The new generation of H2S measuring

With innovative sensor replacement even for ATEX Zone 1 and attractive „Sensor as a Service“ model

Scale 1:1

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Coping with odour, corrosion and damages to health

A too high H_2S concentration may result not only in unpleasant odour, but also be a threat to the plants themselves. Corrosion of metallic components and affected concrete can cause expensive consequential damages or even breakdowns. The health of staff and residents must be protected, because H_2S can lead to health damages such as mucosal irritation.

Microtronics supports your fight against H_2S with a complete package of hardware, software and service. The measurement instruments have been adapted to the customer needs and thanks to the maintenance concept help to save resources and costs.

The constant data collection supports operators in detecting damages at a very early stage, in preventing failures and in optimizing processes. The H_2S monitoring solution is also combinable with a dosing control. This enables the event-based or preventive dosage of chemicals to reduce the H_2S concentration.

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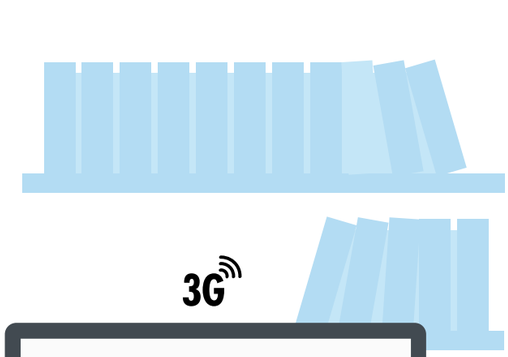
Using the technology from Microtronics

- You measure the H2S concentration all year without data gaps.
- You replace the sensor directly at the measurement site.
- You act sustainable by refilling the sensor and battery.
- Your data is protected by an extensive security concept.
- Data is transferred via 3G/UMTS to an internationally standardised service rate.
- You measure H2S concentration even in ATEX Zone 1.
- Runtime is up to 32 months thanks to Ultra Low Power technology.

2.) Read data via Bluetooth Smart on site



3.) Read data comfortable on laptop, tablet or smart phone in the office

1.) H2S logger

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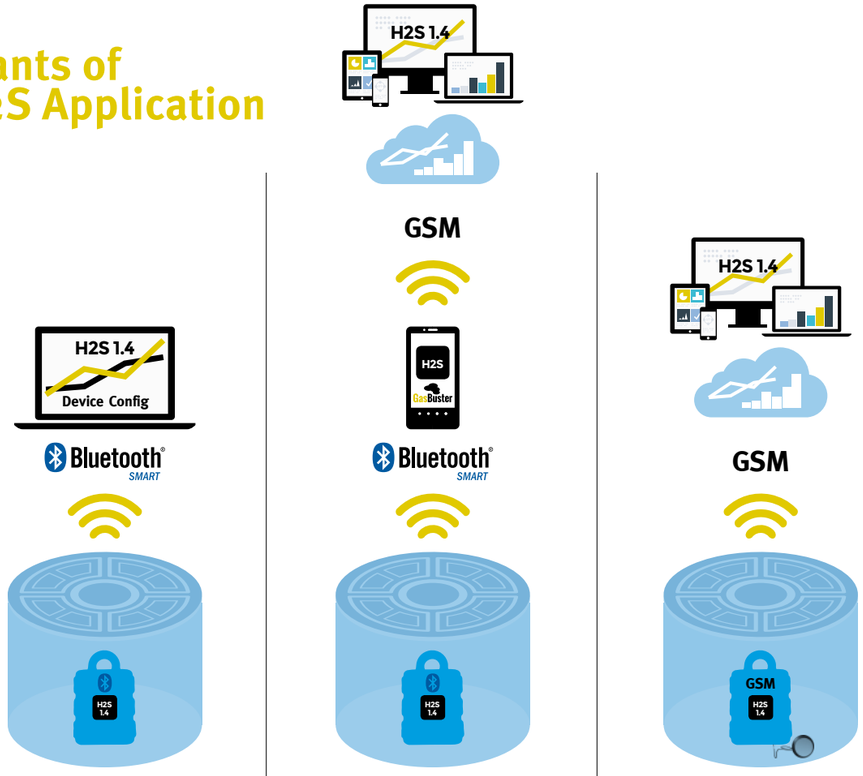
3 Variants of the H2S Application



	H2S Local	H2S Connected	H2S Complete
Measurement without data gaps	✗	✓	✓
Innovative sensor change	✓	✓	✓
Colour Display shows current measurement values at the site	✓	✓	✓
Data Memory	Local	Server	Server
Hardware	BLE Gateway	BLE Gateway	BLE & 3G Gateway
Software	Device Config	GasBuster App	No software needed
Server	✗	✓	✓
Transmission	Local via BLE	Local via BLE to the server	2G/3G to the server
Advantages	• Cheap devices • On-site review	• Cheap devices • Structured data storage	• Current data available via browser • Structured data storage • Control process possible
Disadvantages	No structured data storage	Timeliness of the data depends on the visits at the measurement site	Higher prices for devices

BLUETOOTH SMART, UMTS/3G

Data transmission via Bluetooth Smart or 3G

Climbing into the wastewater systems to read out the values was yesterday. With the new H2S sensor modules you can read out the measurement data via **Bluetooth Smart.** Therefore you just use the free of charge software **DeviceConfig** somewhere within 10 meters around the BLE Gateway.

The **GasBuster app** communicates via BLE with all sensors within its reach. Use the GSM connection of your Smartphone to synchronize the data with your server. The actuality of the data on the server depends on the frequency of your visits at the measuring site.

The **3G version** is even more convenient: The measurement data is transferred via UMTS / 3G to the web server and is permanently available. A visit of the measuring site is thus only necessary in the event of service or calibration.

OLD H2S SENSOR OUT,
NEW H2S SENSOR IN

Innovative Sensor Replacement

Old H2S sensor out, new H2S sensor in – thanks to the magnetic contact proper insertion is guaranteed. Due to the **immediate sensor replacement** at the measurement site there are no data gaps and your maintenance staff saves a trip to the measuring site.

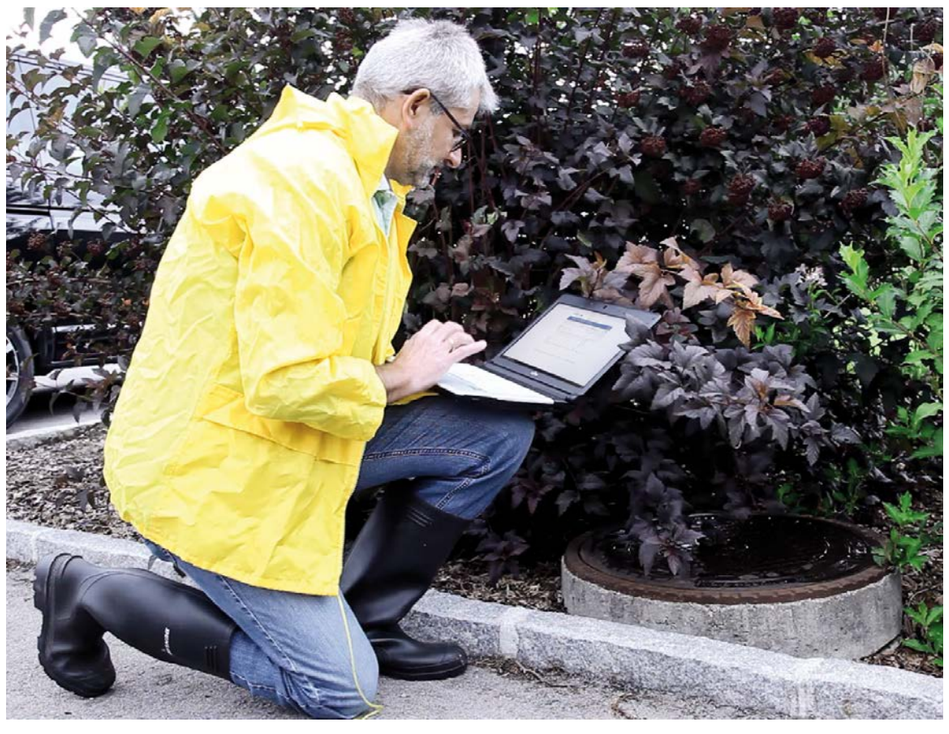
While the new H2S sensor measures diligently, the old H2S sensor is recalibrated and reused afterwards. So you save costs, time and resources and on top of that you profit from the advantage of **seamless data acquisition.**

ATEX ZONE 1

ATEX Zone 1

The mobile H2S measuring instruments from Microtronics are certified for the use in hazardous areas.

The Bluetooth Smart as well as the 3G version with the corresponding sensors are available as an option for the **ATEX Zone 1.**



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Device overview

BLE Gateway

ATEX ZONE 1

BLE Gateway ATEX

Sensor Module

Sensor Module

Device overview

BLE & 3G Gateway

ATEX ZONE 1

BLE & 3G Gateway ATEX

Sensor Module

Sensor Module

Cellular & Wireless	
Bluetooth Low Energy	Bluetooth Low Energy 2G GPRS 900MHz / 1800MHz UMTS B1, B8
Display	
1,5“ Full Color Display, Resolution 128 x 128	
Battery Life Time	
24 months Sensor Module @ 1Min. measuring intervall, 36 months Gateway	24 months Sensor Module @ 1Min. measuring intervall, 24 months Gateway @ 4h transmission intervall
Environment	
Protection class: IP66 Temperature: -20...+50°C Air Humidity: 15...90%rH Barometric Pressure Deviation: Atmospheric +/-10%	
Sensor Module	
H2S Gas Nominal: 0-200ppm, Peak Load: 1000ppm Resolution: 0,25ppm, Accuracy: 1%, T90 Time: <=35s, Abrasion: 0 ... 100% Alternative Gas Sensor Types: NH_3, CO, CL_2, C_2H_4O, H_2, HCN, HCL, NO, NO_2, O_3, SO_2	
Gateway Readings	
Internal Temperature: -20°C ... +50°C Internal Relative Humidity: 0 ... 100%rH Battery SOC (State of Charge): 0 ... 100% BLE Signal Quality: -50dBm ... -110dBm	Internal Temperature: -20...+60°C Internal Air Humidity: 0...100% rH Battery SOC (State of Charge): 0 ... 100% BLE Signal Quality: -50dBm ... -110dBm GSM Signal Quality: -50dBm ... -110dBm
Memory	
Internal flash memory for up to 82.776 measusurement cycles	
Dimensions & Housing	
Material: Noryl GTX 973 / PC Dimensions (WHD): 106 x 169 x 61mm (with protective amour) Weight: 690g (incl. H2S Sensor module)	

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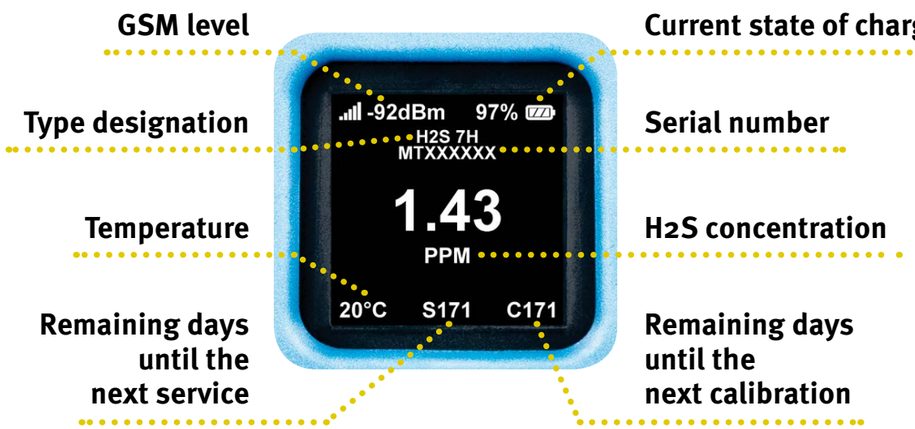
ACTIVATE USING THE MAGNETIC SWITCH

Colour Display & Robust Design

The 1.5’’ Full Colour OLED-Display is designed to show the **current measurement values** (H2S concentration, temperature) and various **status information** (status, battery voltage, remaining days until the next service and calibration) directly without any additional software.

With its IP66 housing, which is **restistant to chemicals,** the device is designed for the use in harsh environments. The **rubber shell** dampens vibrations and impacts. The antenna socket is located at the bottom of the unit. Therefore, the antenna is safe from water and dirt.



DOSING CONTROL

Dosing control with the BLE mA Link

The **BLE mA** Link is an **add-on** for the myDatasensH2S. The BLE Gateway transmits the data via BLE to the BLE mA Link.

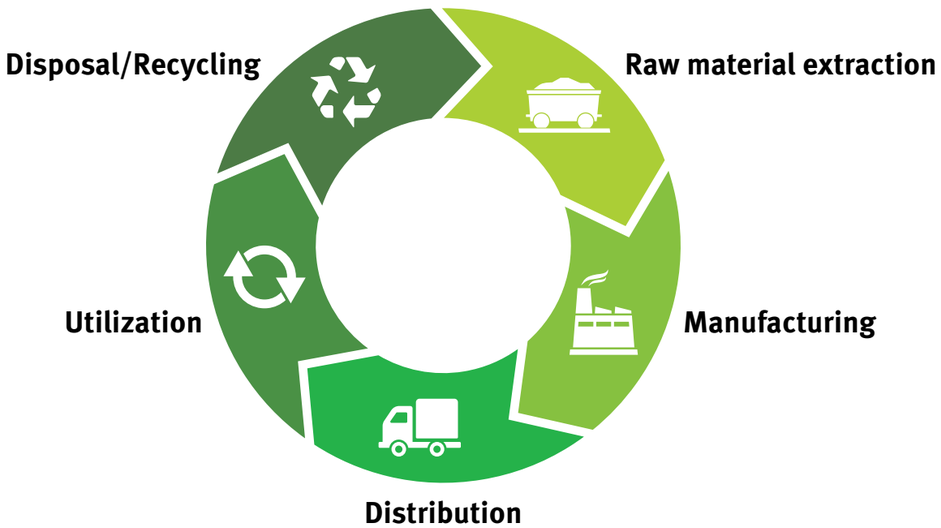
Thus a pump is automatically driven for the reduction of the gas concentration in the surroundings of the sensor. In addition to implementing a **dosing control** you can display the H2S measurement value **on site or pass it on to a PLC.**

PRODUCT LIFECYCLE

Ecodesign

Microtronics considers the product lifecycle from the development to the return and disposal of the devices.

- **Sensors** are refilled at the calibration cycle by Microtronics or a certified partner.
- **Batteries** can be returned to Microtronics and will be discarded according to current environmental standards. By using primary cells instead of rechargeable batteries, the maturity increases by up to six times.
- Cost-effective **spare parts** round off the green thinking and reduce waste.



ULTRA LOW POWER

Ultra Low Power Technology

With the proven Microtronics Ultra Low Power technology the **battery life time** of the BLE Gateway is **36 months** and 24 months for the 3G version. At a measurement interval of 1 minute the batteries of the sensor have to be exchanged every 18 months.

Particularly user-friendly: The battery runtime matches the calibration cycle. Changing the battery is therefore only necessary at **every third sensor refill.**

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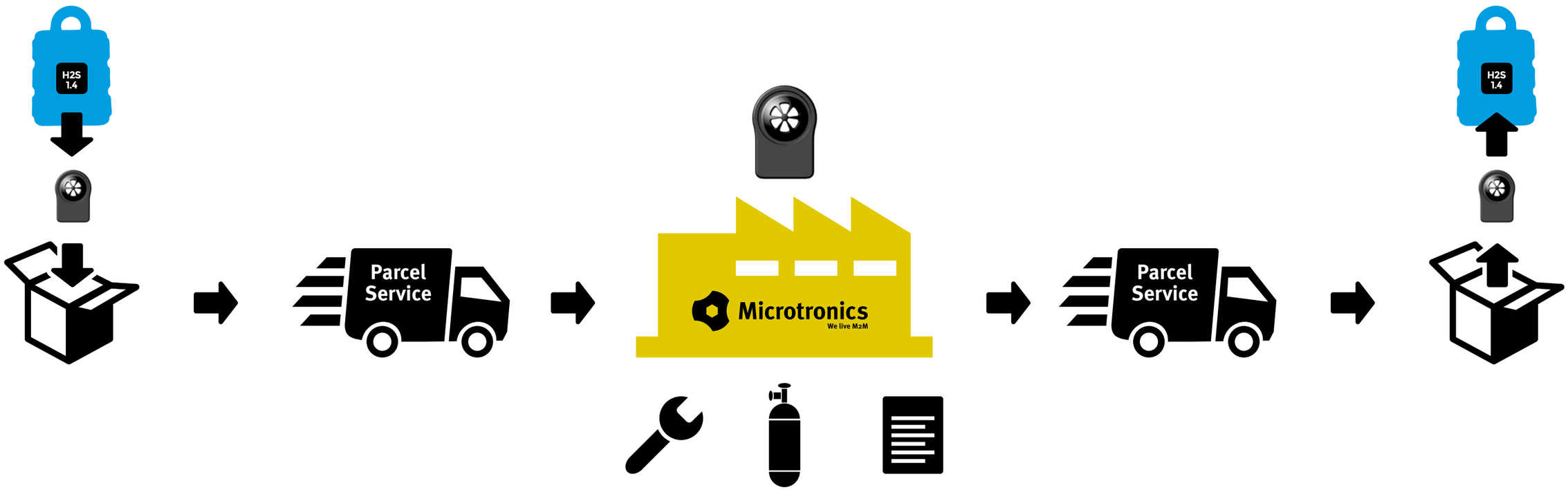
Sensor as a Service



Your advantages:

- Increase of the quality in measurement campaigns
- Professional calibration in the laboratory
- All in service
- Service level for maintenance, replacement and calibration in 5 working days *
- Ready to operate sensors at any time

Test **Calibration** **Protocol**

Working days *

Services included:

- Providing of the sensor **
- Treatment and replacement of the sensor
- Calibration as often as desired
- All repairs
- Insurance ***

* 10 working days standard service level, 5 working days for charged RMA service portal.
Access to portal one time fee EUR 2.500,-- and monthly EUR 120,--/user.
** Miminum contract term 18 months - monthly billing. Afterwards terminated by returning the sensor.
*** Mind the replacement value of the sensor. Theft has to be reported to the police. No retention.

Sensor overview

Choosing the right sensor for your application determines the gas to be measured, but also the **measurement accuracy.** Microtronics provides sensors to measure H2S, H2O2 and NH3. If you want to measure any other gas, please contact the Microtronics team. When you measure H2S the measuring range and the **maximum limit** are of significance. It should be considered in advance in what range your measurement values will be and what accuracy you need. Are your measurements, for example in the range of 10-15ppm, Microtronics recommends a sensor with low range and a low maximum value such as the H2S BH or the H2S C50.

For the simple selection of a sensor Microtronics provides a sensor sample case at a special price.

Choose the right sensor for your application and convince your customers through professional appearance.

	H2S 7H	H2S BE	H2S B1	H2S BH	H2S C50	H2O2 CB100	NH3 CR50
							
Manufacturer	City Technology	Alphasense	Alphasense	Alphasense	Membrapor	Membrapor	Membrapor
Measurment Range	0-200ppm; max. 1.000ppm	0-2.000ppm; max. 3.900ppm	0-200ppm; max. 500ppm	0-50ppm; max. 200ppm	0-50ppm; max. 220ppm	0-100ppm; max. 200ppm	0-50ppm; max. 100ppm
Resolution	0,25ppm	0,5ppm	0,08ppm	0,02ppm	0,05ppm	0,2ppm	0,5ppm
Repeat Accuracy	1%	---	---	---	2%	2%	3%
Calibration Points	Synthetic air - 150ppm H2S	Synthetic air - 150ppm H2S	Nitrogen - 30ppm H2S	Nitrogen - 5ppm H2S	Nitrogen - 30ppm H2S	Gas generator	Nitrogen - 20ppm NH3
Lifetime	24 months in the air	24 months in the air	24 months in the air	24 months in the air	24 months in the air	24 months in the air	24 months in the air
Zero Offset	2ppm	4ppm	1,5ppm	1,5ppm	0,1ppm	N.D.	-5ppm

Photo: Alphasense

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Certified by TÜV AUSTRIA: EN ISO 9001:2015, EN ISO 14001:2015, EN ISO 50001:2011 for myDatanet | TÜV SÜD: ATEX Directive 2014/34/EU

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