

Hydrogen for Clean Mobility



 **Cavendish**
Hydrogen

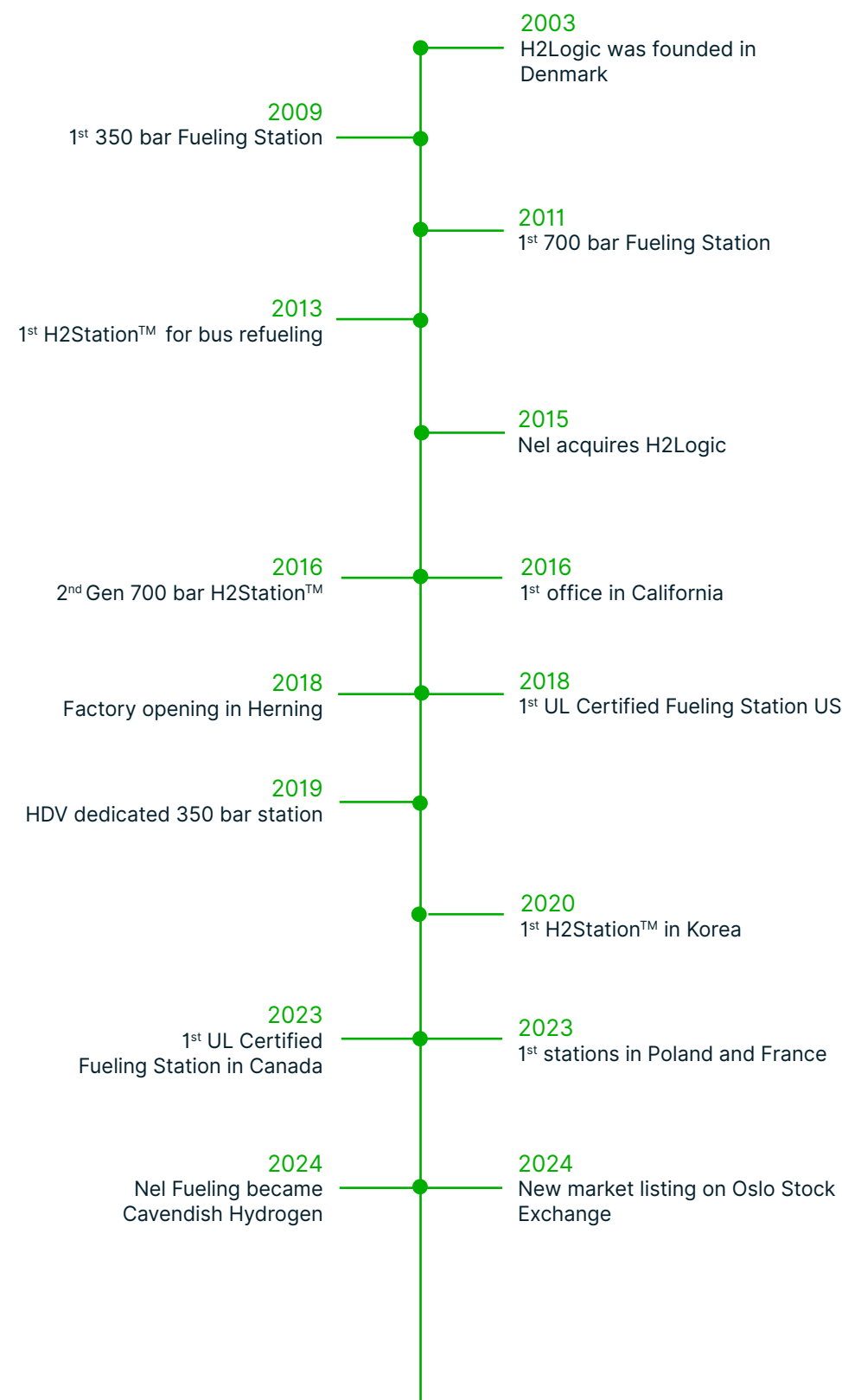


Cavendish Hydrogen is redefining energy infrastructure with hydrogen as a viable alternative fuel.

Hydrogen offers the same range and fueling time as fossil fuels, but with zero emissions, and therefore plays a pivotal role in the fight against climate change.

Driven by a vision to end emissions from mobility, we develop safe, competitive and reliable hydrogen fueling solutions for the mobility sector. Through constant innovation and deep expertise in hydrogen technology, we are at the forefront of the global energy transition.

Historic Achievements



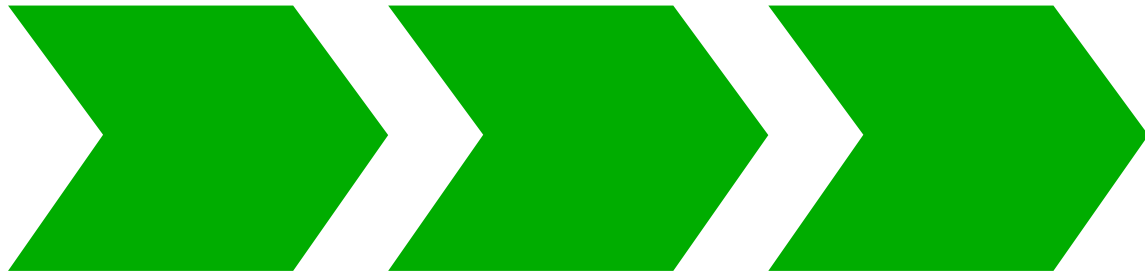
Our Manufacturing Plant in Herning

One of the world's largest production facilities, with the flexibility to expand capacity as needed.

An all-in-one plant, bringing the entire value chain together under one roof.



Control Over Full Value Chain



1

Product Development

Our product- and technology-development is driven by Cavendish's deep expertise in hydrogen fueling technology. This expertise is based on nearly 20 years of field experience and got supplemented by learnings due to increased products' utilization.



2

Sales

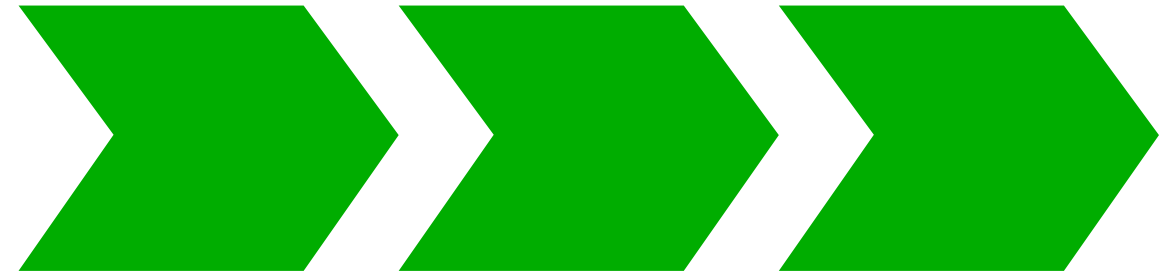
Our sales process is focused on building long-term trusted relationships and expanding our network of key industry customers.



3

Procurement & Logistics

Our strategic long-term agreements with key suppliers ensure efficient procurement and logistics.



4

Production

Our lean production is focused on safety, standardization and efficiency to optimize output and quality.



5

Installation & Commissioning

Our project management, project engineering and site installation teams provide full support throughout installation and commissioning, ensuring a seamless and successful project completion.



6

Service

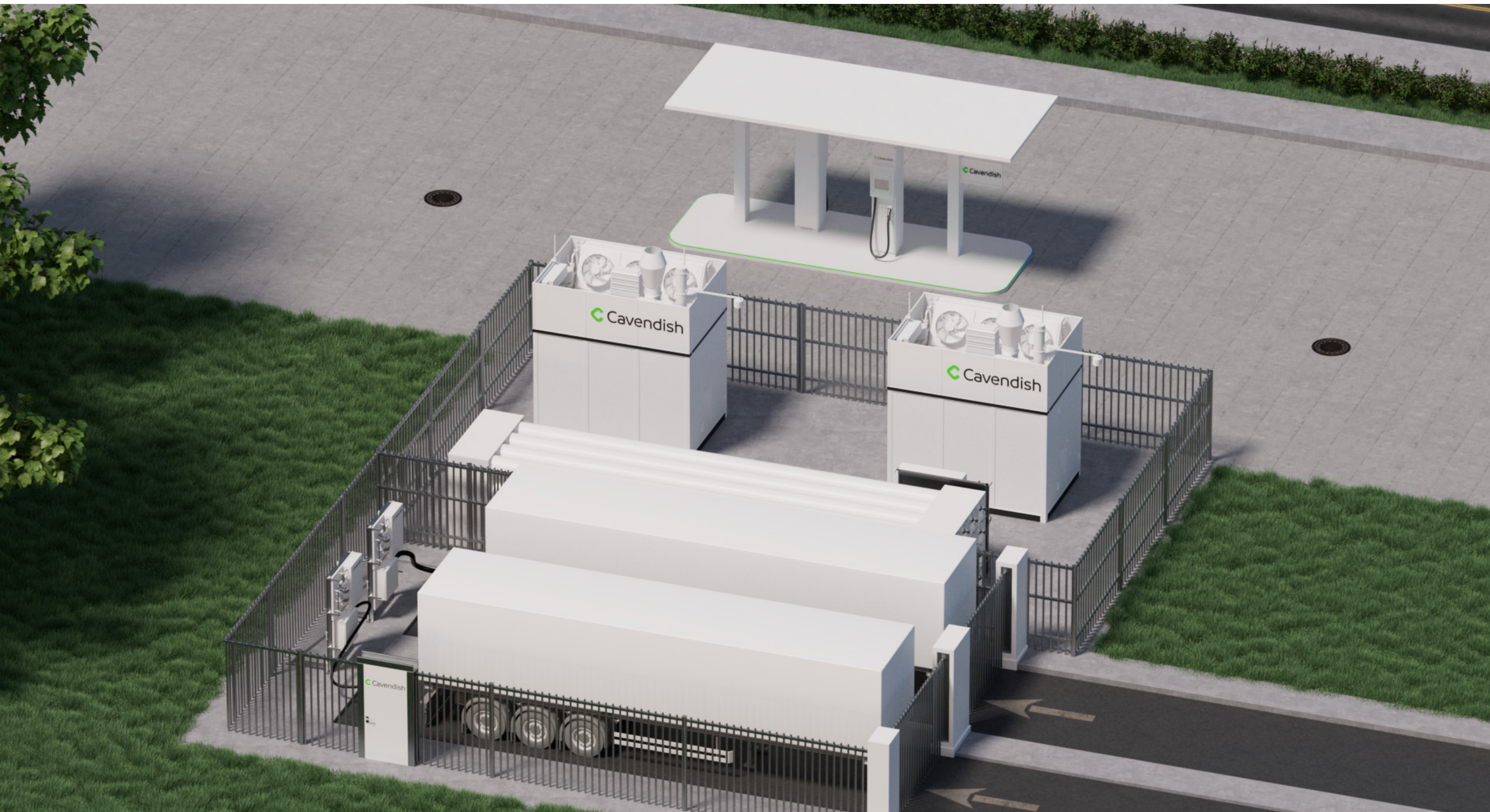
A global 24/7 monitoring system, combined with preventive and proactive maintenance, guarantees optimal system performance.



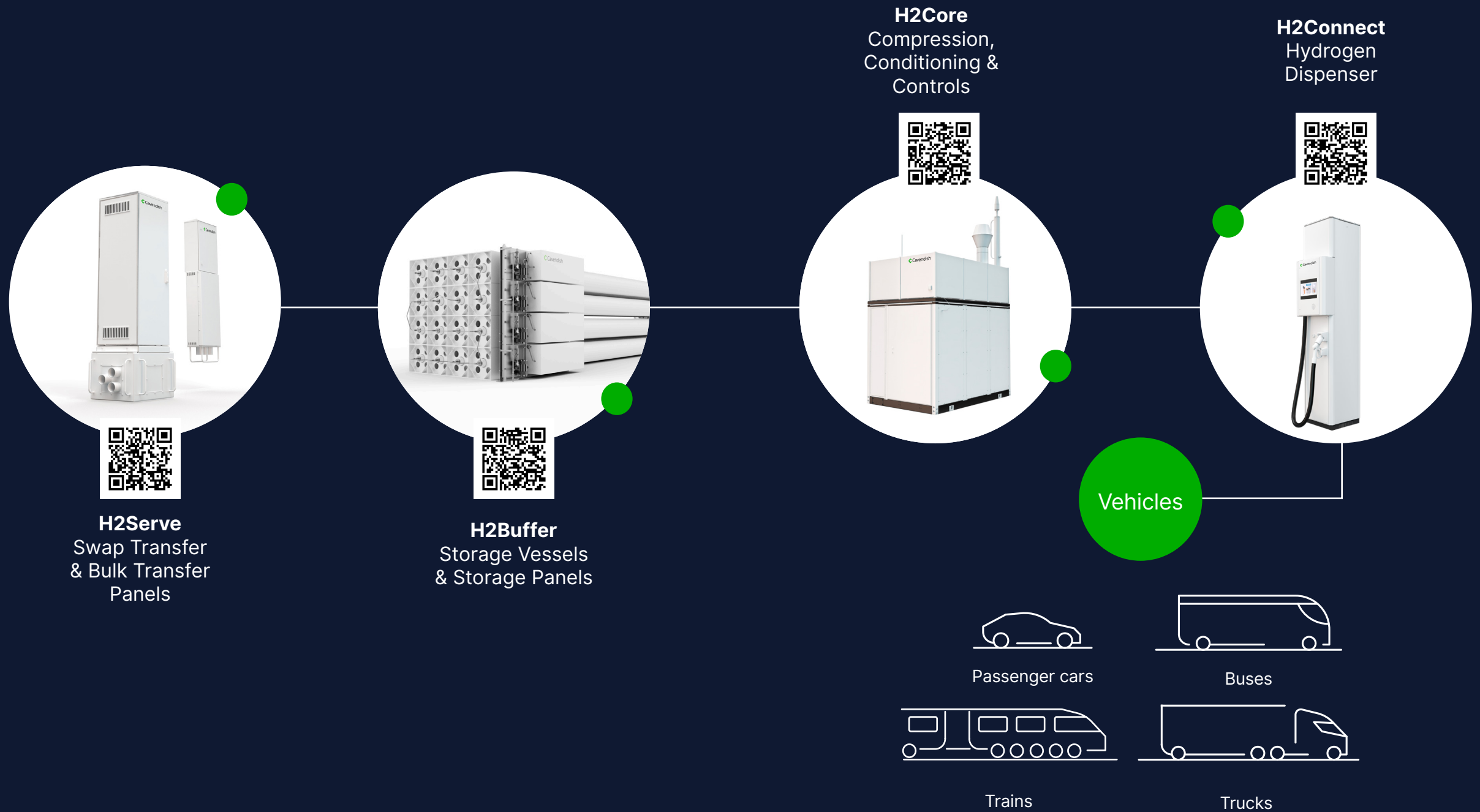
Safe and Fast Fueling of Hydrogen

Discover the ease of our all-in-one hydrogen fueling station, designed to seamlessly integrate hydrogen supply, compression, and cooling with efficient storage and intuitive dispensing. It's the perfect solution for smooth and dependable hydrogen fueling.

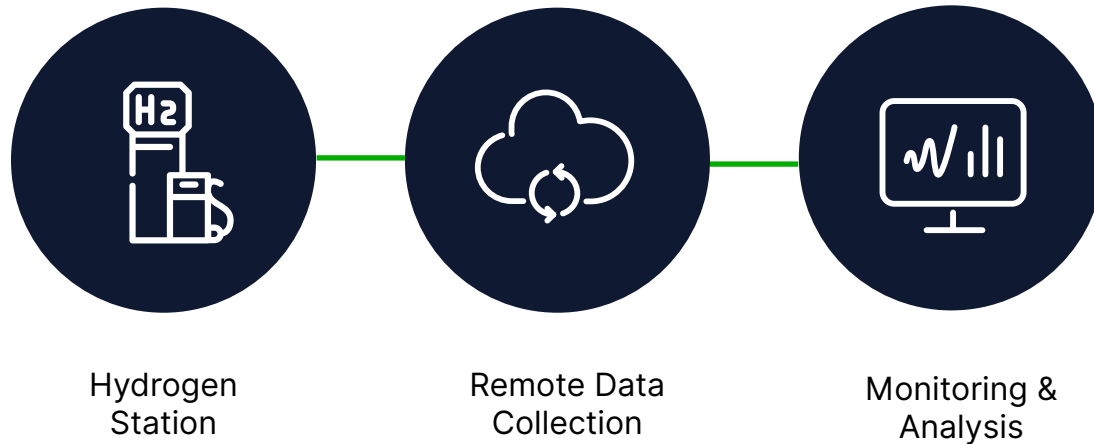
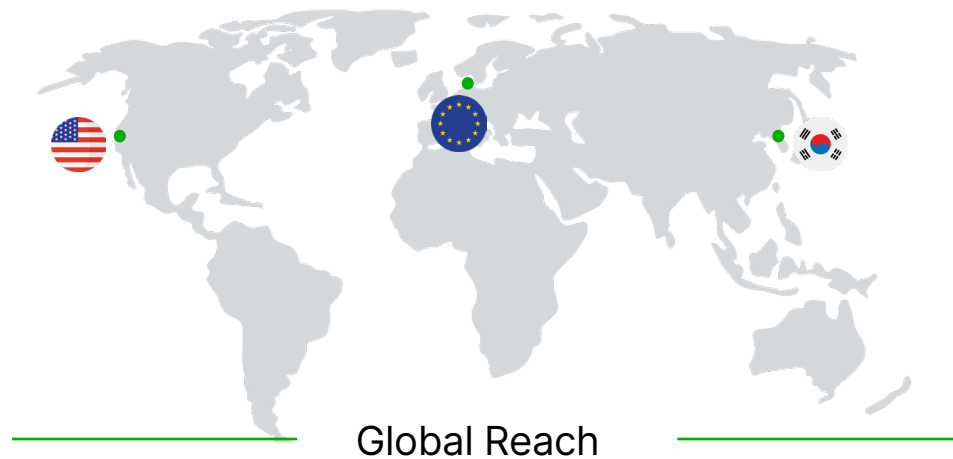
With over 20 years of experience and one of the largest networks of stations worldwide



Full System Breakdown



Real-time Station Monitoring & Diagnostics



24/7 Remote Monitoring

Instant remote event-solving by hydrogen service technicians

Dispatching of Service Team

If event is not solved remotely, local service technicians are sent to site

Harvesting Big Data

Data gathering system with great potential for use of big data analytics optimization in development of the HC-HS concept

Fully Modularized and Scalable Product Platform Designed for Heavy-Duty Applications

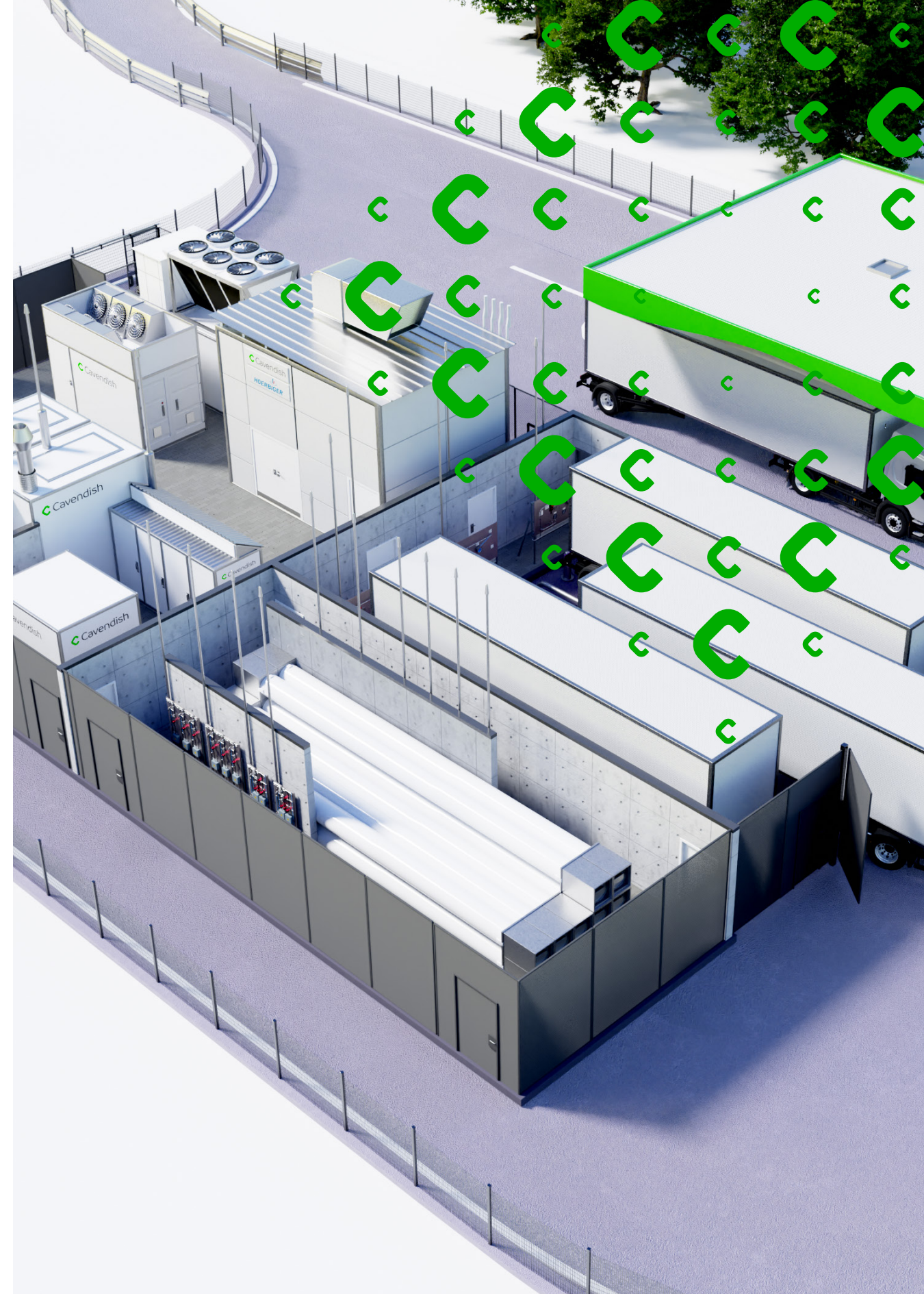
Fueling Capacity
~260kg per hour
(>3.200km range for
heavy trucks)

Filling Time
65kg in 10 min
(~800km in 10 min)

Standardization
Compliant with
SAE J2601-5 and future
ISO standards

Number of Dispensers
Up to 6 dispensers on
site

Note: The figures presented are target specifications of the HC-station concept and not applicable to current product solutions



Customer Stories

Multipurpose Station in South Korea

KOGAS-Tech

Location: Pyeongtaek, Korea
Customer: Kogas Tech
Station Capacity: 600 kg/day
Operational since 2021



Bus Station in Netherlands

Everfuel
beyond renewables

Location: Heinenoord, Netherlands
Customer: Everfuel
Station Capacity: 1,200 kg/day
Operational since 2022



Multipurpose Station in Poland

SOLBET
ROK ZAŁOŻENIA 1951

Location: Solec Kujawski, Poland
Customer: Solbet
Station Capacity: 500 kg/day
Operational since: 2023



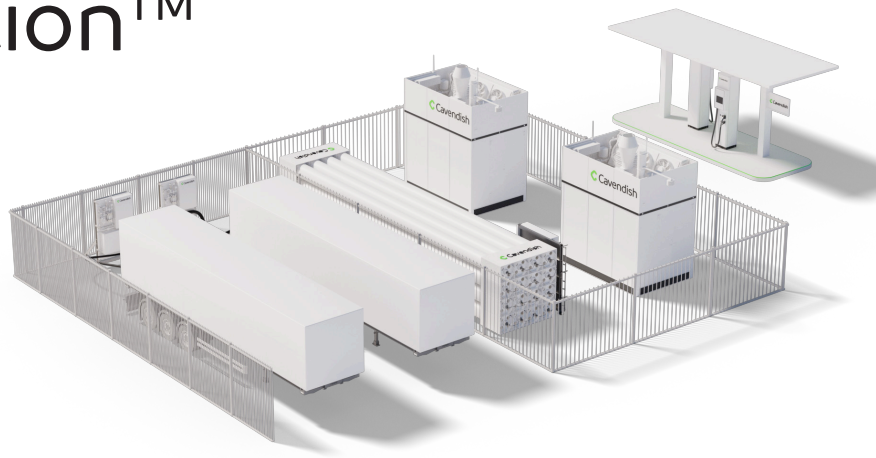
Bus Station in UK

TRANSPORT FOR LONDON

Location: London, UK
Customer: TfL
Station Capacity: 1,200 kg/day
Operational since 2021



H2Station™



European version of the product with swap supply

Hydrogen Fueling Station

	HS004 2-stage	HS-ABB LP Duplex	HS-AAA HP Duplex
Region	Europe	Europe	Americas
COMPRESSOR PERFORMANCE AND ENERGY CONSUMPTION			
*Energy consumption for compression of Hydrogen			
Inlet Pressure @20 MPa	50 kg/h & 1.1 kWh/kg	102 kg/h & 1.2 kWh/kg	30 kg/h & 1.32 kWh/kg
Inlet Pressure @45 MPa			100 kg/h & 0.55 kWh/kg
SAFETY EQUIPMENT			
Key RCS	CE Marked Functional Safety EN61511 ISO 9001 Certified	CE Marked Functional Safety EN61511 ISO 9001 Certified	UL/cUL Certified Functional Safety EN61511 ISO 9001 Certified
Key Safety Equipment	Full safety Instrumented system (SIS) incl. Mechanical safety - shutoff valves Fully autonomous safety software Leak detection software Hydrogen and CO2 gas detectors Smoke and UV detectors		

	HS004 2-stage	HS-ABB LP Duplex	HS-AAA HP Duplex
Region	Europe	Europe	Americas
FUELING INFORMATION			
Ambient temperature	-20 to 40°C		
Storage pressure level	22.5, 45 and 93 MPa	45 MPa	45, 93 MPa
Inlet pressure range	3 - 20* MPa *can be increased by using a pressure regulator	3 - 45 MPa	6 - 50 MPa
Flowmeter / Accuracy	Coriolis mass flow meter /OIML Accuracy Class 2 for EU and CDFA DMS Accuracy Class 5.0 for US		
Light Duty Fueling Protocol(s)	H35-T20 SAE J2601-1 (1.2-6 kg) H70-T40 SAE J2601-1 (2-10 kg)	N/A	H70-T40 SAE J2601-1 (2-10 kg)
Medium and Heavy Duty Fueling Protocol(s)	H35-T20 SAE J2601-1 (6+ kg) CEP E-MAP	H35 Nel Optifill® (6-60 kg) CEP E-MAP	H35 Nel Optifill® (10-100 kg) H70-T40 JPEC S-0003
Fueling Nozzle	Compliance with ISO 17268 and SAE J2600 H35: 35 MPa, Normal Flow H70: 70 MPa, Normal Flow	Compliance with ISO 17268 and SAE J2600 H35: 35 MPa, High Flow	Compliance with ISO 17268 and SAE J2600 H35: 35 MPa, Normal Flow H70: 70 MPa, Normal Flow
Point-of-Sale (POS) interface	IFSF 2.32 and Two-Wire Protocol		
UTILITY REQUIREMENT			
Voltage	400 VAC Three phase + N	400 VAC Three Phase + N	480 VAC Three Phase + N
Current	150 A	225 A	250 A
Power factor	> 0.9	> 0.9	> 0.9
Inlet connection	Hydrogen Connection = 9/16” C&T MP or 13/16” - 16 UNF - C&T MP or 3/4” BSPT-M Pneumatic Connection = 12 mm hose RSI06.2100/RSI06.2101		
DIMENSIONS			
	Length	Width	Height
Station Module	3.3 m / 10.8 ft	2.2 m / 6.6 ft	3.6 m / 9.8 ft
Dispenser	0.5 m / 1.6 ft	0.7 m / 2.3 ft	2.5 m / 8.2 ft
Swap Panel	1.3 m / 4.3 ft	1.2 m / 3.9 ft	2.0 m / 6.6 ft
Storage Vessels	7 - 12.3 m / 23 - 40.3 ft	0.6 - 2.4 m / 2 - 7.9 ft	0.6 - 2.4 m / 2 - 7.9 ft

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Global Experience

North Americas

68+ stations

- 350 bar bus station with on-site production in California
- 700 bar HDV station in California
- 700 bar LDV station in California
- 700bar LDV station in Vancouver, Canada



Europe

61+ stations

- 350 and 700 bar HDV/LDV stations in Poland with On-Site Production
- 700 bar LDV and 350 bar HDV station in France
- 350 bar bus station in Netherlands
- 700 bar LDV and 350 bar HDV stations in Germany
- 350 bar bus station in the UK

Korea

15 stations

- 700 bar LDV station in Korea
- 700 bar LDV and HDV station in Korea



Our Offices

Denmark

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Austria

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Korea

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Daejeon, 300-250, Republic of Korea

Our Partners



Mesure Process, part of the MPH Energy group and France Hydrogène, is a French company specializing in energy solutions for mobility and industry. As a key player in the energy transition, Mesure Process provides comprehensive services for hydrogen fueling station installations, from concept development to installation and maintenance. In partnership with CAVENDISH Hydrogen, Mesure Process delivers integrated hydrogen fueling solutions across the entire French market.

Request a quotation:

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