



# **Hydrogen sensors for accelerated transition to a sustainable future**

February 2024

# Insplorion in short

Based in Gothenburg,  
Sweden. 15 FTE

Public company listed  
on Nasdaq First North

Founded as spinoff  
from Chalmers  
University in 2010

Core is Nano  
Plasmonic Sensing  
(NPS) Technology



## Research Instruments

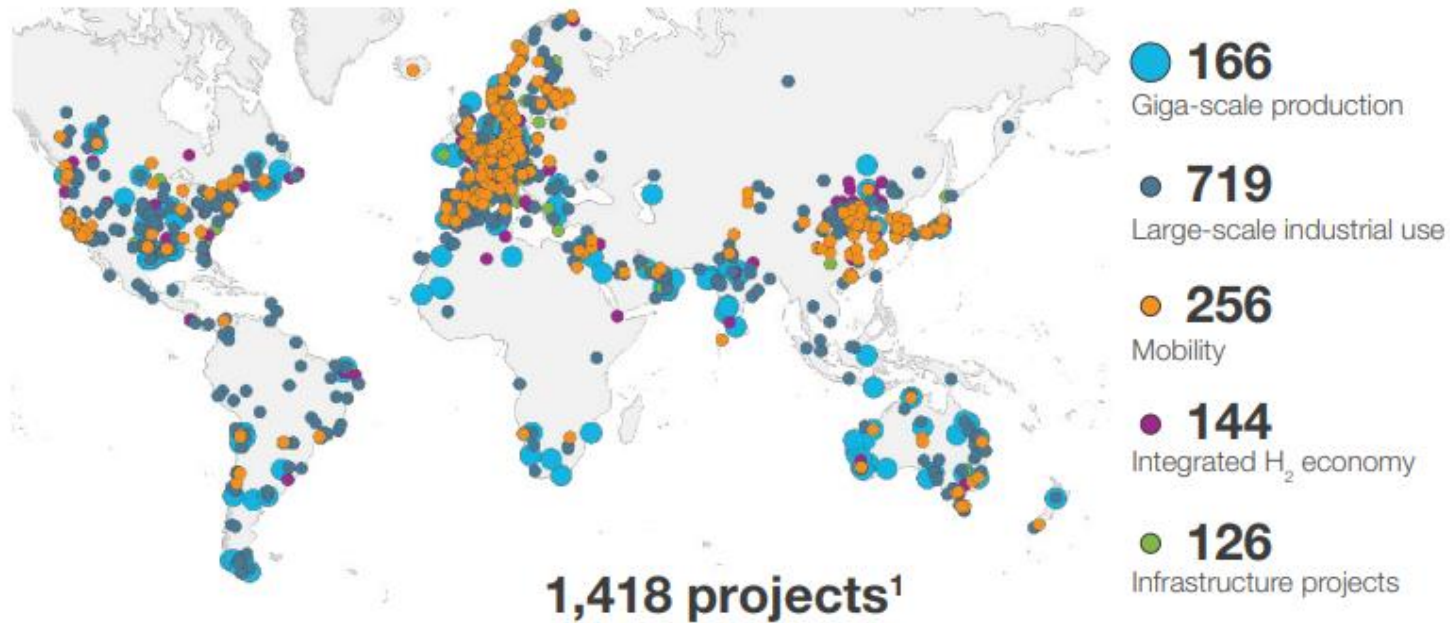
- Research instruments for measurements in gas or liquid
- More than 125 research articles published by our users



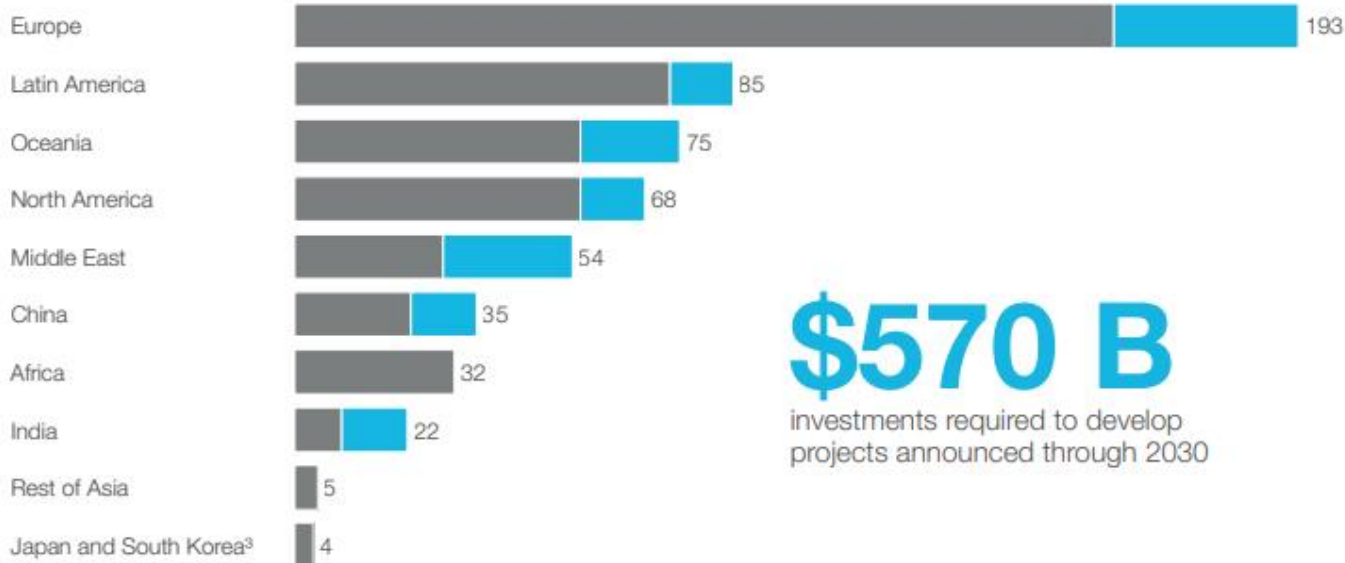
## H<sub>2</sub> Sensors

- Very fast & specific
- Optical readout
- Flexible platform
- Commercial phase





■ Jan 2023<sup>2</sup> ■ Oct 2023



**\$570 B**

investments required to develop projects announced through 2030

# Hydrogen holds a critical role for a sustainable future

- 36% increase of announced clean hydrogen projects from May 2023 to October 2023
- 570 billion USD investment until 2030 expected - 30% increase from May 2023
- Sensors needed in all parts of the value chain – from production, storage, transportation and use

# To utilize the benefits of hydrogen as an energy carrier throughout the value chain, it must be safe and efficient

## Safety

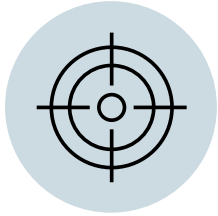
Accidents mean physical damage, to property and potentially human lives, financial damage, and setbacks in public perception.

## Efficiency

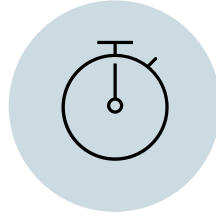
Downtime and yield has direct effect on profitability.



# Our H<sub>2</sub> sensors respond to existing challenges



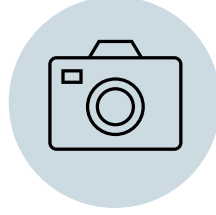
**Highly specific to H<sub>2</sub>** - detects H<sub>2</sub>, even in presence of other gases



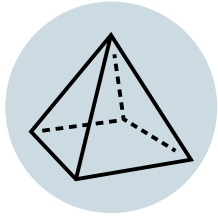
**Fast response** - enables quick action



**O<sub>2</sub> independent** - operates without oxygen, e.g. in inert environments



**Optical readout** - sensor can be separated from electronics

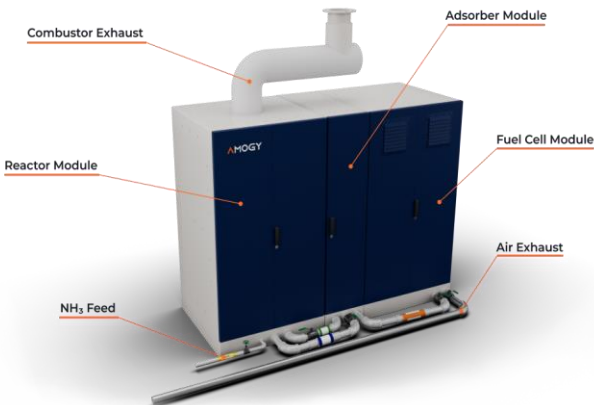


**Flexible** - can be adapted to different sensor needs and environments

# Announced commercial deals

## Power conversion

- Amogy (US)
- Ammonia cracking technology
- Delivery of NPS-P1 leak detectors
- 0.4 MSEK



## Maritime sector

- Consilium (SWEDEN)
- Supplier to global marine market
- Delivery of NPS-P1 leak detectors
- 0.6 MSEK



## Aviation sector

- European company
- Supplier to aircraft manufacturers
- Validation of technology using fiber optics
- 1.5 MSEK



## Process/chemistry

- European company
- Hydrogen in corrosive environment
- Delivery of NPS-P1 leak detectors
- 0.3 MSEK





# NPS-P1 - Hydrogen leak detection



- Insplorion NPS-P1 – Field test ability in a broad range of potential applications where hydrogen needs to be detected.
- Commercial deliveries to Consilium Safety Group AB, Amogy Inc, etc
- Scale up for larger volumes with launch in Q1 2025 of an ATEX certified Hydrogen Leak Detector

# Strategy – prove customer value and work with partners



**Sell NPS-P1 for system design, validation and pilot projects**

- Leak detection/safety
- Process monitoring

**Launch ATEX certified leak detector (NPS-P2) in Q1 2025**

**Partnerships for**

- Market rollout of NPS-P2
- Co-development for specific segments/applications





## Investment rationale

Hydrogen - a key to a sustainable future - major investments and development ongoing

Insplorion contributes to an accelerated transition with sensors for safe and efficient use of hydrogen in the whole value chain

Unique proprietary sensor platform with several key advantages that address customer needs

Commercial phase with several ongoing projects with partners in aviation, marine, energy systems and chemistry.

Solid foundation from research and an experienced team in place



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# Questions

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