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

COST Action TD1105

Final Meeting at PRAGUE (CZ), 5-7 October 2016

New Sensing Technologies for Air Quality Monitoring

Action Start date: 01/07/2012 - Action End date: 15/11/2016 - EXTENSION: 15/11/2016

Summary of Research and Innovation Needs from SIG2:

Smart Sensors for Urban Air Monitoring

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Empa
Materials Science and Technology

cost
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

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

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ESF provides the COST Office through a European Commission contract

NO_2 in Zurich, 18.01.2016 8am

39 ppb

22 ppb

12 ppb

18 ppb μg/m³

32 ppb

25±7 ppb

Statement: Sensors do not need to be as accurate as reference instruments

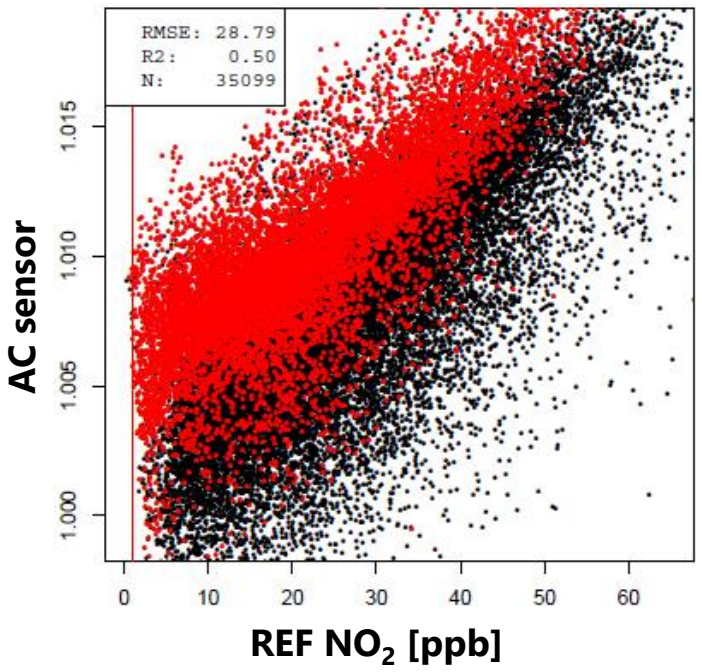
True !

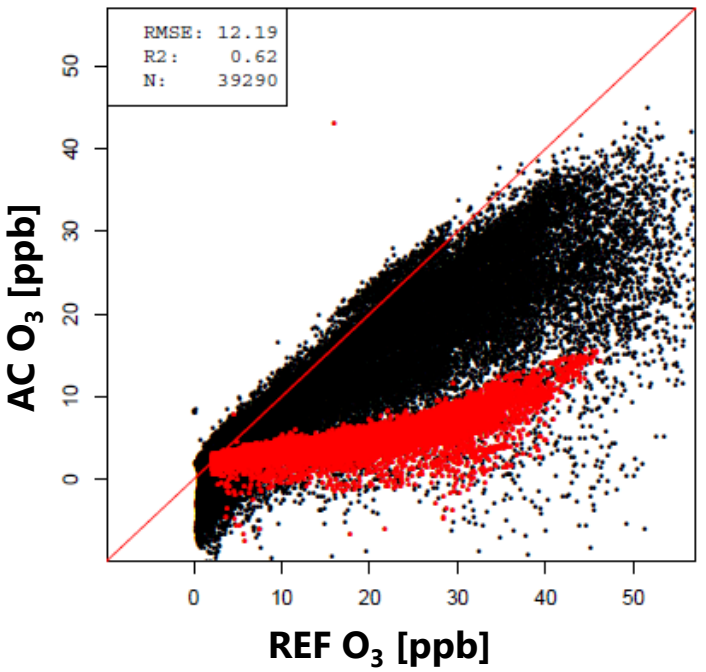
But: Sensors need to be accurate enough for providing *additional information* about AQ

⇨ **Sensors with accuracy of few ppb needed**
(or few μg/m³ for particles)

Sensors can change response behaviour

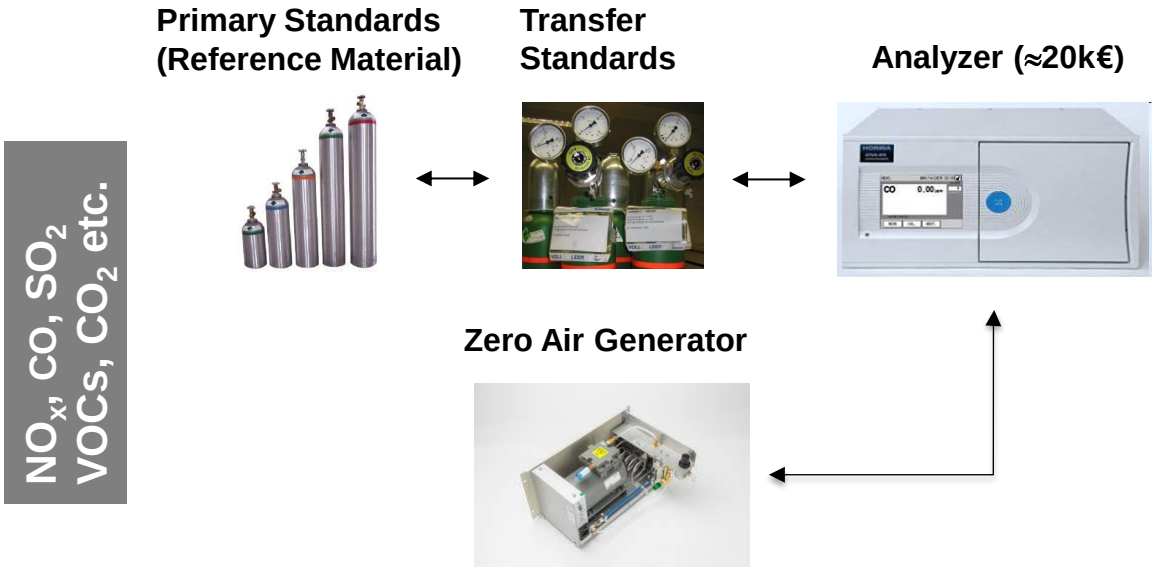
Initial calibration: 06 Feb 2015 – 18 May 2015
Check: 05 Feb 2016 – 14 Mar 2016



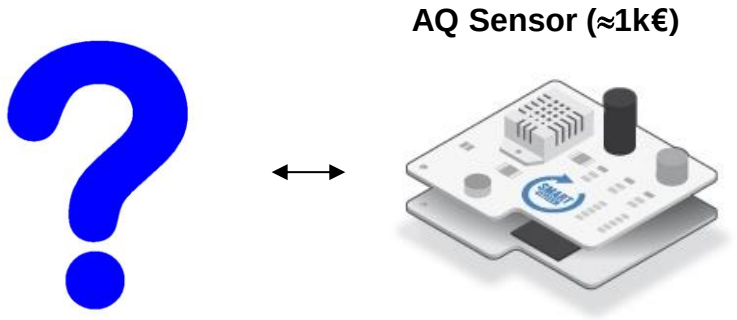


Figures taken from M. Mueller

Calibration / Traceability in Air Quality Monitoring Networks



Calibration / Traceability in Air Quality Sensor Networks



Suggested R&I Needs for future research

(for Smart Sensors for Urban Air Monitoring)

- We need better sensors (accuracy – and reliability)
  - improvement of existing technologies?
  - new sensing materials?

- We need *innovative* and *efficient* concepts for operation of sensor networks
  - how to secure good data quality of individual sensors
  - how to correct or “calibrate” sensors during operation
  - …