



# COST

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 (*Starting Action*)

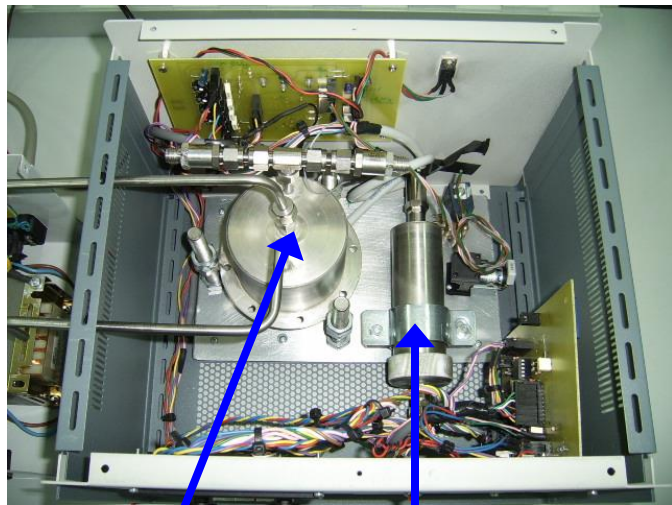


**Dr. Domenico Suriano**

**Function in the Action: WG2, SIG2 member**

**ENEA, Brindisi, Italy**

# NASUS1 machine



**SENSORS  
CELL**

**ACTIVATED  
CARBON  
FILTER**

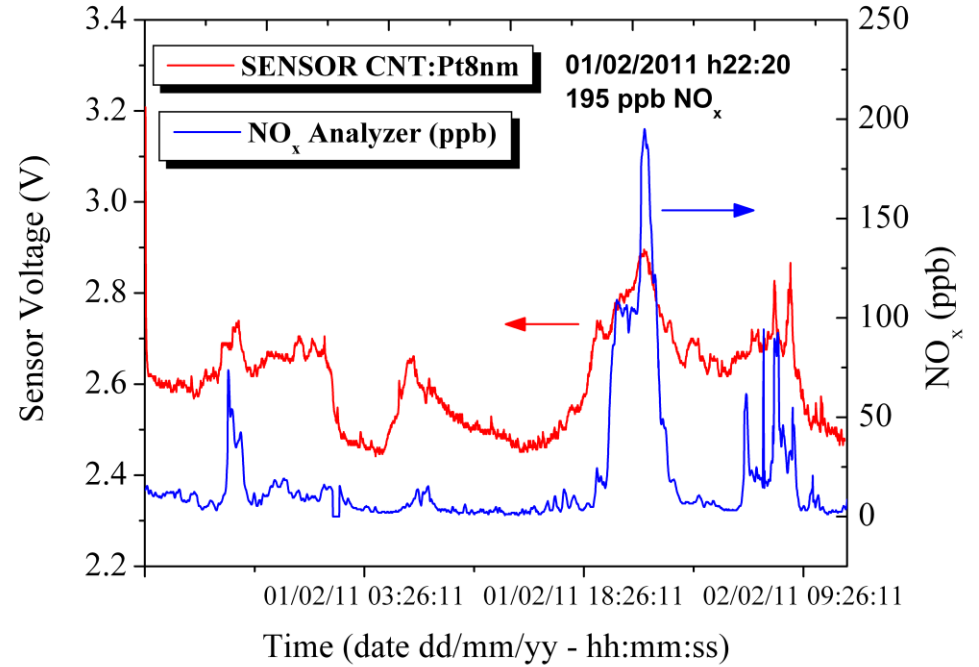
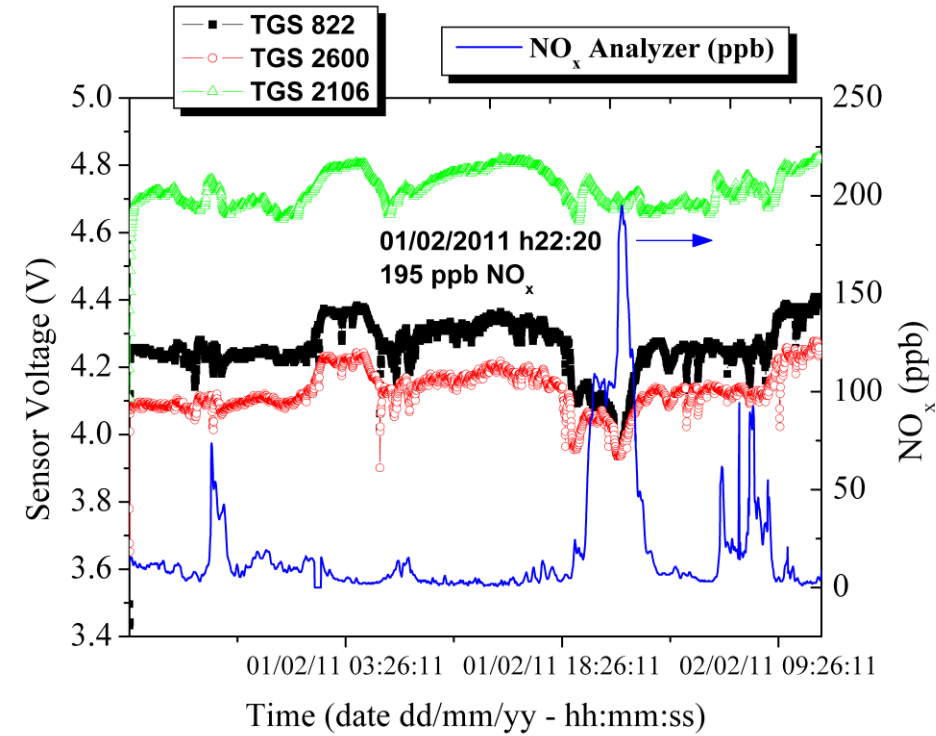
**POWER-SUPPLY  
UNIT**



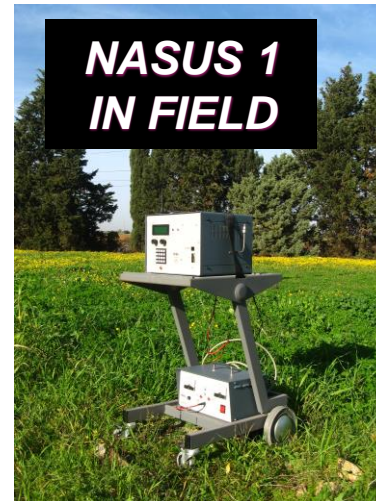
- Average power consumption: 6W
- 4 gas sensors + RH+Temperature
- sending data on GPRS network
- real time monitoring
- Battery power autonomy: 14hrs



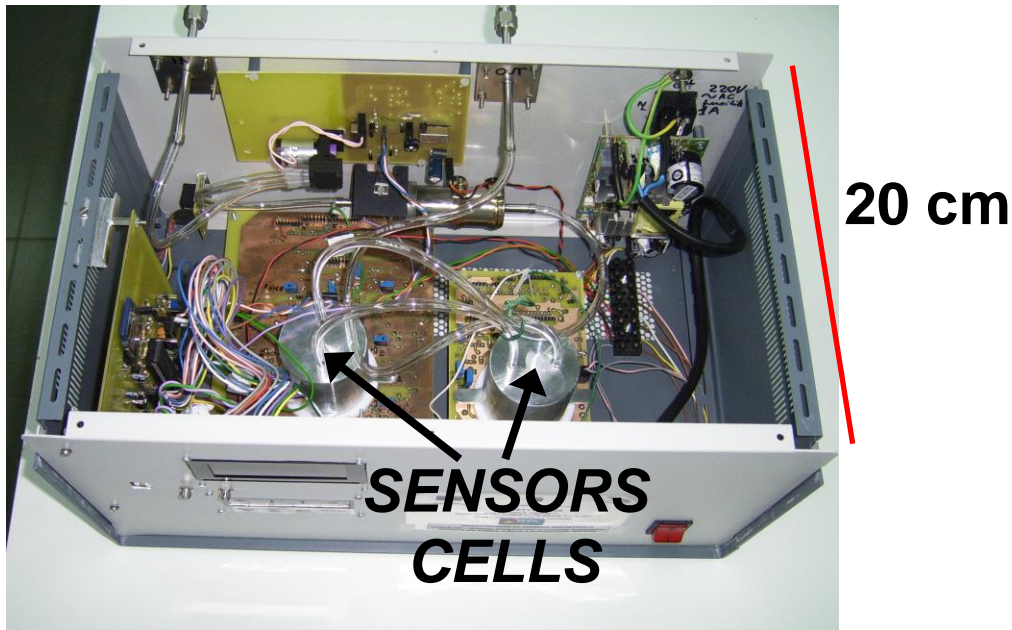
# NASUS 1 EXPERIMENTAL CAMPAIGN IN AN OFFICIAL LOCAL-NODE OF THE NETWORK ARPA-PUGLIA, *Regional Agency for Environmental Protection*



**Local-site ARPA-PUGLIA:**  
**Station SISRI**  
**Brindisi Industrial**  
**Zone**  
**Brindisi (Italy)**



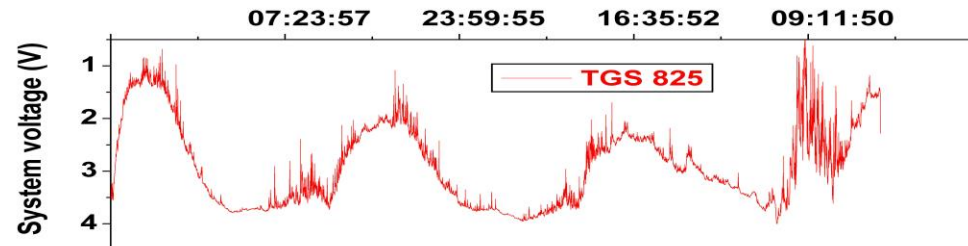
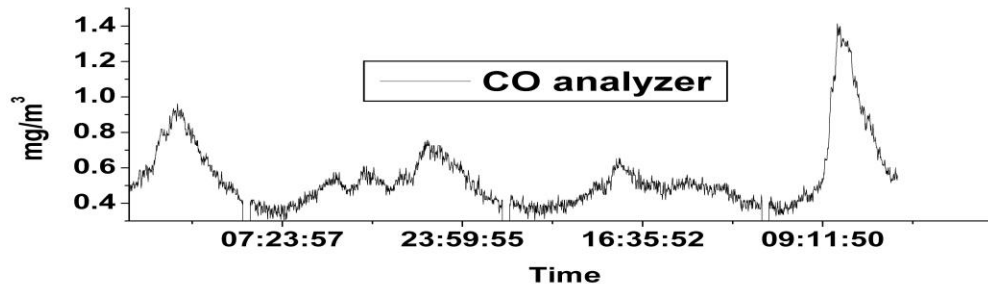
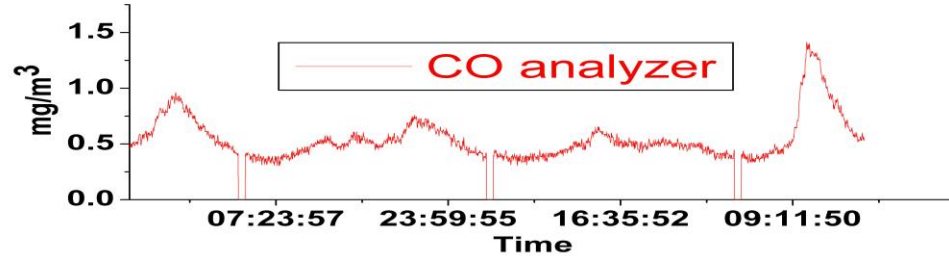
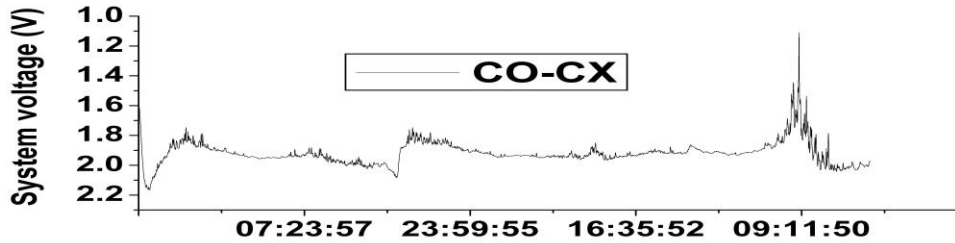
# NASUS3 machine



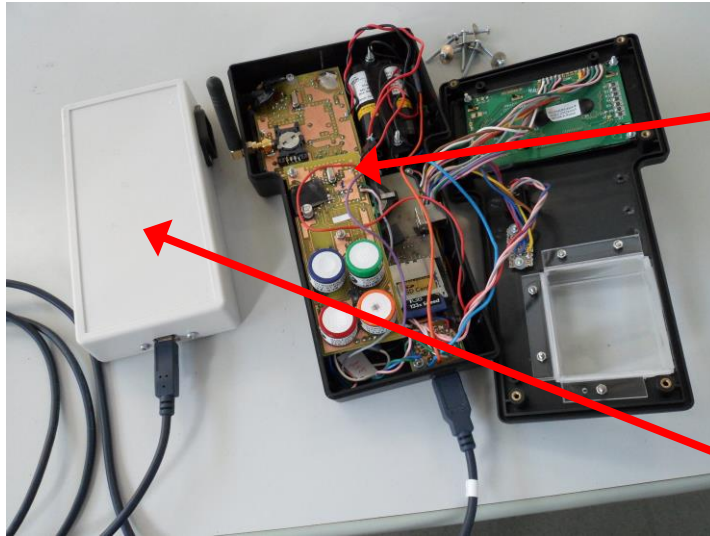
- average power consumption (with 14 sensors onboard): 12W
- 14 sensors maximum (electrochemical + chemiresistive + RH + Temperature)
- sending data on GPRS network
- real time monitoring
- improved portability (more compact device)
- average battery power autonomy: 7hrs

# NASUS3 experimental campaign in Mesagne town

Mobile Air Quality Laboratory  
University of Bari, Italy

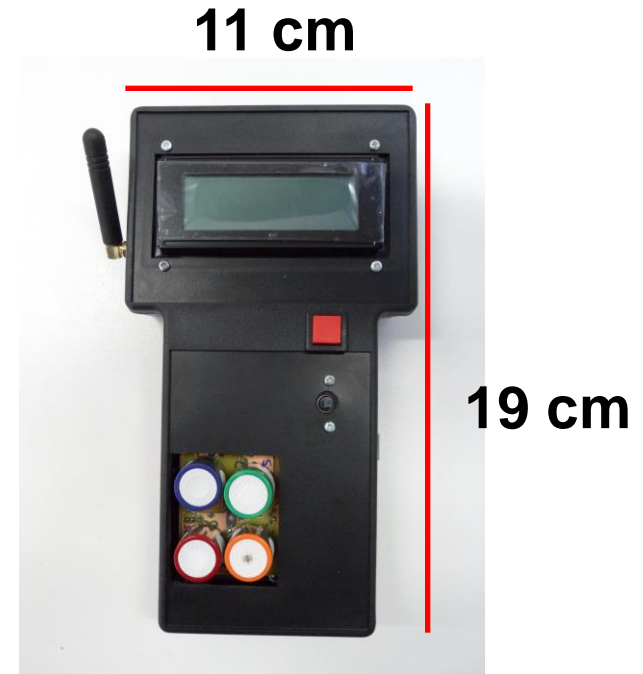


# NASUS4 machine



**NASUS 4**

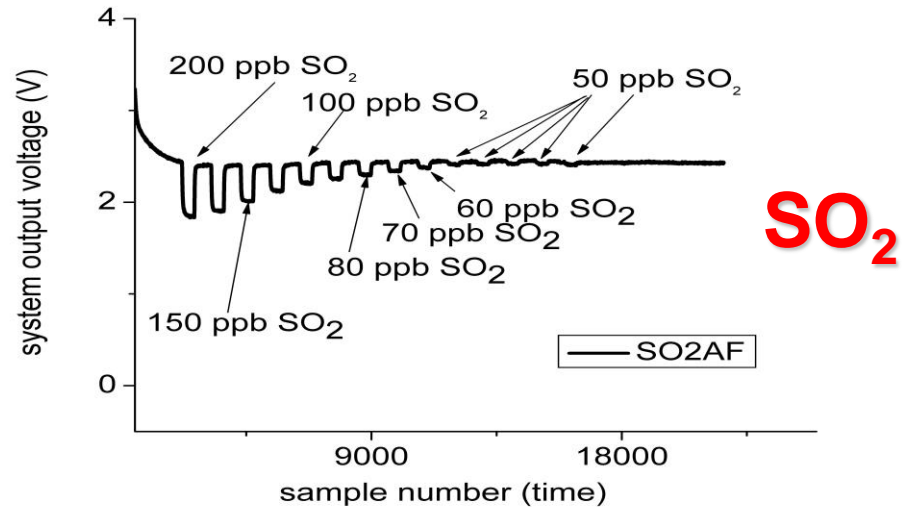
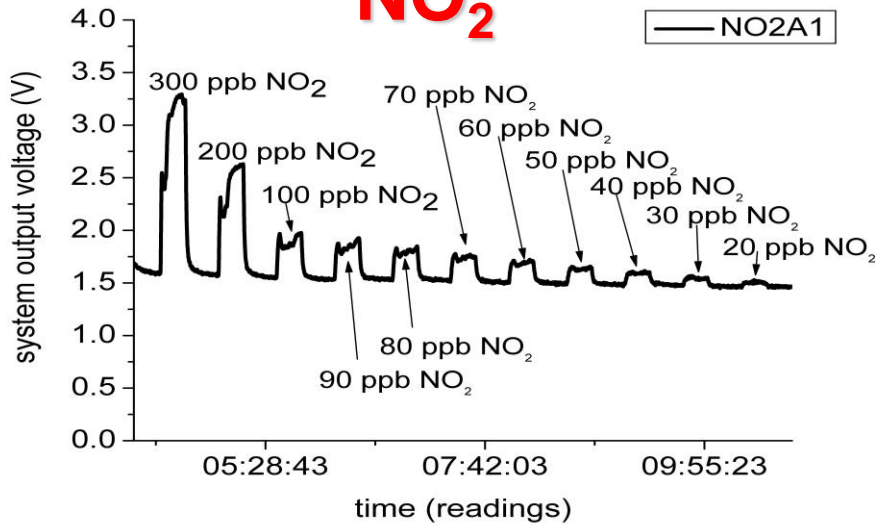
**POWER-SUPPLY  
UNIT**



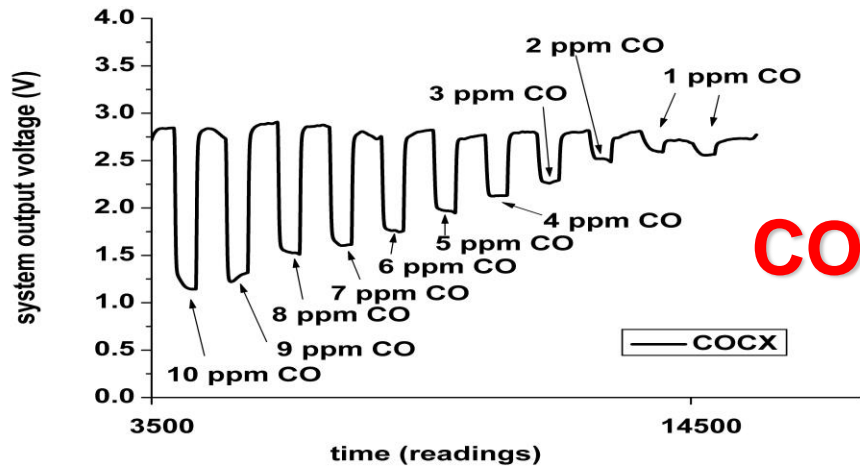
- **hand-held device**
- average power consumption: 0.15W
- average battery autonomy: 46hrs
- fully remote operated by GPRS-GSM networks
- real time monitoring
- 4 electrochemical gas sensors onboard + temperature + RH
- solar-cells automatic power switching (**smart power management**)

# NASUS4 Lab Tests

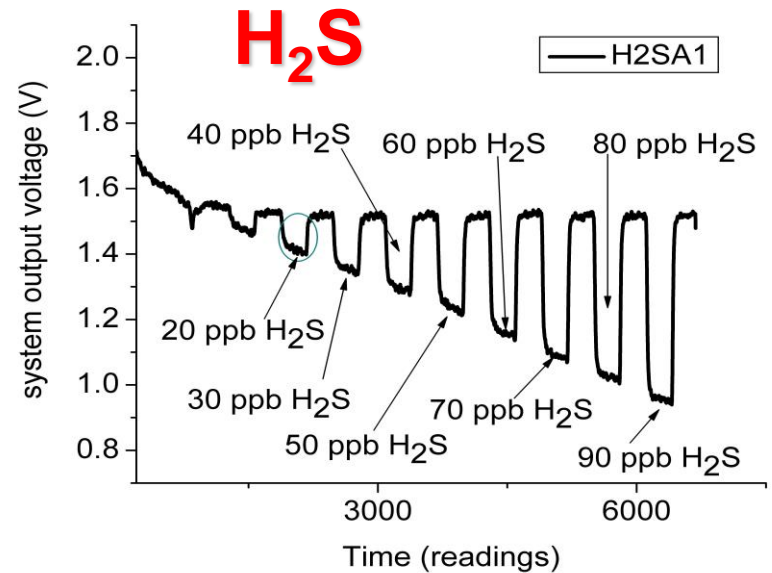
## NO<sub>2</sub>



## SO<sub>2</sub>



## CO



## H<sub>2</sub>S

# ACKNOWLEDGEMENTS

**Thank You Very Much!**

**ENEA Brindisi Sensors&Materials Team**



**Special thanks to ARPA-PUGLIA  
Regional Agency Puglia for Environmental Protection**

**Scientific and Technical Agreement between ENEA and ARPA-Puglia**