



## TECHNOLOGY DESCRIPTION

The special know-how from space in combination with modern production techniques led to a sensor system, which is particularly suitable for measurements below 1.000 ppm H<sub>2</sub>. The working principle of the sensor system is the solid state electrolysis in the Non-Nernst version. This allows H<sub>2</sub> measurements starting from even 1 ppm e.g. for leak detection or for monitoring the lower explosive limit of fuel cells.

The sensor is currently being further developed to meet the requirements of many years of in-situ monitoring and control of a wide range of future hydrogen processes. This has led to the following results:

- Increased sensitivity for 0...1000 ppb H<sub>2</sub> in air
- Almost linear sensor signal for 0...1000 ppb H<sub>2</sub> in air (optional)
- Response time (t<sub>60</sub> < 1 sec.)
- Cost-effective production (by optimising the manufacturing parameters)
- Reduced power consumption and mobility due to miniaturisation



## INNOVATIVE ASPECTS

The advantages of this hydrogen sensor are:

- high resolution & fast response
- mechanical, chemical and thermal robustness
- small dimensions



## TECHNOLOGY READINESS (in space application)

TRL 9 (2024)

## COUNTRY OF ORIGIN

Germany

## LATEST UPDATE

06/2024



### TAGS

#sensor

#hydrogen

#sensitivity

#high resolution

#fast response

#small

### APPLICATION AREAS

Aviation

Energy

Construction &  
Civil Engineering

Chemical  
Engineering &  
Biotechnology

Environment &  
Natural  
Resources

Health

Safety & Security

SPACE  
FOR BUSINESS  
BUSINESS  
FOR SPACE

# TECH CARD

