



# Hydrogen sensors for accelerated transition to a sustainable future

Redeye  
October 10 - 2024

INSplorion

# Insplorion in short

Based in Gothenburg,  
Sweden. 13 FTE

Public company listed  
on Nasdaq First North

Founded as spinoff  
from Chalmers  
University in 2010

Core is Nano  
Plasmonic Sensing  
(NPS) Technology



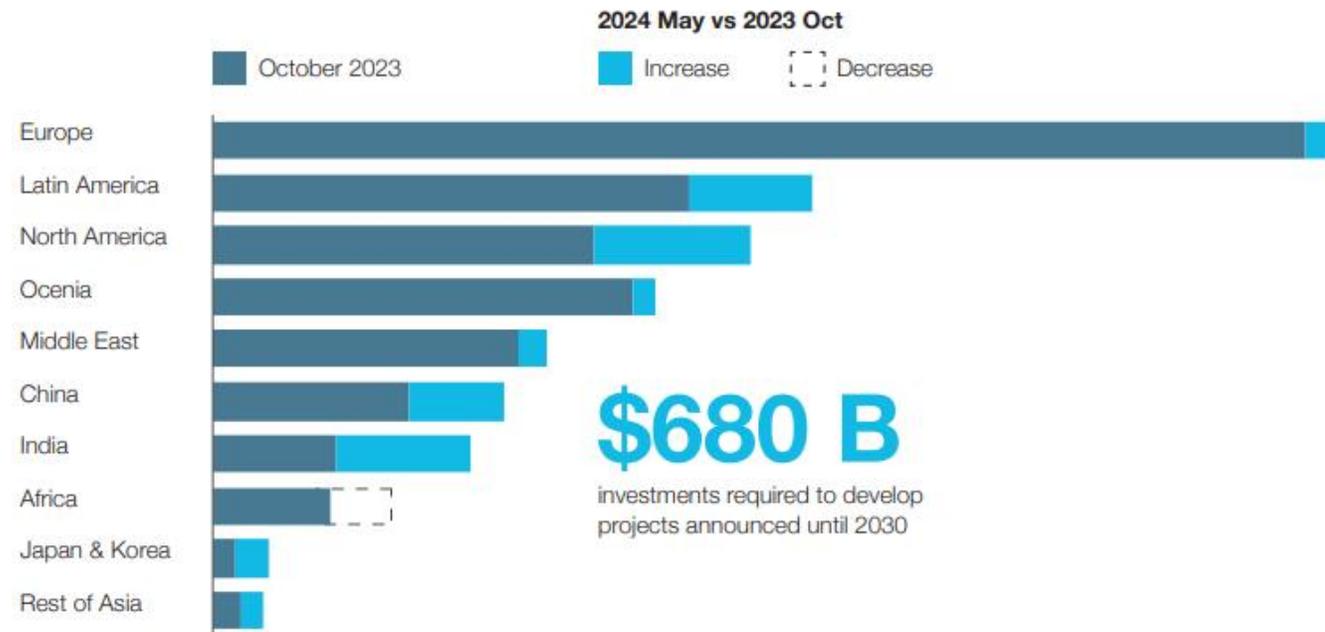
## Research Instruments

- 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



**\$680 B**  
investments required to develop projects announced until 2030

# Hydrogen holds a critical role for a sustainable future

- Sevenfold increase in global number of Hydrogen projects from Dec 2020 to May 2024
- 50% increase of clean hydrogen projects from May 2023 to May 2024
- 680 billion USD investment until 2030 expected - 56% increase from May 2023 to May 2024
- 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.



# Hydrogen outlook



## US targets massive cost reduction in hydrogen for deployment in transport and industry this decade

The US government's Hydrogen and Fuel Cell Technologies Office (HFTO) has outlined a long list of interim targets in its latest Multi-Year Program Plan, with an eye towards massively driving down the cost of clean hydrogen for use in transportation and industry.

These include an aim to reduce the cost of electrolysis to \$2/kg by 2026, and a target for hydrogen delivered to heavy vehicles to cost less than \$7/kg by 2028 — or roughly halving the current price in less than four years.

## Leaking hydrogen catches fire at world's largest chemical complex in Germany

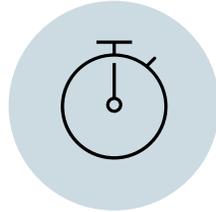
Incident at BASF's giant factory in Ludwigshafen contained by on-site fire brigade, with no injuries



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



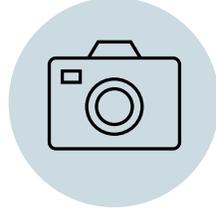
**Highly specific to H<sub>2</sub>** - detects H<sub>2</sub>, even in presence of other gases



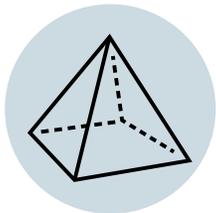
**Fast response** - enables quick action



**Low oxygen environments**  
Able to measure in reduced oxygen environments



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



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

# 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 for testing in Marine, Packaging, Chemical, Automotive etc
- Scale up for larger volumes with launch in Q1 2025 of an ATEX certified Hydrogen Leak Detector (NPS-P2)

# Commercial orders/projects

## Packaging Industry

- Global company
- Process testing for hydrogen
- NPS-P1 leak detectors
- 200 KSEK

## Automotive

- Japanese company
- Supplier of testing services to automotive
- NPS-P1 leak detector
- 50 KSEK

## Chemistry industry

- European company
- Hydrogen in corrosive environment
- NPS-P1 leak detectors
- 300 KSEK

## Aviation sector

- LOI with Saab Group
- Fiber optic testing and development
- Vinnova funding 3.7 MSEK

## Power conversion

- Amogy (US)
- Ammonia cracking technology
- NPS-P1 leak detectors
- 400 KSEK

## Maritime sector

- Consilium (SWEDEN)
- Supplier to global marine market
- NPS-P1 leak detectors
- 600 KSEK

## Aviation sector

- European supplier to aircraft manufacturers
- Fiber optic testing and development
- 1.5 MSEK



# NPS-P2



# Strategy – commercial roll-out



## **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**

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

# The Insplorion team

## Business development & Sales



*Johan Rask, CEO*



*Daniel Lundberg, CFO*



*David Nilebo*



*Martina Wennesjö*

## Product development & Tech



*Elin Langhammer, CTO*



*Olof Andersson, CPO*



*Martin Sech*



*Johanna Gullman*



*Henrik Wikström*



*Umair Javed*



*David Tomecek*



*Robin Faust*



*Per Klockar*



*Christoph Langhammer*

Our team of dedicated employees and consultants bring together a strong combination of business and technical competences to propel our business forward.

# Board of Directors



**Jonas Ehinger  
(Chairman)**

20 years of CEO experience. CEO of Gapwaves AB.



**Jan Burenius**

Vast international experience from both large corporations and start-ups.



**Magnus Jonsson**

Long experience from high tech operations  
Chairman of Powercell AB.



**Hedvig Paradis**

Profound experience within the Hydrogen field. VP Hydrogen H2 Green Steel.



**Daniel Johansson**

Long experience in renewable energy, green transition.  
Chairman of Solarwork.

Our five Board members provide Insplorion a deep network and an extensive set of experiences and competencies in strategy, operations, internationalization, complex technology business models, and product development.



## 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.

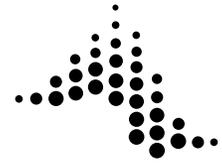


Solid foundation from research and an experienced team in place

# Rights Issue October 2024

- Size: SEK 34.3 million initially, warrants for additional shares in May 2025
- Valuation: SEK 19 million pre-money
- Secured: 60% through subscription and guarantee commitments
- Proceeds: Focus on launching and commercializing ATEX certified NPS-P2 sensor, and partnerships
- Subscription: October 8 - 22

<https://www.insplorion.com/sv/investerare/foretradesemission-2024/>



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# Questions

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