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Company sponsored research

Insplorion AB (publ)

SECTOR: CLEANTECH

Initial Coverage ☐
Update Report ■
Significant Event ☐

New strategic direction of Insplorion's business

In September this year, a review of Insplorion's business was initiated and the Board and management have decided on a new strategic direction, resulting in a stronger focus in its operations in terms of both business orientation and technology development. The new strategic direction can be summarized as:

- More focus on hydrogen, while maintaining the instrument business, down-prioritize certain areas where the technology and market conditions are currently lacking.
- Prove the technology in customer-funded hydrogen projects and achiev commercial success.
- Accelerate the path to commercial phase by exploring alternative options in the form of M&A and partnerships.

During the quarter Insplorion sold two instruments to universities, as well as one order delivered from Q2, contributing to increased sales this quarter.

Within its hydrogen gas operations, Insplorion has had a promising collaboration with PowerCell aimed at the creation of a prototype with a focus on fuel cells, which opens opportunities for the commercialization of hydrogen-gas sensors. At the same time, one of Insplorion's larger shareholder, the London-based hydrogen-focused fund, AP Ventures, has invested for the potential opportunities in Insplorion's hydrogen business.

Commencing a new perspective and analytical monitoring with a Scenario-based fair value range of SEK 6 – 14 per share

Over the past year, Insplorion's hydrogen measurement technology has been met with progressively greater interest due to the company's proven ability to measure hydrogen specifically and quickly. With an increased focus in hydrogen applications, we anticipate that Insplorion has the opportunity to close additional partnership agreement with industrial companies operating in the hydrogen segment, initially for the upstream activities. Insplorion has several customer dialogues investigating hydrogen measurement in different applications and has entered into two customer-funded pilot projects during 2022. Thus, we deem the shift towards hydrogen applications and hydrogen sensors is a promising strategy to focus on, providing increased capital allocation efficiency.

The motivated scenario-based fair value range is estimated to SEK 6 – 14 per share. In our estimates for 2025E, the company is currently traded at 1.0x (EV/Sales).

Rating	
Base scenario	SEK 9
Fair-value range	SEK 6-14

Data	
Ticker	INSP
ISIN	SE0006994943
Next event:	
Naventus Technology Summit, November 30	
Share price (SEKm)	3.9
Market cap (SEKm)	51 M
Net debt (SEKm)**	(33.8)
EV (SEKm)	17.3
No. of shares	13.1 M
Free float (%)	98

*Share price, 18 November 2022**
*Net debt based on financials Q3 2022***

Ownership Structure

Shareholders	Share, %
Avanza Pension	7.69
Mikael Hägg	3.81
AP Ventures	3.44
Hans-Olov Olsson	3.12
Other	81.94
Total	100.00

Share price development

Financials (SEKm)	*2021A*	*2022E*	*2023E*	*2024E*	*2025E*	*2026E*	*2027E*
Operating revenue	6,5	5,0	5,6	6,4	17,2	26,5	39,1
EBITDA	-10,9	-17,6	-14,5	-10,1	-2,9	4,1	10,8
EBITDA margin	*neg.*	*neg.*	*neg.*	*neg.*	*neg.*	*16%*	*28%*
EBIT	-11,5	-17,8	-14,6	-15,0	-7,5	-0,3	6,6
EBIT margin	neg.	neg.	neg.	neg.	neg.	neg.	17%
Sales Growth	*122%*	*-24%*	*12%*	*14%*	*170%*	*54%*	*48%*
Metrics	*2021A*	*2022E*	*2023E*	*2024E*	*2025E*	*2026E*	*2027E*
EV/Sales	2,7x	3,5x	3,1x	2,7x	1,0x	0,7x	0,4x
EV/EBITDA	neg.	neg.	neg.	neg.	neg.	4,2x	1,6x
EV/EBIT	neg.	neg.	neg.	neg.	neg.	neg.	2,6x
EPS	neg.	neg.	neg.	neg.	neg.	neg.	0,4
P/E	neg.	neg.	neg.	neg.	neg.	neg.	10,1x
FCF yield (%)	-35%	-32%	-33%	-34%	2%	-23%	13%

Updated investment case

Hydrogen sensors (Sensor technology for accelerated transition to fossil-free energy)

We estimate that in the short term, Insplorion's hydrogen operations will grow in correlation with the growing hydrogen economy. The use of hydrogen requires a high level of safety, as well as rapid and reliable response. Substantial investments and initiatives are deployed to enable hydrogen production and utilization in various industries. Longer-term, the aviation and transportation industries conversion from fossil fuels to, for example, hydrogen gas, will be of interest for Insplorion. It will impose stringent demands for sensors to have characteristics such as rapid response and high reliability. Insplorion's hydrogen sensor, which is also the world's fastest, may have an important role to play. Insplorion's gas sensor platform for hydrogen offers the capability to operate in tough conditions and with improved performance, easier implementation and higher reliability.

Hydrogen is regarded as a clean and renewable energy carrier, but the challenge stands in optimizing costs, reliability, and safety at all stages of the hydrogen production value-chain. Thus, if hydrogen is introduced as a major future energy carrier, hydrogen sensors will be a crucial part of the infrastructure, for ensuring safe operations.

The hydrogen sensors can be applied in various industries, for instance in future vehicles, serving as an end market which is expected to grow significantly in the future. In the upcoming years, we deem Insplorion to work with upstream value-chain industries, that particularly works with the production of hydrogen. Another particular important market in Sweden is the steel industry. Initiatives such as HYBRIT (a collaboration between SSAB, LKAB and Vattenfall), which aims to establish a fossil-free value chain in the iron and steel industry through hydrogen reduction. In addition, H2 Green Steel has also planned produce 5 million tonnes (Mt) of fossil-free steel by 2030 utilizing a similar approach. The global steel industry has an estimated turnover of approximately USD 2,500 billion/year, meaning that substantial value and competitive advantages can be achieved when the steel industry is in transition. Thus, Insplorion has the potential to increase their exposure in the growing hydrogen economy, initially with partnership agreements along upstream value-chains.

NPS – scalable platform with multiple fields of application

Insplorion's platform, NanoPlasmonic Sensing (NPS) is a patented technology. Insplorion has identified three different business areas: hydrogen sensors, air-quality sensors and research instruments. The technology's features enable its usage across several different industries, such as life sciences, where research instruments are in use today. Thus, Insplorion has great opportunities to scale up its operations within several fields of application.

Credibility from academia

The close collaboration with the Chalmers University of Technology and research instruments are two important factors on the road to commercialization – it strengthens Insplorion's credibility and confirms the technology. Tesla applies a similar model, through which they develop new technologies in collaboration with Dalhouise University.

Short-term drivers for the share

With Insplorions new strategic directive, we are optimistic about the company's project model and that it contributes to the development and adaptation of the technology for large-scale volumes. In the short term, we expect the driving forces for the share to comprise (i) new joint ventures with partners (ii) new customers who order hydrogen sensors and instruments and (iii) new and ongoing initiatives for the hydrogen economy, functioning as an underlying driver for Insplorion's hydrogen sensors to reach commercialization.

Valuation estimate

We expect Insplorion to continue its growth in the hydrogen segment and with the new strategic direction, estimate that sales between 2023 – 2030 will be distributed as follows: 80% hydrogen, 10% batteries (mainly for storage), and 10% measuring instruments.

Insplorion has an efficient organization, and we expect Insplorion to continue to be a company with an R&D focus, and that the company will secure partnership agreements for the commercialization of its hydrogen sensors in the future. Based on our estimates of three different scenarios, we set a scenario-based fair value range of SEK 6-14.

Hydrogen (H2) – Applications and estimates

The market for hydrogen is already scaling up and investments are being made globally, since it provides an important low-carbon option across a variety of sectors. Even though, hydrogen technologies development still requires substantial financial, infrastructural and policy support to be able to achieve a wide deployment and scale-up through commercial projects. Nevertheless, industry leaders across a wide range of sectors, such as, automotive, chemicals, oil and gas, are reviewing low-carbon and renewable hydrogen as a serious alternative to reach a robust sustainability objective[1].

Hydrogen can be used in a wide variety of applications. In some of them, hydrogen is used as a feedstock (raw material) for ammonia or methanol production. In other applications, hydrogen is used as a fuel and it can either be burned in furnaces, gas turbines, or volumetric engines, or it can be fed to a fuel cell for electricity production.

Hydrogen sensor technologies

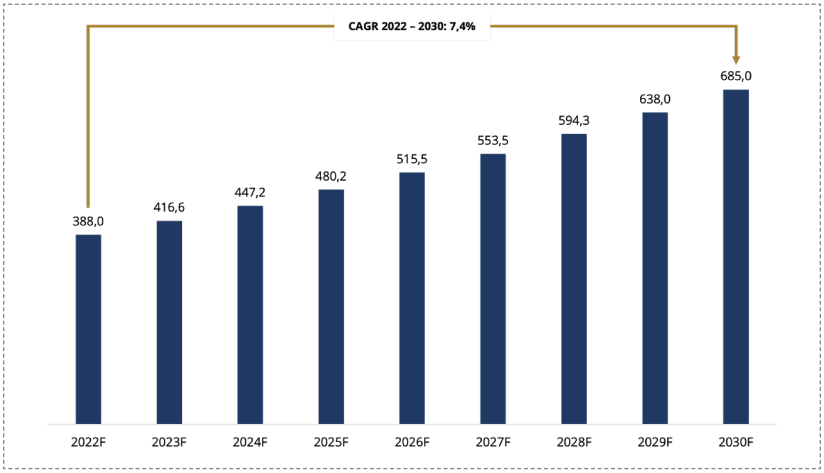
Hydrogen sensors refer to sensors which are hydrogen detectors and monitoring systems with the purpose of locating hydrogen leaks and contains micro-fabricated point-contact hydrogen sensor. On the commercial market, there are an increasing number of hydrogen sensors. There are various types of hydrogen sensors, but the most common ones include catalytic, electrochemical, metal oxide semiconductors, and thermal conductivity sensors. Since hydrogen is known to be toxic and flammable, it requires regular monitoring and since the hydrogen molecule is so small, it is difficult to seal against leaks. The sensors are widely deployed in industries that either produce or consume hydrogen gas such as chemicals, oil and gas, electronics, power & energy generation, aerospace and automotive among others. Additionally, a hydrogen sensor is considered low-cost, compact, durable and easy to maintain, compared to conventional gas detecting instruments.

Hydrogen will need to be produced on a large scale. In particular, a massive amount of green hydrogen will be needed in the coming decades just to replace the grey hydrogen currently produced from fossil fuels (natural gas and coal). It will then be stored, transported and used in a wide range of end-use applications. Throughout these stages, hydrogen will need to be measured, either to ensure that hydrogen in processes does not exceed or fall below certain given values of importance for efficiency and safety - or simply to detect the presence of hydrogen where it should not be. In volatile reactions such as the manufacturing of fertilizers, regular monitoring of the flow of hydrogen is required. In addition, growing power generation and automobile industry will generate a positive impact on the hydrogen sensor market growth in the short-term. As hydrogen production and use in the future also moves closer to end users, it is likely that safety requirements will increase further.

There are various hydrogen sensors on the market today, but with Insplorion's unique sensor technology, the company deem to add customer value through; (i) selectivity where they can detect hydrogen in the presence of other gases, (ii) fast response time enabling faster decision-making, (iii) flexibility where the sensor can be adapted to different applications, and (iv) optical readout which allows Insplorion to separate the sensor from the electronics.

The Hydrogen gas sensor market is a fragmented and competitive market because of its high market growth, attracting more players to enter the hydrogen sensor space. This creates and enhances competitive rivalry and a growing competitive landscape which may results in new research, findings and investments being done by the key players to boost their market presence[2].

Fig 1. Estimated performance of the hydrogen sensor market, 2022 – 2030 (USD million)



1. Hydrogen Council, "A sustainable pathway for the global energy transition"
2. Knowledge sourcing, "hydrogen gas sensor market"

There are several different commercial sensing technologies for hydrogen applications based on a solid-state approach, such as (i) catalytic sensors, (ii) electrochemical sensors, (iii) resistance-based sensors, as well as sensors with mechanical, acoustical and optical methods. The report examines the hydrogen sensing based on the surface plasmon resonance (SPR) and localized SPR (LSPR) in metal nanoparticles, since this is the approach utilized by Insplorion.

The hydrogen sensor market is estimated to reach a value of USD 685 million by 2030, with a projected CAGR of 7,4 percent for the forecasted period (2022 – 2030). Market drivers include (i) increasing sales of fuel cell vehicles, and (ii) significant development in the chemical industry[3].

However, the general inefficiencies of turning electricity into hydrogen, compressing it, storing it, moving it, and then converting it back into power on board a vehicle, between half and three quarters of the input power is lost. Hydrogen fuel cell cars would be uncompetitive compared to battery electric vehicles (BEV's), since they have higher maintenance cost, inconvenient to refuel, and less seating and cargo space.

3 . GlobeNewswire, "Hydrogen sensor market"

Hydrogen utilization in transportation

Hydrogen is a promising decarbonization option for trucks, buses, ships, trains, large cars, and com¬mercial vehicles for four rea-sons. First, hydrogen provides a pathway to full decarbonization, where other tech-nologies can only act as bridge technologies. Second, hydrogen provides sufficient power for long ranges and high payloads due to its superior energy density. Third, hydrogen infrastructure, while initially a barrier, has significant benefits at scale compared to fast charging: faster refueling, more flexible load, less space requirements, and similar investment costs. Lastly, in addition to road transport, hydrogen is the best option for trains and ships, and hydrogen-based synthetic fuels (synfuels) can decarbonize aviation[4]. Table 1 shows the potential uses of hydrogen and hydrogen-based fuels in transport applications.

Potential use of hydrogen and derived products for transport applications

	Current role	Demand perspectives	Future deployment	
			Opportunities	Challenges
Cars and vans (light-duty vehicles)	11 200 vehicles in operation, mostly in California, Europe and Japan	The global car stock is expected to continue to grow; hydrogen could capture a part of this market	**Hydrogen:** Short refuelling time, less weight added for energy stored and zero tailpipe emissions. Fuel cells could have a lower material footprint than lithium batteries Captive vehicle fleets can help overcome challenges of low utilisation of refuelling stations; long-distance and heavy-duty are attractive options	**Hydrogen:** Initial low utilisation of refuelling stations raises fuel cost; reductions in fuel cell and storage costs needed; efficiency losses on a well-to-wheels basis **Power-to-liquid:** Large electricity consumption and high production costs **Ammonia:** Caustic and hazardous substance close to end users mean that use is likely to remain limited to professional operators
Trucks and buses (heavy-duty vehicles)	Demonstration and niche markets: ~25 000 forklifts ~500 buses ~400 trucks ~100 vans. Several thousand buses and trucks expected in China* by end-2019	Strong growth segment; long-haul and heavy-duty applications are attractive for hydrogen		
Maritime	Limited to demonstration projects for small ships and on-board power supply in larger vessels	Maritime freight activity set to grow by around 45% to 2030. 2020 air pollution targets and 2050 greenhouse gas targets could promote hydrogen-based fuels	**Hydrogen** and **ammonia** are candidates for both national action on domestic shipping decarbonisation, and the IMO Greenhouse Gas Reduction Strategy, given limitations on the use of other fuels	**Hydrogen:** Storage cost higher than other fuels **Hydrogen/ammonia:** cargo volume lost due to storage (lower density than current liquid fuels)
Rail	Two hydrogen trains in Germany	Rail is a mainstay of transport in many countries	**Hydrogen** trains can be most competitive in rail freight (regional lines with low network utilisation, and cross-border freight)	Rail is the most electrified transport mode; **hydrogen** and battery electric trains with partial line electrification are both options to replace non-electrified operations, which are substantial in many regions
Aviation	Limited to small demonstration projects and feasibility studies	Fastest-growing passenger transport mode. Large storage volume and redesign would be needed for pure hydrogen, making **power-to-liquid** and biofuels more attractive for this mode	**Power-to-liquid:** Limited changes to status quo in distribution, operations and facilities; also maximises biomass use by boosting yield **Hydrogen:** Together with batteries, can supply on-board energy supply at ports and during taxiing	**Power-to-liquid:** Currently 4 to 6 times more expensive than kerosene, decreasing to 1.5–2 times in the long-term (Chapter 2), potentially increasing prices and decreasing demand

Table 1: Source: IEA, "Global hydrogen production in the Sustainable Development Scenario"

4 . FCH-JU, "Hydrogen Roadmap Europe"

The potential applications for hydrogen reviewed are not all equal in their scale, maturity, or potential contribution to deep emission reductions in their sectors. Tar¬gets and existing and planned projects around the world show that the speed of deployment in the coming years is expected to vary widely between sectors. Some, such as aviation, shipping, iron and steel, and chemicals, have very high levels of potential future demand for hydrogen and hydrogen-based fuels and face few competitors from other low-carbon technologies.

Hydrogen in the transport sector can be used in its pure form for fueling fuel cells, typically in pas¬senger size cars, trucks, and buses, or can be used to produce hydrogen-based fuels such as ammonia or synthetic hydrocarbons (e.g., methane, diesel, kerosene, and methanol). The principal benefit of converting hydrogen into ammonia or synthetic hydrocarbon fuels is their higher volumetric energy density, which makes them easier to store and transport, and means that less fuel by volume is needed for vehicles, ships, and aircraft. Such fuels also offer the benefit of broad compatibility with the existing fossil fuel-based infrastructure. However, the additional steps required to produce those means that energy losses can be significantly higher than for producing pure hydrogen, increasing the cost[5]. Because there are fewer low carbon alternatives for many elements of the aviation and shipping sectors, hydrogen-based fuels can play an increasingly important role in those sectors, especially in the long term, supported by rising carbon prices and other policies.

The specifics of how hydrogen is used in each application is very specific from case to case, however, one technology popular across many of them is the fuel cell technology as it is a clean and efficient way to transform pure hydrogen (or hydrogen-containing fuels like ammonia and methanol) into electricity.

Energy research engineer Glenn Rambach has stated that hydrogen technology can eventually outperform electric batteries. In addition, Rambach believes hybrid vehicles, powered by a combination of hydrogen and electric batteries are the best alternative for powering vehicles in heavy industries and can *"soften the challenge of any inadequacy in electricity or hydrogen infrastructure"*[6].

Hydrogen vehicles convert chemical energy into mechanics. A hydrogen internal combustion engine vehicle (HICEV) uses a hydrogen-fuelled version of the traditional internal combustion engine. Alternatively, hydrogen can be used to cause a reaction with oxygen in a fuel cell, consequently producing electricity. In turn, this type of vehicle is called a fuel-cell electric vehicle (FCEV), which are powered by an electric engine and includes an on-board power plant to allow the production and management of hydrogen. One of the qualities of hydrogen, relative to utilizing lithium-ion batteries, is its very high specific energy density. Thus, hydrogen-powered vehicles are lighter than battery-powered vehicles and have a more extended range. Additionally, hydrogen refuelling takes a few minutes, compared with several hours for battery-powered cars[7]. Although, as previously stated, Hydrogen fuel cell cars would be uncompetitive compared to battery electric vehicles (BEV's), due to their general inefficiencies and increased maintenance costs.

Fuel cells

A fuel cell uses the chemical energy of hydrogen or another fuel to produce electricity with efficiencies of up to 60%. If hydrogen is the fuel, electricity, water, and heat are the only products. Fuel cells are unique in terms of the variety of their potential applications as they can provide power for systems as large as a utility power station and as small as a laptop computer[8].

A fuel cell consists of two electrodes, a negative electrode (or anode) and a positive electrode (or cathode), sandwiched around an electrolyte. The fuel is fed to the anode, and air is fed to the cathode. In a hydrogen fuel cell, a catalyst at the anode separates hydrogen molecules into protons and electrons, which take different paths to the cathode. The electrons go through an external circuit, creating a flow of electricity. The protons migrate through the electrolyte to the cathode, where they unite with oxygen and the electrons to produce water and heat[9].

Fuel cells are classified primarily by the kind of electrolyte they employ. This classification determines the kind of electrochemical reactions that take place in the cell, the kind of catalysts required, the temperature range in which the cell operates, and the fuel required. These characteristics, in turn, affect the applications for which these cells are most suitable.

Fuel cells have a higher power density than lithium-ion batteries and the range of a fuel cell vehicle can be increased by adding more hydrogen tanks while using the same fuel cell stack size. This means that the marginal cost of increasing the range of a fuel cell drivetrain is cheaper than that for a battery-electric drivetrain. Fuel cell vehicles can also be refueled faster than battery electric vehicles. All these advantages have garnered the attention of commercial vehicle manufacturers such as Cummins, and they are now exploring applications[10]. Hydrogen fuel cells also have greater energy storage density compared to lithium-ion batteries, offering a significant range advantage for EV's, while being lighter and occupying less space.

5 . IEA, "Energy Technology Perspective 2020"
6 . CNN, The world's first hydrogen-powered haul truck could help clean up the mining industry"
7 . EE Times Europe, "EC to Bet on Hydrogen Fuel-Cell Vehicles"
8 . U.S. Department of Energy, "Fuel Cells"
9 . Ibid
10 . IEA, "The future of hydrogen"

Hydrogen utilization in the industry sector

Hydrogen is already used in a wide variety of large-scale industrial processes and has well-established markets. The main use is as feedstock in the refining sector to remove impurities from crude oil and remove sulfur in the petroleum-refining process, and in the chemicals sector to produce ammonia and methanol. Figure 2 shows how these two sectors accounted for more than 70% of the total hydrogen demand in 2018. In terms of supply, most of the hydrogen dedicated production comes from fossil fuels (71% from natural gas, and 27% from coal). It is worth mentioning that because hydrogen is expensive to transport due to its low volumetric density, around 90% is produced in plants adjacent to the point of use.

Hydrogen can also be used in a wide variety of applications within the industry sector and potentially replace most of their current use of fossil fuels. Thus, hydrogen represents a potential solution for decarbonizing several parts of the industry, and in some cases, it could be preferred over direct electrification. This is because electric heaters, boilers, and furnaces become less efficient as requirements for higher temperatures increase, and their use may necessitate major adaptations in current production processes. Hydrogen may therefore offer benefits regarding its ability to generate high temperatures using process setups similar to today's[11].

Supply and demand for hydrogen globally for 2018

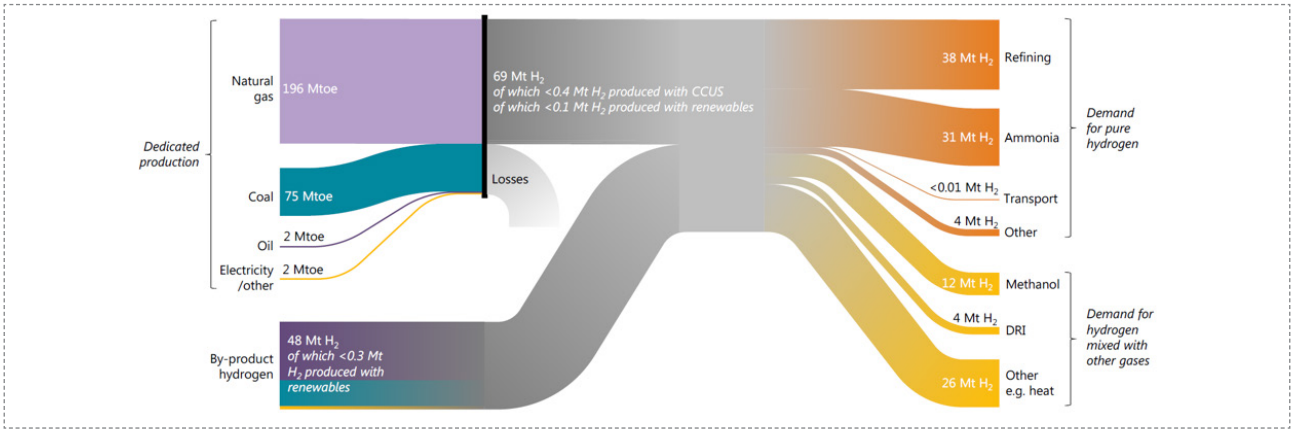


Figure 2: Source: IEA, "Global hydrogen production in the Sustainable Development Scenario"

In addition to safety concerns, accurate estimation of gas composition and real-time monitoring of hydrogen is of great economic value for the industrial sector, since hydrogen leaks must be avoided, as the gas is highly flammable.

In 2018 oil refining processes, ammonia and methanol production required approximately 70 percent of the total hydrogen produced during that year (Fig 2). In the refinery industry, hydrotreatment as well as hydrocracking accounts for the main hydrogen consuming processes. Hydrotreatment is used to remove impurities, particularly from sulphur from crude oils and accounts for a large share of refinery hydrogen use globally. Hydrocracking is a process that uses hydrogen to upgrade heavy residual oils into higher-value oil products[12].

Hydrogen sensors can be implemented in the value-chain for chemical production, for instance in the conversion of hydrogen and carbon dioxide into methane, since it is essential to know exactly much hydrogen is required in the chemical process, as well as detecting hydrogen where is not supposed to be.

11. FCH-JU, "Hydrogen Roadmap Europe"
12. Hydrogen Council, "Hydrogen scaling up"

Announced clean hydrogen capacity through 2030

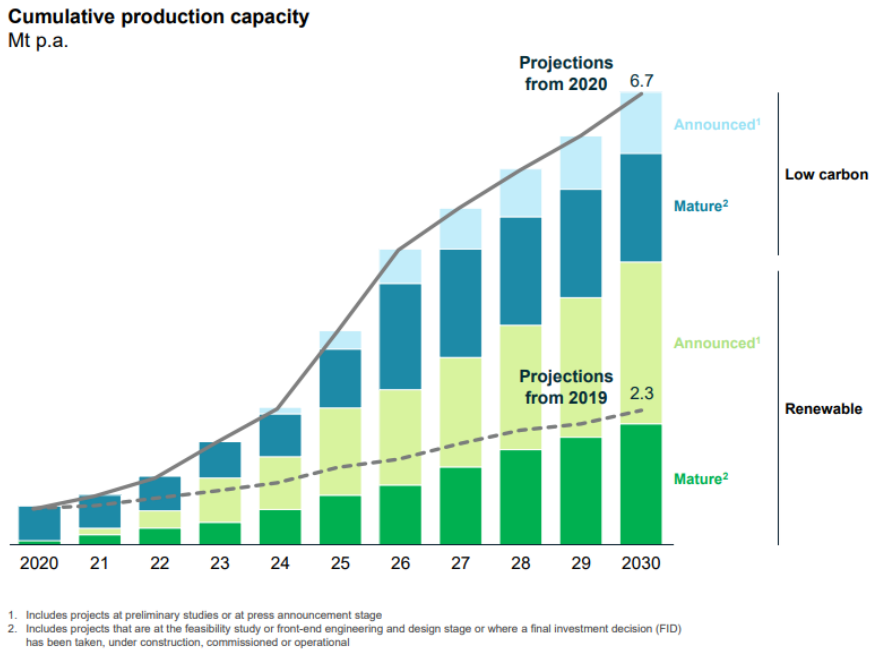


Fig 3: Source: Hydrogen Council, "Hydrogen Insights 2021"

Iron and steel

Iron and steel are the second largest users of fossil coal by industry and is characterized as a hard to abate industry. Besides coal, energy is one of the most essential raw materials for the iron and steel industry, categorized as an energy intensive industry[13]. The consumption of energy follows the steel output trend and the variations in consumption of coke and coke oven gas are tied to the production of ore-based steel, which constitutes about two-thirds of Sweden's total steel production. Moreover, most of the energy required is used to provide heat to melt the metallic input, and in the case of iron ore, to function as a reduction agent to remove oxygen.

The most common and primary production processes is through the blast furnace and basic oxygen furnace (BF-BOF) route, which accounts for approximately 70 percent of global steel production. Alternatively, steel can be produced with an existing manufacturing technology, through an electric arc furnace (EAF), currently accounting for around 9 percent of global steel production. Before the crude steel is produced in the EAF, a sub-process is required (to reduce the iron ore's oxides), utilizing a technology called direct reduction which mainly applies natural gas as the reduction agent. However, up to 35 percent of the natural gas can be substituted by hydrogen, without making any major changes to existing direct reduction furnaces. Projects such as HYBRIT and H2 Green Steel (elaborated upon in later sections) are based on 100 percent hydrogen for fossil-free steel production.

13 . Statista, "Distribution of coal demand worldwide in 2019 by sector"

Driving forces – Initiatives & investments in the hydrogen market

Deployment and investments in hydrogen have accelerated rapidly in response to government commitments to deep decarbonization, establishing hydrogen as an important component in the energy transition. According to The Hydrogen Council, over 30 countries and 228 large-scale hydrogen projects has been announced across the value chain, with 85 percent located in Europe, Asia and Australia[14]. If all projects were to materialize, total investments will reach more than USD 300 bn in spending through 2030. However, given the industry's early stage, the vast majority (75%) of these investments involve announcements but not committed funding. To date, the Hydrogen Council estimate USD 80 billion of mature investments until 2030. These include USD 45 billion in the planning phase, which means companies are spending sizable budgets on project development. Another USD 38 billion involves either committed projects or those under construction, commissioned or already operational (see Exhibit 1).

Breakdown of announced investments by maturity

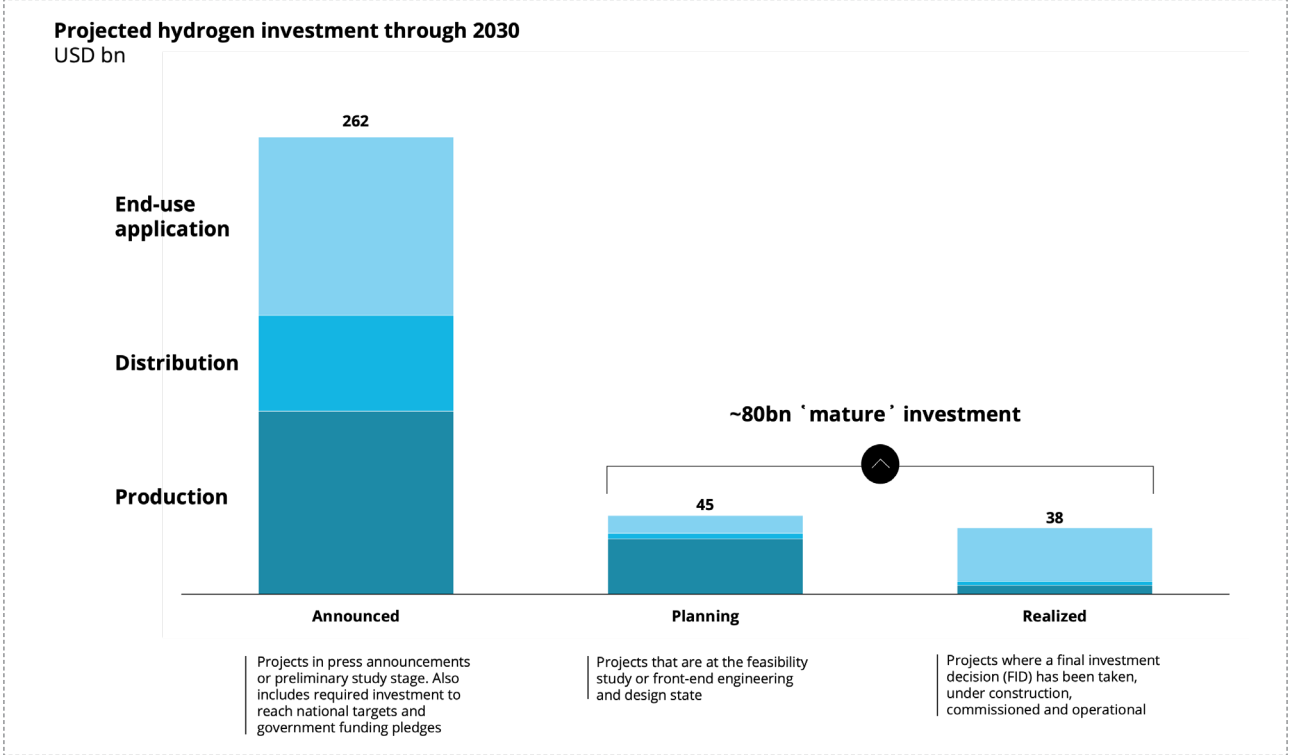


Fig 4: Source: Hydrogen Council, "Hydrogen Insights"

Furthermore, hydrogen is a crucial element in most strategies to achieve the net zero goal, and over 30 countries have created strategies on a national level to develop various hydrogen plans. The production of hydrogen accounts for the largest share of investments, while end-application investments have a higher share in mature projects due to funding for fuel cells and on-road vehicle platforms. Additionally, the largest share of investments is projected in Europe (approx. 45%), followed by Asia[15].

Nordic Initiatives

HYBRIT

The "Hydrogen Breakthrough Ironmaking Technology" (HYBRIT) is a partnership between SSAB, LKAB, and Vattenfall, which aims to develop technology for a fossil-free value chain for iron and steel production using fossil-free electricity and hydrogen, thereby minimizing CO_2 emissions in Sweden. The process intends to use electricity from renewable sources and hydrogen as a reduction agent in the steel process and has financial support from the Swedish Energy Agency. Additionally, the initiative is considered to be one of the most important projects, since it is both a technology breakthrough as well as representing a potential to reduce substantial amounts of CO_2 emissions in Sweden. The Sweden-based steel producer SSAB, plans to invest around USD 4.6 billion, to accelerate its green transition and substantially decrease its CO_2 emissions by 2030[16].

14. Hydrogen Council, "Hydrogen Insights 2021"
15. Ibid
16. S&P Global Commodity Insights, "SSAB to spend $4.75 billion to transform Nordic production to green steel by 2030"

In the HYBRIT process, iron ore, in the form of iron ore pellet, is used as the raw material. The ore is enriched and sintered into iron ore pellets, which today is done with fossil fuels. However, in the HYBRIT initiative, trials are underway to utilize biofuels instead. The iron ore is an oxide in which the iron is combined with oxygen and to produce steel, the oxygen must be removed from the ore. In the traditional steel making process, the oxygen is removed (reduced) using carbon and coke in blast furnaces, resulting in raw iron in liquid from, which is further processed into crude steel. In the HYBRIT process, the oxygen is instead reduced using fossil-free hydrogen, resulting in direct reduced iron (DRI), which is melted in an electric arc furnace (EAF) powered by renewable electricity.

H2 Green Steel

H2 Green Steel (H2GS) plans to build a facility for fossil-free steel production in Boden, which includes a GW-scale green hydrogen plant as an integrated part of the steel production facility, with production starting in late 2025. The company has announced a total investment of USD 5 billion for green steel production, producing an estimate of 5 million tonnes of green steel annually by 2030.

H2GS will utilize similar technology as the above mentioned HYBRIT, however, a significant amount of renewable electricity will be required to produce green hydrogen for the steel and iron industry.

Preem & Vattenfall

The collaboration between the Swedish fuel company Preem and Vaterfall aims to investigate the possibility of meeting Preem's hydrogen needs with fossil-free hydrogen from extensive water electrolysis. The project looks into fossil-free hydrogen for biofuel production but also the refinery's future electrical supply.

The study was finalized during 2021 and concluded that the conditions are excellent for building an electrolysis plant for the production of hydrogen for biofuels in Lysekil (Sweden). Producing hydrogen with fossil-free methods can reduce CO_2 emissions by at least 80% compared to the use of fossil materials. The potential for an initial 50 MW plant is now being investigated with the aim of moving to the next phase in spring 2022. Preem's target of producing around 5 million cubic metres of biofuel by 2030 could reduce transport emissions by up to 12.5 million tonnes of CO_2, equivalent to around 20 percent of Sweden's total emissions. This transformation of production will require large-scale supply of hydrogen, and the expansion of one or more electrolyzers can play a major role[17].

Global initiatives

REPowerEU

The REPowerEU is a response to the global energy market disruption derived from Russia's invasion of Ukraine. The act aims at ending EU's dependency on Russian fossil fuels through energy savings, diversification of energy supplies, and accelerated roll-out of renewable energy to replace fossil fuels[18]. A tool for diversifying supplies is the EU Energy Platform, which will enable common purchase of gas, LNG and hydrogen by pooling demand and optimize infrastructure use. The platform will also facilitate joint purchasing of renewable hydrogen. The act has set a target of 10 Mt of domestic renewable hydrogen production and 10 Mt of imports by 2030, to replace natural gas, coal and oil in hard-to-decarbonize industries, such as transportation and iron & steel[19].

H2@Scale (US):

The US Department of Energy (DOE's) Hydrogen and Fuel Cell Technologies Office launched the H2@Scale. The initiative brings together stakeholders to advance affordable hydrogen production, transport, storage, and utilization to enable decarbonization and revenue opportunities across multiple sectors. Recently, the initiative has been working to identify new and emerging markets where hydrogen technologies can add value to economic, environmental, and energy resilience fronts.

Furthermore, the initiative is researching the vast impact hydrogen can have on different applications, including heavy duty applications that are hard to decarbonize using other approaches. Examples include heavy duty trucks, rail transportation and maritime applications as well as backup power for data centers. Additionally, one of DOE's new National Lab consortia will accelerate development of fuel cells for heavy-duty trucks[20].

17 . Vattenfall, "Press and Media"
18 . European Commission, "REPowerEU"
19 . Ibid
20 . Energy.gov, "H2@Scale"

Biden's 3 USD/kg tax credit on Hydrogen (US)

The US has become a green-transition leader in a matter of weeks with the entering of the law of the Inflation Reduction Act (IRA). The instrument provides nearly USD 370bn in climate funding. Regarding hydrogen, the key instruments are: (i) 10-year production tax credit, worth up to 3 USD/kg of green hydrogen, (ii) investment tax credit for energy-storage technology including hydrogen, (iii) clean vehicle credits for both electricity and hydrogen-fuel cell vehicles, and (iv) refueling property for alternative fuels tax credit, worth up to 30 percent of the property's cost with a cap of USD 100,000/unit[21].

The S&P estimates that the market price for subsidized green H2 produced on US Gulf Coast can undercut grey hydrogen immediately and continue to cut costs from there[22].

Carbon intensity level per kg produced hydrogen	Tax credit amount	5x multiplier
4 kg of CO2e	$0	$0
4 - 2.5 kg of CO2e	$0.12	$0.60
2.5 - 1.5 kg of CO2e	$0.15	$0.75
1.5 - 0.5 kg of CO2e	$0.20	$1.00
0.45 kg of CO2e	$0.60	$3.00

Fig 5: Source: Inflation Reduction Act of 2022

21. Nel, "Biden's Inflation Reduction Act is great news for green hydrogen"
22. Recharge, "How Biden's $3/kg green hydrogen tax credit could break open US production"

Insplorion - Operations

Insplorion AB (publ) is a cleantech company that develops and markets scientific instrument systems for researchers within various fields throughout the world. Insplorion is positioned to expedite growth of the company's patented sensor technology within its hydrogen applications. By its disruptive sensor platform, NanoPlasmonic Sensing (NPS), Insplorion is active in three areas: air-quality sensors, hydrogen sensors and research instruments. In addition, Insplorion's sensors are small, sustainable with a cost-efficient and scalable profile in the production process. Insplorion's sensor technology enables air-quality sensors in homes, vehicles and public environments. Furthermore, Insplorion's hydrogen sensors show a response time of less than one second, making them the world's fastest sensors, which will promote the growth of hydrogen infrastructure.

Insplorion's instruments provide nanometer-scale real-time data on surface processes for researchers throughout the world operating within fields such as catalysis, materials science and life science.

The market has shown an increased interest in hydrogen applications, primarily within heavy industries and transportation. We believe that Insplorion's technical advantages and continuous R&D efforts, are creating solid opportunities to be an established player in the hydrogen ecosystem.

NPS – Platform with scalable characteristics

NanoPlasmonic sensing (NPS) is an optical technology that exploits gold nanoparticles as local sensing elements to enhance light-matter interaction. The nanofabricated plasmonic gold discs of Insplorion's sensors are embedded in a custom-made dielectric material offering optimal protection and tailored surface chemistry of the sensor. In this arrangement, the gold nanodiscs act as optical antennas, which respond to processes at the sensor/sample interface.

The technology constitutes an extremely versatile sensing platform which enables detection and monitoring of a substantial variety of material and interface processes under in situ conditions. The NPS technology provides:

- **Real-time information** showing changes in refractive index at the surface.
- **Versatile** with applications ranging from solid state material science to surface chemistry to biological interactions.
- **Robust technique** that allows measurements at high temperatures and under harsh conditions.
- Short sensing depth imparts high **Surface Sensitivity** which reduces background signals.
- **Optical** measurement principle confers inherent stability and provides remote sensing possibilities.

Localized Surface Plasmon Resonance (LSPR)

Insplorion's main patent is the "localized surface plasmon", (LSP), which is a coherent, collective spatial oscillation of the free electrons in a metallic nanoparticle. LSPs can be excited by the electromagnetic field of visible and near visible light. When white light passes through a plasmonic sensor, the nanoparticles absorb and scatter some of the light, leading to the emergence of a peak in the extinction spectrum. The resonance peak position is determined by the size, shape and material of the nanoparticle, and more importantly, it also depends on the refractive index of the medium in close proximity to the nanoparticle. Thus, by monitoring changes in the resonance peak, it is possible to detect and monitor processes influencing the dielectric environment of the nanoparticles on the sensor surface. This is the detection principle used in Insplorion's sensors.

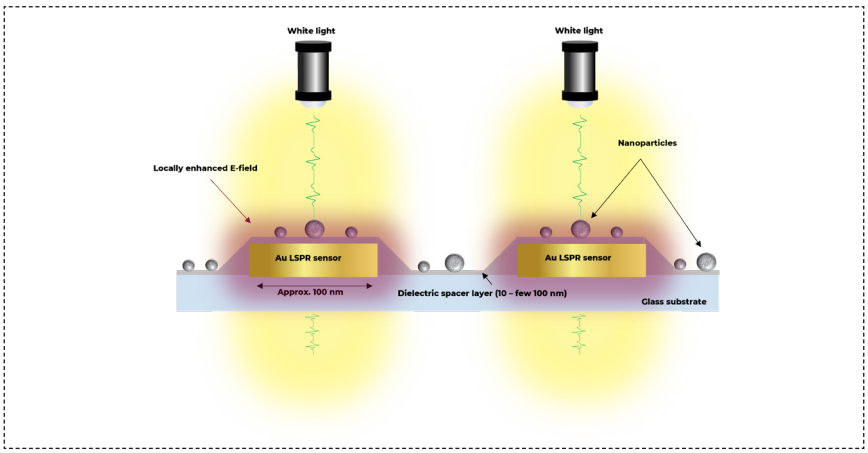


Fig 6: Source: Naventus Equity Research, "LSPR"

Sensor architecture

Insplorion's proprietary sensors are precisely manufactured in a state of the art cleanroom environment. The sensors consist of an amorphous gold nanodisc array coated with a dielectric material (illustrated in Fig 7). Virtually any material that can be deposited (e.g. by CVD, PVD, ALD, spin-coating) as a thin film can be used as the coating material. Standards include SiO_2, Al_2O_3, and TiO_2. It is also possible to use the bare gold nanodiscs as a substrate. In addition, Insplorion's sensor can be used to monitor substrate-sample and sample-sample interactions and/or chemical and physical processes in the substrate and sample materials.

Technology features

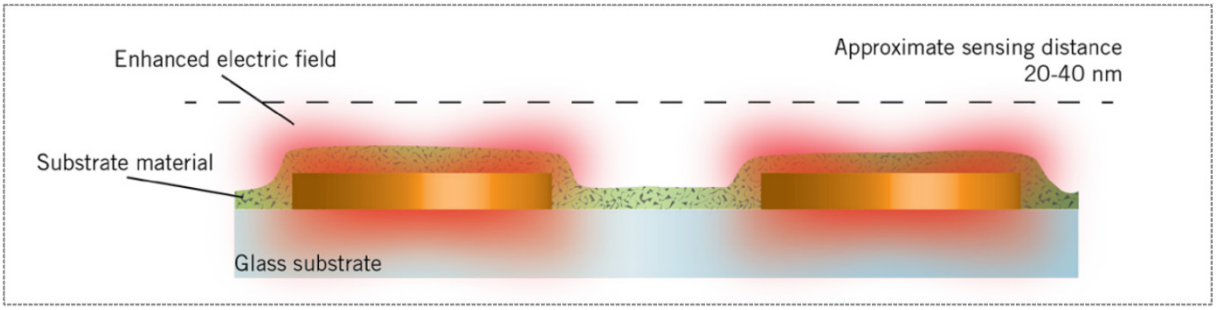


Fig 7: Source: Insplorion, "Sensor Architecture"

Marketing and commercialization strategy

Insplorion currently works on strategic objectives to commercialize its hydrogen sensors. The company's marketing strategy consists mainly of partnerships, with smaller local players, such as the previous collaboration with PowerCell, which aimed to rapidly establish the sensor on a small scale, as well as with larger global players such as Shell. During the collaboration with Shell, a project proposal was developed where Shell's interest was to utilize Inplorion's hydrogen sensors to increase the infrastructure safety involving hydrogen management, especially at vehicle refueling stations. In addition, Insplorion's project with PowerCell was financed by the Swedish Energy Agency (SEK 3.8m), with the aim of developing a hydrogen sensor that will enable faster conversion to hydrogen, increase safety and optimize the operation of fuel cells. The project was published in the prestigious journal, Nature Materials, by co-applicant Prof. Christoph Langhammer's research group at Chalmers University of Technology. The project was launched between January 2020 to January 2022. If Insplorion's technology were to be successfully implemented, hydrogen operations could gain momentum as early as the end of 2023.

We deem that Insplorion's foundations and collaboration with the Chalmers University of Technology as well as the sale of instruments to universities is positive and entails opportunities to both accelerate the path to commercialization as well as R&D.

In customer projects for assessing Insplorion's technology and instruments, Insplorion works together with the customer's engineers and strategists (Business Development), who are usually part of the group that makes decisions on design wins and whether the technology should be included in production. Consequently, we regard the projects as an interesting model for gaining access and exposure to decision-makers. Insplorion's updated strategic direction with focus on hydrogen, may lead to various potential commercialization outcomes for the company. For instance, detecting H_2 in the presence of other gases, measuring the pressure for optimal efficiency as well as avoiding downtime and risks could be a central part for industrial players in the increasing hydrogen market.

We deem Insplorion to have an opportunity to capture more customer-funded projects with customers related to hydrogen production as well as partnership agreements with customers who can test the hydrogen sensors and participate with development and R&D. However, since most of the market for hydrogen is still in the R&D phase and is developing, the market is expected to materialize from 2025 and onwards. In turn, this would increase commercialization in the long-term as well as lead to novel data and technology advancements. In the meantime, we expect Insplorion to continuously work with their current ongoing projects and secure additional customer focused partnerships, relative to the current instrument business aimed towards universities.

Potential partnerships and projects

We expect sales through partnership to be an important channel to accelerate Insplorion's commercialization strategy. So far Insplorion has utilized sales through partners, for instance with the German vehicle manufacturer last year and we deem the corporate strategy to develop novel partnership agreements in combination with continuous R&D. Since consumers are currently demanding more environmental products, driving a shift towards decarbonization and digitalization for numerous industries, Insplorion could capture partnerships with (i) major steel producers, (ii) manufacturing companies, and (iii) energy companies.

Furthermore, Insplorion have potential to increase their reach through partners and assuming Insplorion would sign an agreement with a major industrial company, such as a hydrogen production or storage company, this could lead to significant customer reach, further development regarding hydrogen sensors, as well as an increased position in the growing hydrogen economy.

Insplorion is also part of the competence centre TechForH2, which focuses on the development of the company's hydrogen sensor platform. TechForH2 is led by Chalmers University of Technology, and is a collaboration with partners such as RISE, Siemens Energy, PowerCell Sweden, Scania, Volvo GTT, GKN Aerospace, Oxeon, Stena Teknik, Johnson Matthew and Insplorion. The main focus will be on challenges in the hydrogen economy, particularly for mobility in heavy transport solutions and has a time period between 2022 – 2026.

Fig 8: Source: Insplorion, "Collaboration partners for hydrogen"

Potential risk factors with hydrogen

While the factors in favour of a sustained upswing in investment in hydrogen are much stronger and better aligned than in any prior period, significant challenges still need to be addressed:

Hydrogen is a flammable gas with a particularly low density and must therefore be kept at high pressure to be able to produce a sufficient mass for practical application. Furthermore, in case of leakage, hydrogen fuels are safer than hydrocarbon-based fuels such as gasoline, since they rise rapidly and dissolve quickly into the atmosphere, limiting the possibility of igniting[23]. Additionally, Hydrogen faces some challenges related to the transportation industry, since the gas requires liquefaction, which is energy intensive. In consequence, the industry face severe regulation and safety measures for hydrogen to be utilized across a variety of applications. Thus, to be able to quantify and get high frequency data regarding the hydrogen is of crucial importance.

The three key problems associated with hydrogen sensors are; (i) response time, (ii) sensitivity, and (iii) cost. Current mainstream technology for hydrogen optical sensors requires an expensive monochromator to record a spectrum, followed by analysing a spectral shift comparison.

With the increasing investments and growth for hydrogen, there is a substantial risk of various new competitors entering the market, thereby intensifying the competitive landscape. In addition, the risk of regulatory changes is also present since the market for hydrogen is still developing. Insplorion's sales are mostly dependent on the outcome from customers' grant funding, a vertical out of the company's control. Thus, insufficient funding within the industry should be acknowledged.

Potential risk mitigation with hydrogen sensors

By utilizing Insplorion's hydrogen sensor capabilities, it is possible to shut down a system in the event of a leak even faster, resulting in a risk mitigation connected to explosion or other incidents. The safety requirements connected to hazard events exists throughout the entire hydrogen-based value chain, including manufacturing, transportation, distribution, storage and utilization in petroleum processing and production, fertilizer, metallurgical applications, electronics, etc.

23 Pozzi, Hydrogen Fuel Safety: Essential Facts for Transit Operators"

Changes about valuation assumptions and estimates

Revenue estimates

Insplorion announced their new strategic direction, providing more empathy on the hydrogen segment, while de-prioritizing initiatives such as the InBat and the overall battery segment. Thus, we estimate that the hydrogen business will account for approximately 80 percent of sales in 2025. Novel partnerships could lead to potential market penetration of Insplorion's hydrogen sensors, however, we estimate this to be realized around 2025, when the hydrogen economy is more developed and hydrogen reduced iron & steel are beginning to be delivered at scale in the market.

Insplorion is a technology company with a strong R&D division, which, by teaming up with academia and participating in EU/customer-funded projects, has achieved an interesting position for expediting the commercialization of the company's hydrogen sensors. We see Insplorion's new strategic direction as an indicator of the interest in these hydrogen sensors and their imminent commercialization by around 2025.

We expect volume sales of hydrogen sensors to be commercialized through a partnership agreement with an industry supplier, while Insplorion directly processes end customers and that a certain volume of sensors will be proprietarily manufactured. We estimate that licensing deals regarding the company's hydrogen sensors are further away than previously forecasted, mainly because of the still developing hydrogen economy, putting more emphasis on partnership agreements. We expect sales in a base scenario of SEK 17m (2025), with a CAGR of 51% in the forecasted period to 2030, reaching sales of SEK 134m.

Potential sales channels

In the event of direct sales to potential end customers, Insplorion will need to invest in a sales organization, build up manufacturing capacities and bear the cost of production. We believe that a combination of partnership agreements and proprietary sales will be the way forward.

We believe that M&A activities could play a role in establishing sales channels compared to building their own sales organization, functioning as a path to commercialization.

Updated valuation

Our valuation analysis of Insplorion proceeds from a Discounted Cash Flow (DCF) model projected to 2035. We have analyzed three scenarios with a revised WACC of 18.3 percent in our calculation of the valuation, retrieving a scenario-based fair value range of SEK 6 – 14 per share, with a base scenario of SEK 9 per share.

Scenario-based fair value range: 1-3

Scenario 1	
CAGR/average. 22-27	
Sales	67%
EBITDA margin	21%
DCF value per share	6

Scenario 2	
CAGR/average. 22-27	
Sales	75%
EBITDA margin	22%
DCF value per share	9

Scenario 3	
CAGR/average. 22-27	
Sales	101%
EBITDA margin	22%
DCF value per share	14

The different scenarios have projected the commercialization of the hydrogen economy and Insplorion's hydrogen sensors, as well as the organizational growth. Scenario 3 assumes greater penetration of the company's hydrogen sensors, as well as partnership agreements closer at hand (compared to Scenario 1 and 2), leading to increased sales growth. The Base case (Scenario 2) assumes Insplorion to continue their R&D, commercialization and marketing activities, mainly towards upstream activities within hydrogen, paving the way for commercialization by 2025.

The overall sales are based on the estimated performance of the hydrogen sensor market, with an estimated CAGR of 7.4 percent (Fig 1). The variance between the scenarios assumes Insplorion to attain different market share of the hydrogen sensor market.

The overall EBITDA margin does not fluctuate between the scenarios, since we have taken Insplorion's new strategic direction into account, meaning a reduced amount of licensing sales, resulting in lower margins than previously forecasted.

Based on the potential growth outlook, we estimate an additional capital requirement of approximately SEK 30m in 2024.

Financial information

Income Statement 2021A - 2027E

Income Statement (SEKm)	*Hist.* 2021	*Proj.* 2022	*Proj.* 2023	*Proj.* 2024	*Proj.* 2025	*Proj.* 2026	*Proj.* 2027
Net sales	2,3	2,4	4,6	6,4	17,2	26,5	39,1
Other operating income	4,2	2,6	1,0	0,0	0,0	0,0	0,0
Operating revenue	6,5	5,0	5,6	6,4	17,2	26,5	39,1
Capitalized expenses	3,0	1,3	3.5	3,6	3,6	3.4	3.9
Total revenue	**9,5**	**6,2**	**9,1**	**9,9**	**20,8**	**29,9**	**43,0**
COGS	-0,5	-0,7	-1,6	-2,2	-5,6	-8,6	-12,7
Gross profit	**9,0**	**5,5**	**7.5**	**7,7**	**15,1**	**21,3**	**30,3**
Sales and marketing	-10,9	-13,1	-12,1	-9,5	-10,3	-10,6	-13,7
General and admin	-9,0	-10,1	-9,8	-8,3	-7,7	-6,6	-5,9
EBITDA	**-10,9**	**-17,6**	**-14,5**	**-10,1**	**-2,9**	**4,1**	**10,8**
Depreciation	-0,6	-0,2	-0,1	0,0	0,0	0,0	0,0
Amortization	0,0	0,0	0,0	-4,9	-4,6	-4,4	-4,2
EBIT	**-11,5**	**-17,8**	**-14,6**	**-15,0**	**-7,5**	**-0,3**	**6,6**
Minority interest	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net interest income/ expense	-0,2	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1
PBT	**-11,6**	**-17,9**	**-14,6**	**-15,1**	**-7,6**	**-0,4**	**6,5**
Tax expense	0,0	0,0	0,0	0,0	0,0	0,0	-1,4
Net income	**-11,6**	**-17,9**	**-14,6**	**-15,1**	**-7,6**	**-0,4**	**5,1**
Ratios							
Sales growth	*122%*	*-24%*	*12%*	*14%*	*170%*	*54%*	*48%*
Gross margin	*92%*	*86%*	*71%*	*65%*	*67%*	*68%*	*68%*
EBITDA margin	*neg.*	*neg.*	*neg.*	*neg.*	*neg.*	*14%*	*25%*

Balance Sheet 2021A - 2027E

Balance Sheet (SEKm)	*Hist.* 2021	*Proj.* 2022	*Proj.* 2023	*Proj.* 2024	*Proj.* 2025	*Proj.* 2026	*Proj.* 2027
Current Assets							
Cash and cash equivalents	49,5	32,9	16,1	28,8	29,9	19,0	26,3
Non-cash current assets	2,1	2,5	2,8	1,9	5,1	7,9	11,7
Total Current Assets	**51,6**	**35,4**	**18,8**	**30,7**	**35,1**	**27,0**	**38,0**
Non-current Assets							
Net PP&E	*0,5*	*0,1*	*0,1*	*0,0*	*0,0*	*0,0*	*0,0*
Intangible assets	*19,3*	*20,8*	*24,3*	*23,0*	*22,0*	*21,1*	*20,8*
Other assets	*0,7*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
Total Non-Current Assets	**20,5**	**21,0**	**24,4**	**23,1**	**22,1**	**21,1**	**20,8**
Total Assets	72,1	56,4	43,2	53,8	57,1	48,1	58,8
Liabilities							
Short-term debt	0,7	0,0	0,0	0,0	0,0	0,0	0,0
Non-debt current liabilities	0,9	2.6	2,9	3,3	8,6	4,0	5,9
Other long-term liabilities	8,1	9,9	11,2	6,4	12,0	7,9	11,7
Long-term debt	1,7	1,7	1,7	1,7	1,7	1,7	1,7
Tax liability	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Total Liabilities	**11,5**	**14,3**	**15,8**	**11,4**	**22,3**	**13,7**	**19,3**
Equity							
Capital	*124,4*	*124,4*	*124,4*	*154,4*	*154,4*	*154,4*	*154,4*
Retained earnings	*-63,8*	*-82,3*	*-96,9*	*-112,0*	*-119,6*	*-120,0*	*-114,9*
Total Equity	**60,6**	**42,1**	**27,4**	**42,4**	**34,8**	**34,4**	**39,5**
Total Liabilities and Equity	72,1	56,4	43,2	53,8	57,1	48,1	58,8

Cash Flow Statement 2021A - 2027E

	Hist.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
Cash Flow (SEKm)	*2021*	*2022*	*2023*	*2024*	*2025*	*2026*	*2027*
Net income	**-11,6**	**-17,9**	**-14,6**	**-15,1**	**-7,6**	**-0,4**	**5,1**
Depreciation	0,6	0,2	0,1	0,0	0,0	0,0	0,0
Amortization	0,0	0,0	0,0	4,9	4,6	4,4	4,2
(Inc) dec in operating working capital	-3,7	1,3	0,0	1,3	2,0	-7,4	-1,9
Inc (dec) other long-term liabilities	0,0	1,8	1,2	-4,8	5,7	-4,1	3,8
(Inc) dec in other long-term assets	0,0	-0,7	0,0	0,0	0,0	0,0	0,0
Cash Flow from Operations	**-14,7**	**-15,3**	**-13,3**	**-13,7**	**4,7**	**-7,4**	**11,2**
Capital expenditure	-0,3	0,0	0,0	0,0	0,0	0,0	0,0
Capitalized expenses	-3,0	-1,3	-3,5	-3,6	-3,6	-3,4	-3,9
Cash Flow from Investing	**-3,3**	**-1,3**	**-3,5**	**-3,6**	**-3,6**	**-3,4**	**-3,9**
Inc (dec) in long-term debt	-2,1	0,0	0,0	0,0	0,0	0,0	0,0
Inc (dec) in capital	2,4	0,0	0,0	30,0	0,0	0,0	0,0
Dividends	0,6	0,0	0,0	0,0	0,0	0,0	0,0
Cash Flow from Financing	**0,9**	**0,0**	**0,0**	**30,0**	**0,0**	**0,0**	**0,0**
Net Cash Flow	-17,1	-16,5	-16,8	12,7	1,1	-10,9	7,3
Cash balance beginning of year	66,6	49,5	32,9	16,1	28,8	29,9	19,1
Cash balance end of year	49,5	32,9	16,1	28,8	29,9	19,1	26,3

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Name	Owns shares in Insplorion (Yes/No)	No. of shares
Naventus Corporate Finance AB	Yes	35,000

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