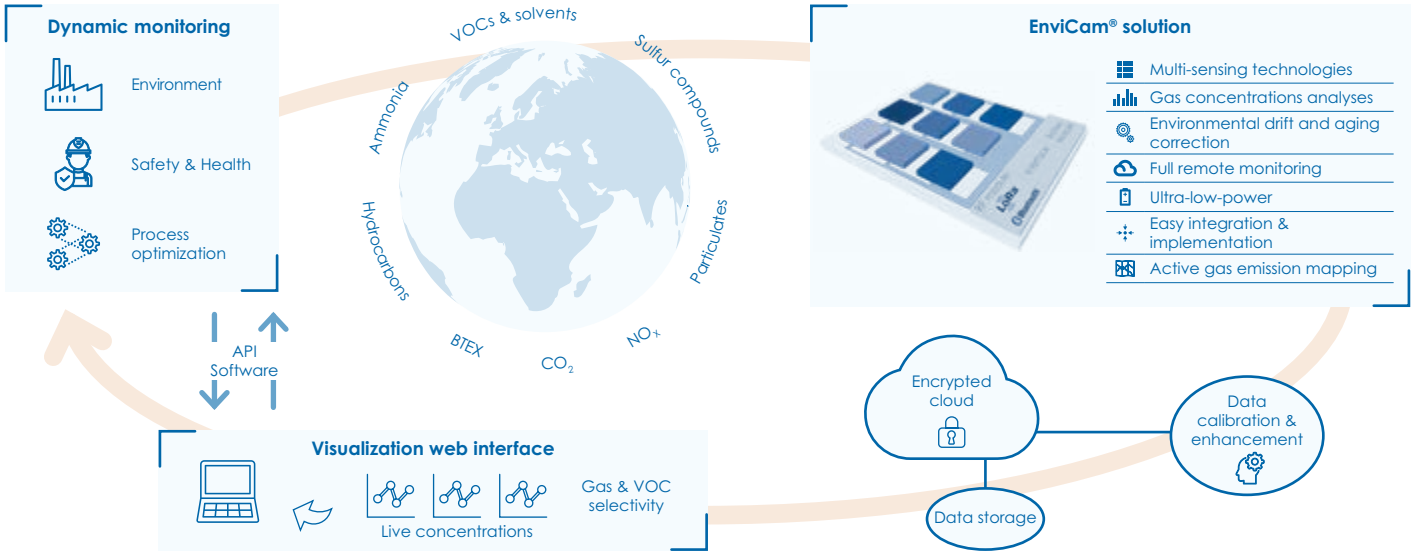
EnviCam

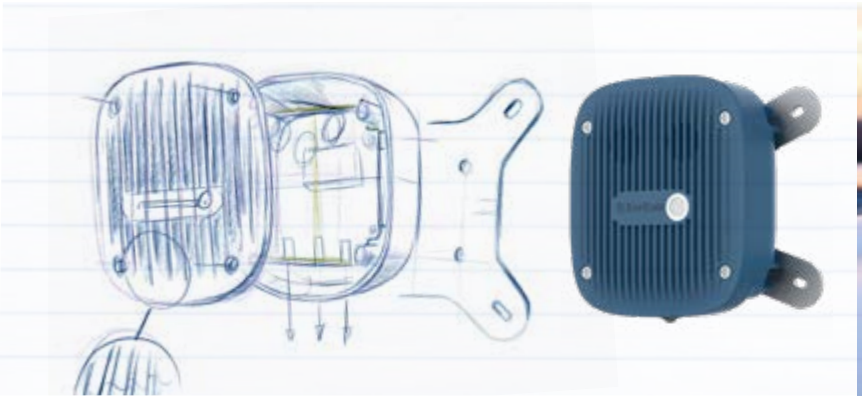
Your Environmental Camera

"VOCSens invents the environmental camera"

EnviCam®-10 is a smart autonomous sensor module for environmental monitoring and industrial control, featuring multi-technology gas sensors integration, particulates, temperature, humidity and pressure measurements, connected to the Internet of Things (IoT) and Industry 4.0 networks, towards strategic data supply.

Indoor & Outdoor environments





REMOTE MONITORING SOLUTION

This sensor node wisely combines gases, particulate matter (PM), temperature and humidity sensors, as well as wireless communication capabilities (e.g. LoRa and Bluetooth) towards IoT applications and Industry IoT applications. Measurements of other parameters such as pressure, light and sound are also available on demand.

SMART SYSTEM INTEGRATION

EnviCam® gathers well-known gas sensing technologies associated to VOCSens own developments within a unique smart communicating system, for both indoor and outdoor monitoring, towards increased safety. The platform is optimized for fast deployment with minimal maintenance cost, full interoperability and highly valuable data suppliance.

DISRUPTIVE LOW-POWER SENSING TECHNOLOGIES

Its miniaturized ultra-low-power multi-pixel sensing technology paves the way towards billions of interconnected sensor nodes for environmental monitoring and industrial control, featuring high selectivity, increased autonomy, together with the lowest implementation costs on the market. Up to 10 years operation lifetime is targeted, battery-powered and/or through energy harvesting.

WIDE RANGE OF MARKET APPLICATIONS

Wastewater treatment plant | Agri-food industry | (Petro)chemical industry | Recycling & Landfill sites | Smart cities | Smart buildings | Laboratories | Livestock farming








TECHNICAL SPECIFICATIONS

Dimensions: 130 x 114 x 50 mm³, < 400 g, compact, lightweight

Power supply: M8 connector 12V/24V DC 1.5A
Optional USB-C 5V DC 1.5A (no waterproof)

Power consumption: down to 300 µW

Battery: Li-ion 3.500 mAh 3.65V (12.95 Wh)

Autonomy: up to 5 years depending on the data measurement & upload frequencies

Sampling period: down to 1 second

Operating conditions: -20 – 60 °C, 10 – 95 % RH

Data output:

- Wireless communication: LoRa (upload period down to 5 minutes, 288 messages a day), Bluetooth 5 (internal or external antennas, male SMA), 0.01 – 10 km range, other protocols (NB-IoT, Sigfox, WirelessHART, Wi-Fi HaLow, etc.) on request
- Serial communication: SPI, UART, I²C

Implemented gas sensing technologies: chemiresistive (MOX, polymer, nanocomposites, ect.), electrochemical, non-dispersive infrared, pellistor

Other measured environmental parameters: particulate matter (P10, PM2.5) temperature (-20 – 60 °C, ±1 °C), humidity (10 – 95 % RH, ±5 % RH) & pressure (optional)

Alarm system: defined thresholds based on safety exposure limits

Data integration: dedicated algorithms and API

IP64 housing

Lifetime: 5 to 10 years depending on the environmental conditions

DETECTED GASES & PARTICULATES (RANGE AND PRECISION[1])

Smart cities (AQM) – Ozone, nitrogen oxides & particulates

O_3: 0 – 10 ppm (±10 ppb)

NO_2: 0 – 10 ppm (±10 ppb)

NO: 0 – 10 ppm (±60 ppb)

CO: 0 – 500 ppm (±15 ppb)

PM10 / PM2.5: 0 – 500 µg/m³ (±10 µg/m³)

(Petro)chemical – VOCs & hydrocarbons

HCHO (formaldehyde): 0 – 10 ppm (±20 ppb)

CH_3OH (methanol): 0 – 100 ppm (±1 ppm)

C_2H_4O (ethylene oxide): 0 – 100 ppm (±70 ppb)

HCl/HBr: 0 – 100 ppm (±700 ppb)

CH_4, hydrocarbons: 0 – 50,000 ppm (±0.1 % or 5 % of reading)

BTEX (benzene, toluene, ethylbenzene, xylene)

Agri-Food & Recycling – Sulfur & ammonia compounds

H_2S: 0 – 50 ppm (±7 ppb)

SO_2: 0 – 50 ppm (±10 ppb)

CH_3SH (methyl mercaptans): 0 – 10 ppm (±70 ppb)

NH_3: 0 – 100 ppm (±200 ppb)

HCN (hydrogen cyanide): 0 – 100 ppm (±35 ppb)

O_2: 0 – 30 % (± 0.1 %)

Home, office & laboratory (IAQ) – Carbon dioxide & VOCs

CO_2: 0 – 5,000 ppm (±50 ppm or 3 % of reading)

TVOC: 0 – 500 ppm (±100 ppb)

C_2H_5OH (ethanol), alcools: 0 – 200 ppm (±200 ppb)

Formaldehyde, acetaldehyde, BTEX

On-demand configuration

Module tunable to your needs and/or requirements

Many options of gas measurements, ask us by e-mail

[1] *Computed concentration values could be up to 4 x more precise according to the operational conditions. At least 2 x the indicated precision levels are guaranteed.*

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Please contact us for more information or a live demo
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