exceptions).
- Combustion engines generates a lot more CO₂ than CO
- How well does CO₂ levels in city air correlate to other gases?
- Can CO₂ be measured and used as an indicator of presence of other pollutant gases?

DESCRIPTION of Sensor-System to be Used in Exercise

Two types of sensors will be used for the exercise:

- tSENSE: A 3-in-1 IAQ sensor (CO₂, Temp, RH)

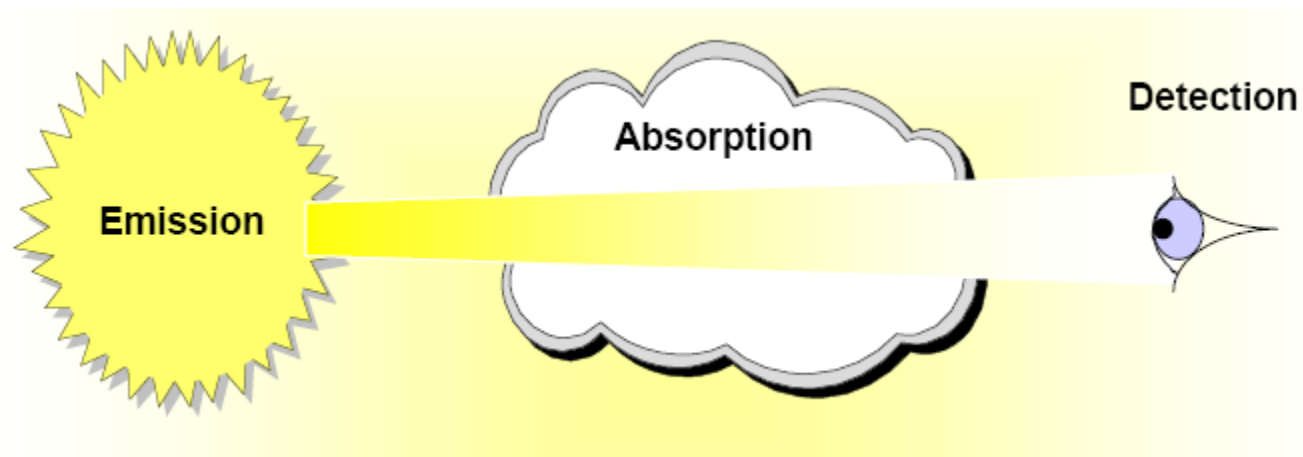


- S8: A miniature CO₂ sensor module



DESCRIPTION of Sensor-System to be Used in Exercise

- Both types measures carbon dioxide (CO₂) levels in the range 0-2000ppm_{vol}
- The CO₂ sensors are based on NDIR (Non-Dispersive Infrared) technology. The main features of NDIR are selectivity and long-time stability



CONCLUSIONS

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The idea of the experiment is:

- to see if the measured CO₂ levels in Aveiro city air correlates with measured levels of CO, NO_x, etc.
- to see if small, low-cost sensor modules are useable for air quality monitoring applications in cities

Joint-Exercise Group Meeting
in Aveiro on 13 October 2014, local time: 9-12.