

SOME SPECIFIC EXAMPLES OF THE CURRENT APPLICATIONS

a2a

Sensor Lab. – University of Brescia

Spin –off 2016

Nano Sensor Systems srl
NASYS

Partners

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Stable and highly sensitive gas sensors based on semiconducting oxide nanobelts

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S3: Building blocks

Headspace sampling system (commercial)

HTA - Brescia

Gas detection system: Array of sensors

Electronic System (outsourcing)

INPUT (Food, Beverages, etc.)

OUTPUT (Cloud, WebApp, etc.)

Data analysis
Odours identification/detection

SnO₂, ZnO NWs Vapor phase growth

Source: Sauerbrey 2017, 1759, 1056 and [https://doi.org/10.1039/C6NR05000A](#)

First proposed by Wager and Ellis in 60's

- Metal catalyst (Noble metals: Au, Pt, Pd, Ag and Metals: Cu, Sn, Ni)
- liquid seed particles are formed on top of the substrate at high temperatures.
- Metal catalyst forms liquid alloy droplets by adsorbing vapour components.
- Solid crystalline nanostructures are formed.

S3 EN ON CLOUD

Pneumatic components:

- pump
- valves

Sensing materials for Chemical sensors:

- SnO₂
- ZnO
- CuO
- WO₃
- NiO

Web App

CuO, SnO₂ RGTO by Magnetron Sputtering

- Cleaning of substrates in ultrasonic bath (Acetone)
- Metal were deposited by magnetron sputtering
- Thermal oxidation