



# X-IPO + SMART APP

Portable Device for Air Quality Monitoring

X-IPO is a **portable air quality monitoring device** equipped with integrated sensors for gases, particulates, and environmental parameters. Paired with the **Smart IPO App (Android)**, it enables data management, remote synchronization, and GPS tracking.

Compact and versatile, **it can be used either as a wearable device or as a stand-alone station**, making it ideal for professional applications, research projects, and citizen science initiatives. Monitoring airborne gases and particulates is essential to understanding human exposure to potentially harmful substances.

Devices like X-IPO provide **real-time detection of air quality variations and contaminants**, helping protect the health of workers and communities, prevent risks linked to dangerous concentrations of gases or particulate matter, support rapid decision-making in case of accidental releases, and strengthen everyday prevention through reliable, data-driven insights.

## Application Examples

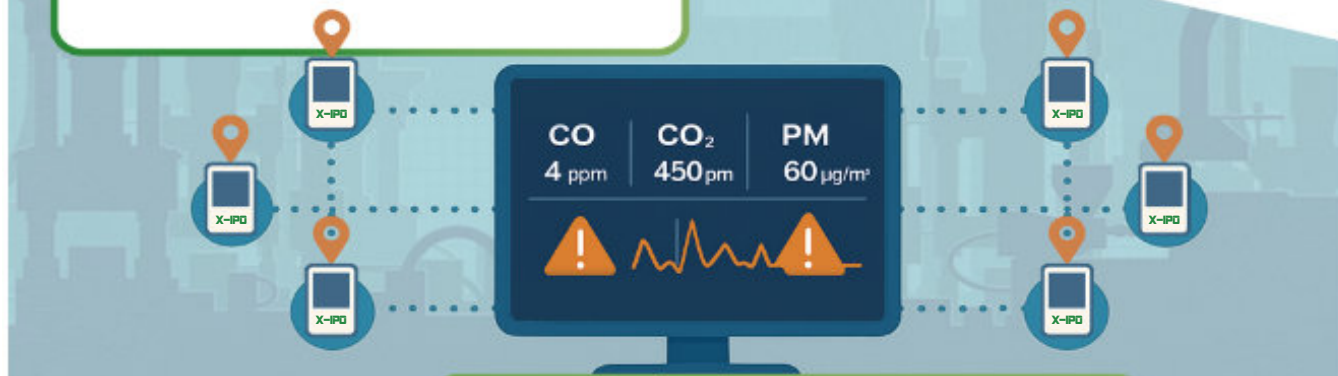
- ➔ **Schools and public offices:** assessment of indoor air quality and the well-being of students and staff;
- ➔ **Agriculture and greenhouses:** monitoring of CO<sub>2</sub>, humidity, and microclimate for crop and worker health;
- ➔ **Urban and industrial outdoor monitoring:** evaluation of population exposure and environmental studies.
- ➔ **Industries and production plants:** monitoring of dust, solvents, CO, and CO<sub>2</sub>;
- ➔ **Hospitals and laboratories:** control of air purity in sensitive environments;
- ➔ **Mines and underground worksites:** protection of workers from harmful gases;
- ➔ **Wood industry:** measurement of fine dust generated during processing;
- ➔ **Surface finishing and painting:** detection of emissions from solvents and aerosols;



## Networked Monitoring and Large-Scale Projects

Together with the Smart App and the remote server, X-IPO makes it possible to manage complex networks with dozens or even hundreds of connected devices.

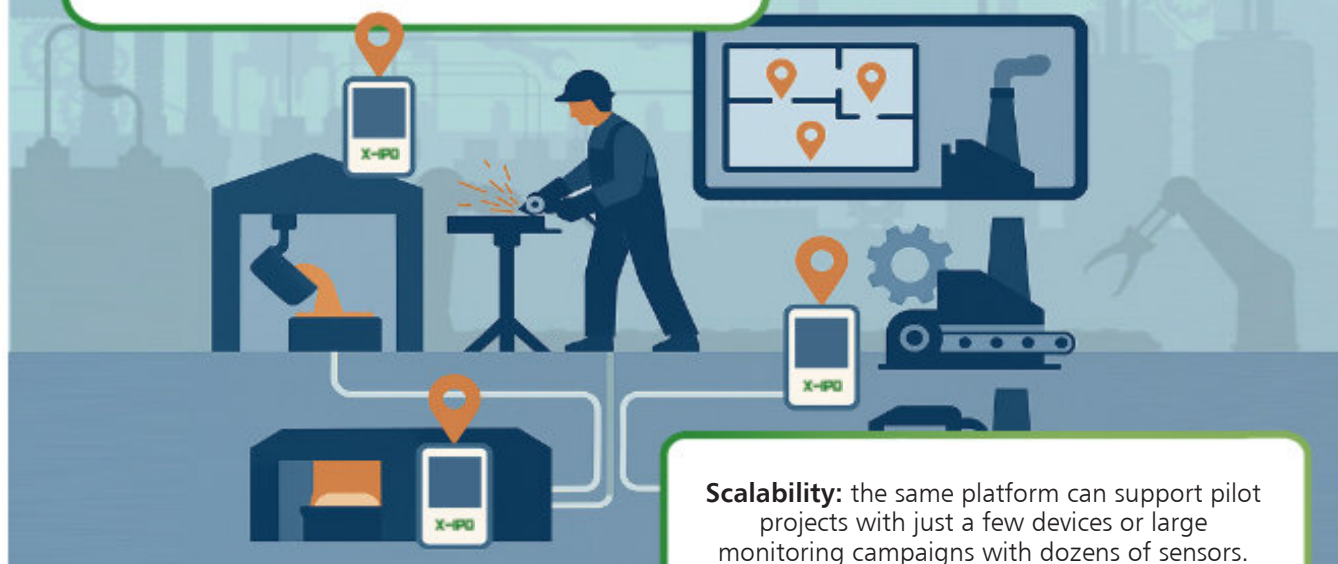
**Distributed sensor network:** all data is collected in a single centralized platform, enabling real-time management, comparison, and visualization of measurements.



**Mobile tracking:** with X-IPO worn or carried in a pocket, monitoring becomes a dynamic mapping tool, ideal for identifying critical areas in urban, industrial, or natural environments.



**Advanced visualization:** georeferenced data is transformed into concentration maps of gases and particulates, providing high-value insights for urban planning, research, and public health.



**Scalability:** the same platform can support pilot projects with just a few devices or large monitoring campaigns with dozens of sensors.





# X-IPO + SMART APP



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## Key Features

- ➔ Start/Stop monitoring using the RUN/START button;
- ➔ Save data with the SAVE button;
- ➔ Export CSV files to PC or app;
- ➔ Automatic/manual log upload to the server;
- ➔ Configure date/time, logging interval (3–60 s), and sensor calibration;
- ➔ Remote data synchronization.

## Technical Specifications

Embedded Sensors (Additional sensors available on request)	CO – Electrochemical sensor (0–50 ppm, resolution 1 ppm)
	CO <sub>2</sub> – NDIR infrared sensor (0–5000 ppm, resolution 1 ppm)
	PM10, PM2.5, PM1 + 6 size classes – OPC sensor (0–1000 µg/m <sup>3</sup> )
	Temperature – Digital sensor (-5 to 50 °C)
	Relative Humidity – Digital sensor (0.1–99.9 % RH)
Power Supply	Atmospheric Pressure – Digital sensor (80–100 kPa)
	Li-ion Battery - 2500 mAh – 5 Vdc
	Operating Time - Minimum 8 hours of continuous monitoring
Connectivity and Data Management	Charging - Via USB-C (5 V DC, max 1 A)
	Bluetooth® - Connection with Android app
	Internal Memory - CSV files exportable via USB-C
	Smart IPO App (Android) - Start/stop monitoring, save and upload logs to the server, GPS geolocation, customizable settings
Measurement Parameters and Features	Remote Server - Access to data and reports at xearprosmart.web.app
	PM (1–10 µm) - Range 0–1000 µg/m <sup>3</sup> , accuracy ±15% (RH < 35%)
	CO - Accuracy ±5%
	CO <sub>2</sub> - Accuracy ±(50 ppm + 5% of reading)
	Temperature - Resolution 0.1 °C, accuracy ±0.5 °C
	Humidity - Resolution 0.1 %, accuracy ±1.8% (10–90 % RH)
Physical Characteristics	Pressure - Resolution 0.01 kPa, accuracy ±2 % f.s.
	Dimensions (L × W × H) - 150 x 60 x 45 mm
Package Contents	Weight - 400 g
	X-IPO device
	Carrying case
	USB-C power cable (power adapter not included)

**XEarPro s.r.l.**

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