

# Airlab micro-sensors

Challenge 2021



Use for which sensor performance  
was best: Indoor Air Monitoring

# POD2

by ellona



## Jury's opinion

The latest generation POD is a pleasantly designed and high quality sensor system targetting monitoring applications for indoor air. It provides excellent accuracy for CO<sub>2</sub>, and very good measurement quality for PM<sub>1</sub> and PM<sub>2.5</sub>, being the overall best performing multipollutant sensor in terms of accuracy in the current edition of the Challenge. It also scores very high on the utility scale and has a good usability score, however although far from being the most expensive device in the indoor monitoring category it is held back to some degree by its relatively higher cost compared to some of its 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) |

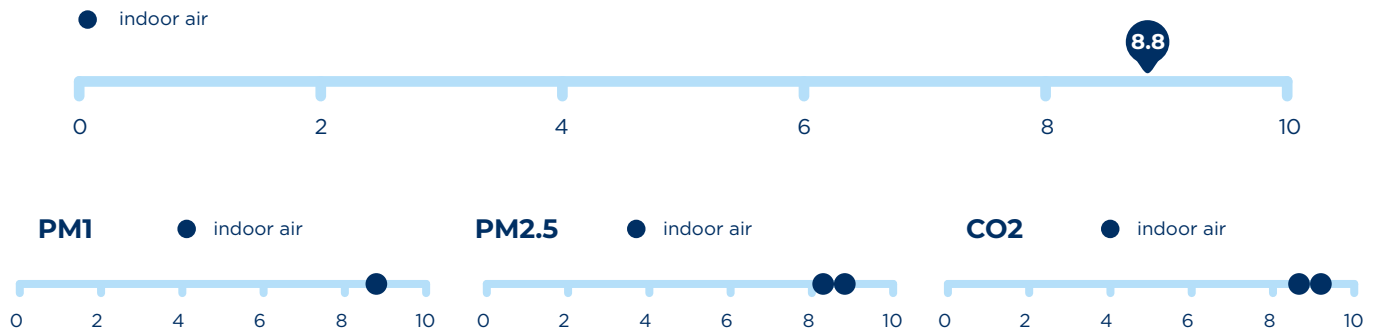
## Other measurements

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

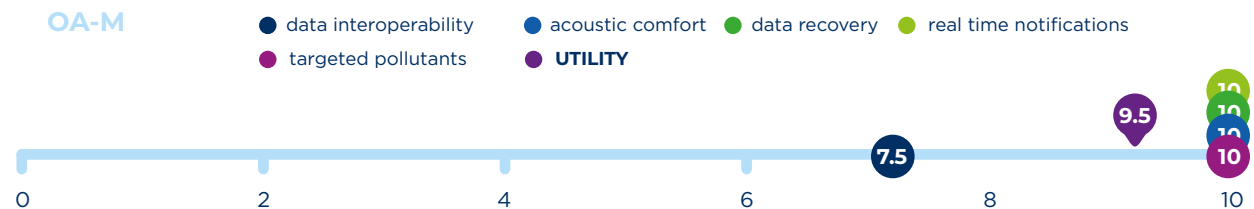
Data storage location: CLOUD (ALLEMAGNE,  
FINLANDE), l'hébergeur est une société Allemande

# Detailed report

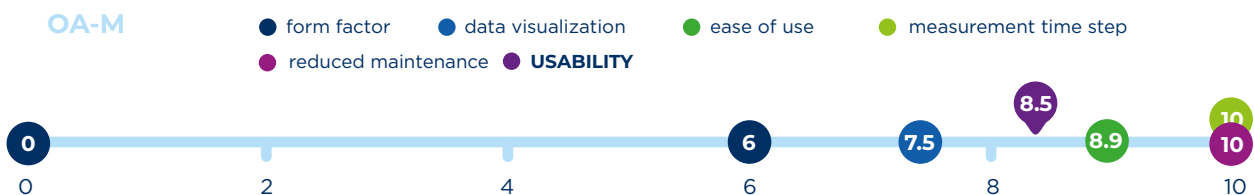
- **ACCURACY** on 3 microsensors based on the SET method (Fishbain et al 2017)



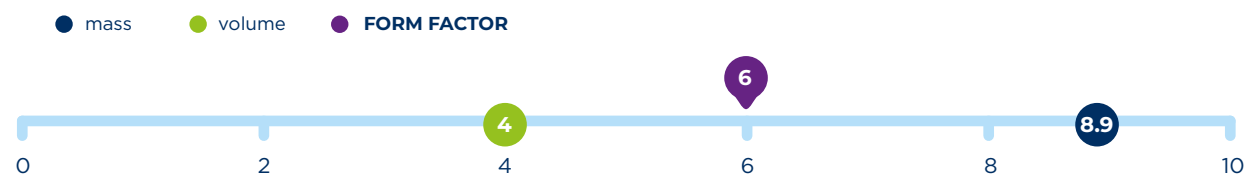
- **UTILITY** the capacity of a sensor system to provide the essential functionalities for accomplishing the application objectives



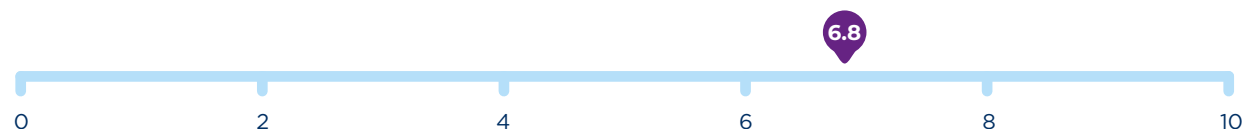
- **USABILITY** the ability of the candidate solution to provide the conditions for its users to perform the tasks safely, effectively, and efficiently while enjoying the experience



- **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



**ELLONA**

3 Avenue Didier Daurat - 31400 Toulouse - France  
Tel: + (33) 5 32 10 87 70 - info@ellona.io  
www.ellona.io