

Airlab Microsensors

Challenge 2025

Best-performing intended use:
Outdoor air monitoring



Jury assessment

The **Ellona WTI Lite** is a multi-pollutant air quality monitoring system designed for outdoor and indoor applications, including underground railway stations. It ranked among **the two best-performing OA-M systems in Bengaluru, India**, and was **the most accurate multi-pollutant system in Ghana**.

It demonstrated **excellent accuracy for CO** in Bengaluru, together with **very good to excellent accuracy for PM2.5 NO2, O3, NO and PM**, across the different outdoor sites. It combines **very good accuracy with excellent utility** and **very good usability**. Its relatively high price places it at a disadvantage compared with some competitors, while its environmental footprint remains an area for further improvement.

OUTDOOR AIR . OA-M

France ★★★★★

Ghana ★★★★★

India ★★★★★

INDOOR AIR . IA-URS

Underground railway stations

Confined environment

★★★★★

Pollutants measured

- CH₂O
- ✓ CO
- ✓ CO₂
- COV
- H₂S
- NH₃
- ✓ NO
- ✓ NO₂
- ✓ O₃
- ✓ PM₁
- ✓ PM_{2.5}
- ✓ PM₁₀
- SO₂
- ✓ Particle number (concentration)

Other measurements

- ✓ Temperature
- ✓ Humidity
- ✓ Odours
- ✓ GPS
- Wind
- Vibration
- ✓ Atmospheric pressure
- Light
- ✓ Acoustic comfort
- Water quality
- Traffic counting

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

5th edition

AIRLAB

An international-scale Challenge

Before presenting the WT1 Lite performance results, this introduction outlines the scope of the 2025 edition, its test environments and the criteria assessed.



1

AIRPARIF, organiser of the Challenge

Airparif is the approved air quality monitoring association for the Ile-de-France region. Through AIRLAB, its open-innovation laboratory, it conducts a robust and independent evaluation of microsenors under real-world conditions, helping users select solutions suited to their needs.

2

A fifth edition with international reach

Following four editions in which an international jury assessed 176 devices, the 2025 Challenge was deployed in three countries: **France** with Airparif, **Ghana** with Afri-SET, and **India** with Indi-SET, represented by CSTEP.

Three WT1 Lite units were tested at each of the three sites, representing nine devices in total.

3

Outdoor and indoor air

The tests were conducted over a **four-month period, from mid-September 2025 to mid-January 2026, alongside certified monitoring stations.**

They covered **outdoor air in Paris, Accra and Bengaluru**, as well as **a confined indoor environment: an underground railway station in Paris**, in partnership with Île-de-France Mobilités and SNCF Gares & Connexions.

4

Main quality tests

Testing focused in particular on measurement accuracy and comparison with reference instruments, as well as linearity, reproducibility and performance stability. The overall assessment also considered utility, usability, environmental footprint and cost.

**The following pages summarise the WT1 Lite results
for the different evaluation scenarios.**

Detailed report

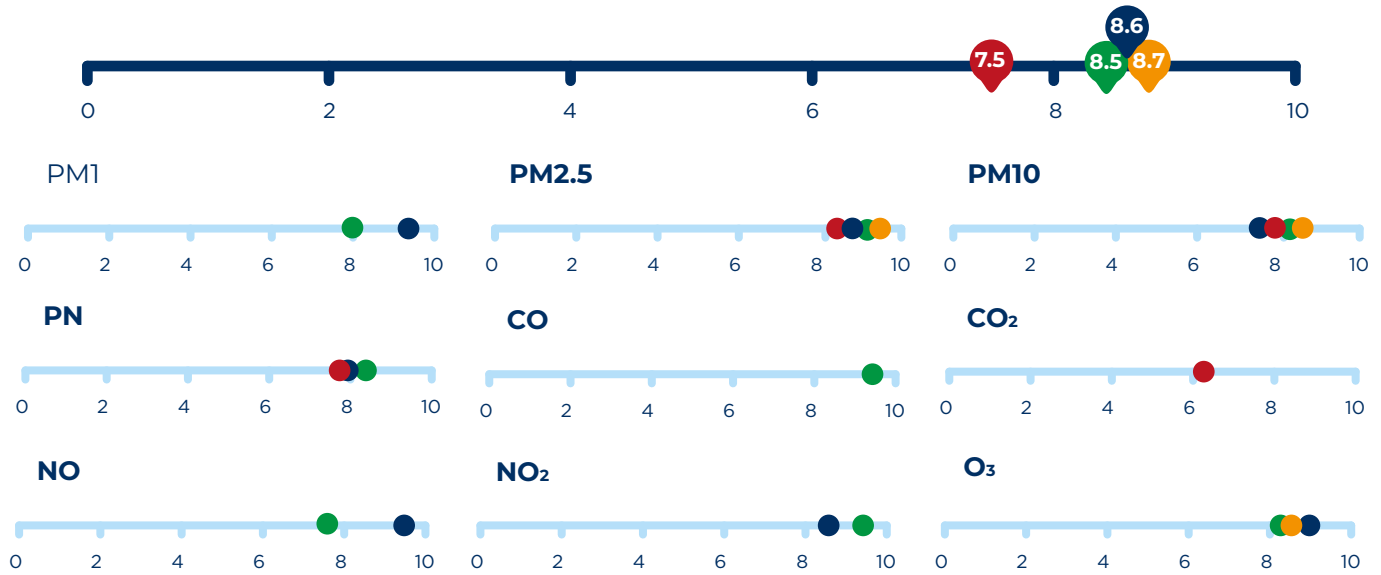
ACCURACY

● OA-M. France

● OA-M. Ghana

● OA-M. India

● IA-URS



UTILITY

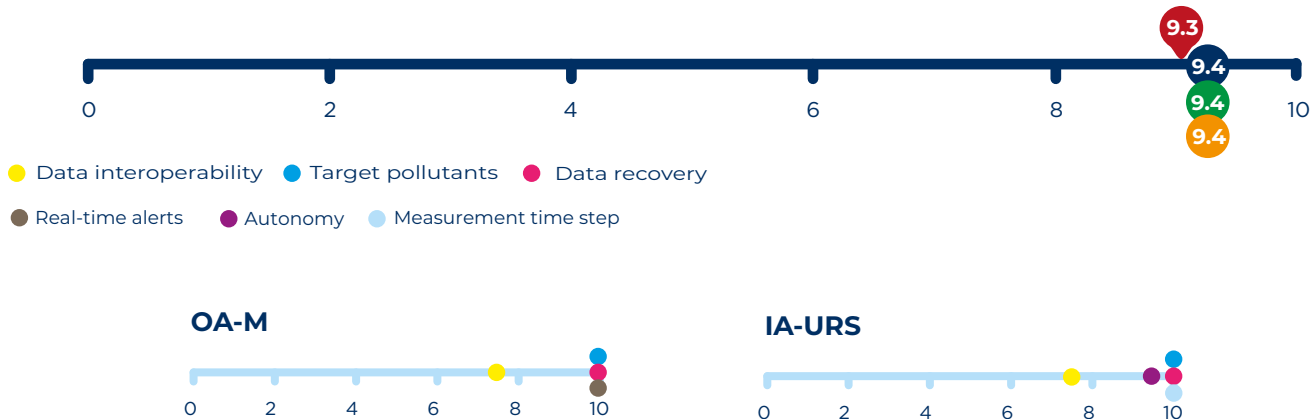
● OA-M. France

● OA-M. Ghana

● OA-M. India

● IA-URS

Ability of a sensor system to provide the essential functions required to achieve the application objectives.



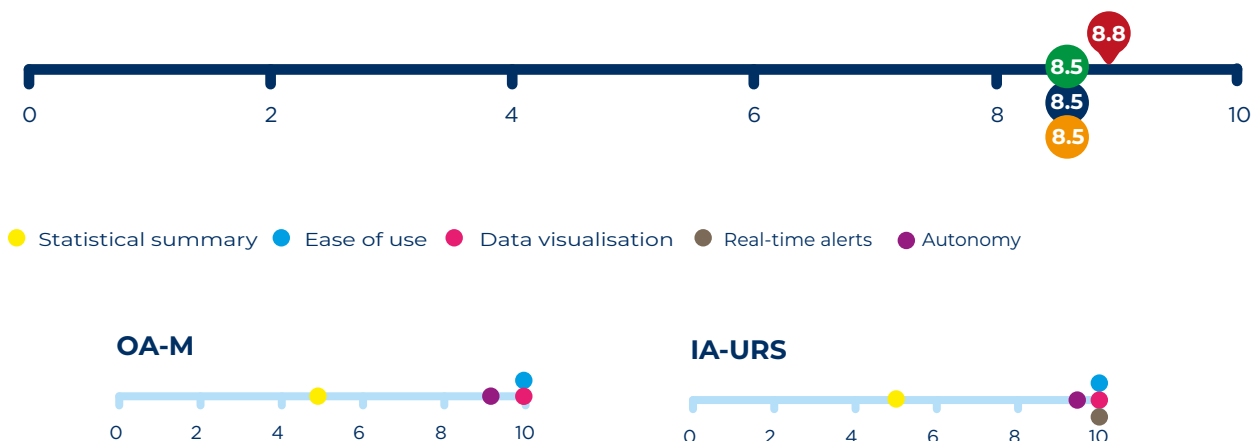
USABILITY

● OA-M. France

● OA-M. Ghana

● OA-M. India

● IA-URS



ENVIRONMENTAL FOOTPRINT

● OA-M. France ● OA-M. Ghana ● OA-M. India ● IA-URS



● Manufacturing impact ● CSR initiatives ● Durability ● Material efficiency ● Maintenance

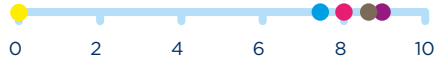
IA-URS



OA-M. Ghana



OA-M. India



OA-M. France



COST

● OA-M. France ● OA-M. Ghana ● OA-M. India ● IA-URS

