

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

**WGs and MC Meeting at ISTANBUL, 3-5 December 2014**

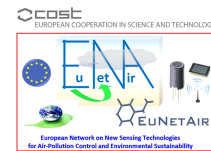
Action Start date: 01/07/2012 - Action End date: 30/06/2016

Year 3: 1 July 2014 - 30 June 2015 (*Ongoing Action*)


**Smart sensors for urban air monitoring in cities:  
research and innovation needs**



**Rod Jones**  
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## SIG2 talks

### Nuria Castell (NILU)

Outdoor air quality, assimilation of different techniques (remote/models), tests of sensor quality, promising results using e..g. latest EC sensors...

### Joao Ginja (IDAD)

Indoor air quality, network deployment strategies, outdoor comparison in Aviero – interesting variations in meteorology – good test of sensors....

 **cost**  
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

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## Scientific context and objectives in the Action

### Intrinsic Sensor Capability

- **Gas phase**
  - Species (do we have the relevant health inputs?)
  - Sensitivity? Stability? Selectivity? (Nuria)
- **Particulates**
  - Chemical speciation (do we have the relevant health inputs?)
  - Bio-activity?

### Certification/equivalence?

## Scientific context and objectives in the Action

### Sensor Networks

- **Deployment**
  - Intra/inter network analysis tools?
    - Non-invasive network calibration?
    - Information content....
- **Design**
  - Network optimisation (indoor/outdoor)
    - Network density? Node location? (Joao)

## Scientific context and objectives in the Action

### 'Smart'

- **Smart sensors vs smart cities?**
  - Identification vs response??
- **Models**
  - Data assimilation/display
  - Dissemination
- **Citizens (as sensors?)**
  - Engaging the citizen: one/two way involvement?

## Suggested **R&I Needs** for future research to Action WGs/SIGs General Assembly

- Detailed queries covered above. (One approach)
- Investigation of fundamental new sensor technologies – proteins? graphenes?
- Assimilation of measurement (ground/satellite)/models? (Nuria)

**Requests for additions/modifications to [rlj1001@cam.ac.uk](mailto:rlj1001@cam.ac.uk)**



## Suggested **R&I Needs** for future research to Action WGs/SIGs General Assembly

*Existing sensors on a firmer footing.....*

### Research Strategy?

- Health studies (find out what you need to monitor, discard the rest)
  - are exclusively smart/low cost sensors needed? Pre-existing data? Is this our remit?
- Devise smart sensors (to complement existing + models) to ensure compliance/societal response .....