

# Airlab micro-sensors

Challenge 2021

Use for which sensor performance  
was best: Outdoor Air Monitoring

# WT1<sub>V1.3</sub>

by ellona



## Jury's opinion

The WT1 provided an overall very good performance in terms of accuracy in the current edition, with excellent quality for PM2.5, very good for PM1, and good for NO2. It provides an adequate list of targeted pollutants. However, the addition of PM10 would also be welcomed for monitoring applications. It has complete data recovery options, real-time notifications, and is relatively easy to setup. As such, it scores very well in terms of utility and fares also well for usability. It is penalized, however, for its significant size and its cost, which remains relatively high compared to other competitors.

## Measured pollutants

- |                     |                                      |
|---------------------|--------------------------------------|
| ● CH <sub>2</sub> O | ✓ NO <sub>2</sub> (NO <sub>x</sub> ) |
| ● CO                | ● O <sub>3</sub>                     |
| ● CO <sub>2</sub>   | ✓ PM <sub>1</sub>                    |
| ● VOC               | ✓ PM <sub>2.5</sub>                  |
| ● H <sub>2</sub> S  | ● PM <sub>10</sub>                   |
| ● NH <sub>3</sub>   | ● SO <sub>2</sub>                    |
| ● NO                | ● Particle number<br>(concentration) |

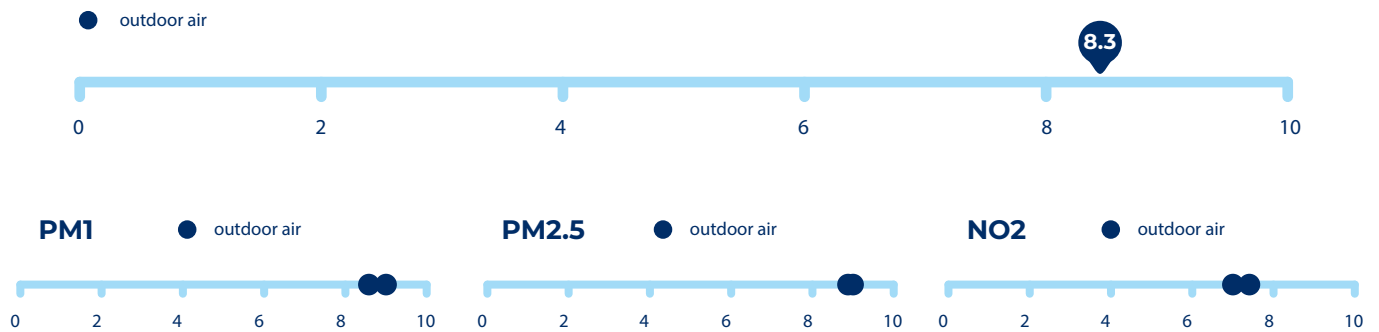
## Other measurements

- |               |                        |
|---------------|------------------------|
| ✓ Temperature | ● Atmospheric pressure |
| ✓ Humidity    | ● Luminosity           |
| ● Odors       | ✓ Acoustic comfort     |
| ● GPS         | ● Anemometer           |

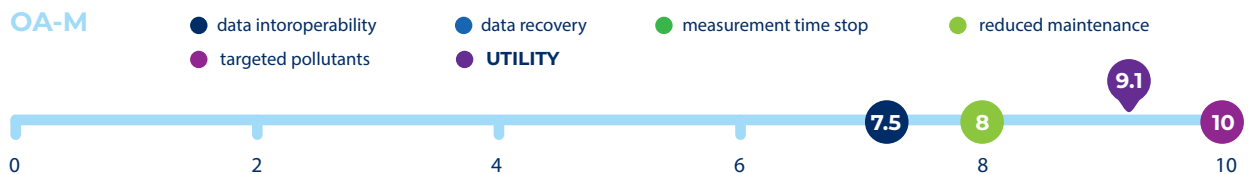
Data storage location: CLOUD (ALLEMAGNE, FINLANDE)  
The hosting provider is a German company.

# Detailed report

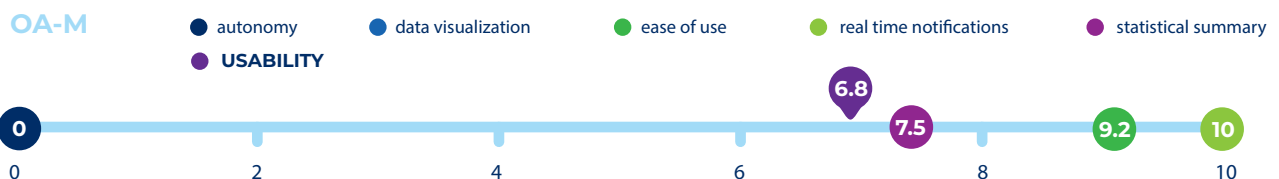
## • ACCURACY on 3 microsensors based on the SET method (Fishbain et al 2017)



## • UTILITY the capacity of a sensor system to provide the essential functionalities for accomplishing the application objectives



## • USABILITY the ability of the candidate solution to provide the conditions for its users to perform the tasks safely, effectively, and efficiently while enjoying the experience



## • FORM FACTOR relates to how much of a physical burden the device represents for operations like transportation or installation



## • COST investment and running costs over 3 years

