



**Next generation electrolysers
to enable the industry of tomorrow**



stargatehydrogen.com



A world where green hydrogen is a commodity

Stargate Hydrogen is a European electrolyser technology company developing industrial hydrogen production systems for infrastructure and energy resilience projects. The company deploys its alkaline electrolyzers which are free from precious metals, in energy-intensive industries, that are transitioning away from grey hydrogen, such as refining, ammonia, methanol, e-methane and steel.

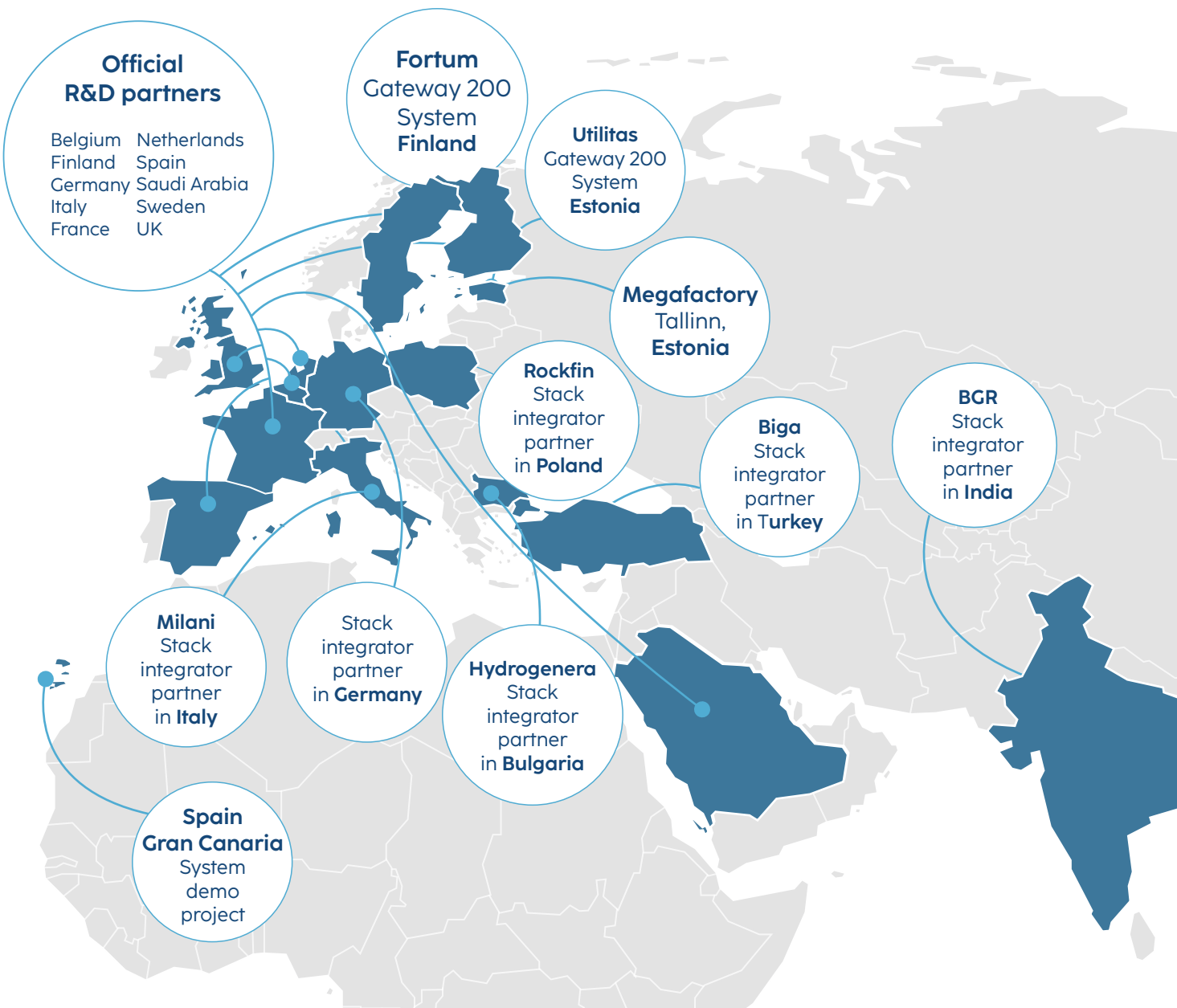
With IPCEI status, and EU Innovation Fund Grant, the company is among a select group backed by the European Union to deliver large-scale cross-border projects that support innovation, sustainability, and Europe's industrial competitiveness. Stargate Hydrogen is backed by committed investors such as Repsol, and trusted by clients including Fortum, Utilitas, ABB, and Rockfin, among many others across Europe, Turkey, and India. Stargate's Hydrogen products are tested by independent institutions, providing customers with additional performance assurance. The products are CE certified and fully comply with "Made in Europe" requirements.



By prioritizing robustness, transparency, and hands-on partnership, Stargate Hydrogen eliminates technical uncertainty and enables confident electrolyser deployment from pre-FEED through commissioning and beyond.

Marko Virkebau
CEO of Stargate Hydrogen

Stargate's Hydrogen presence



Stargate Hydrogen's product line

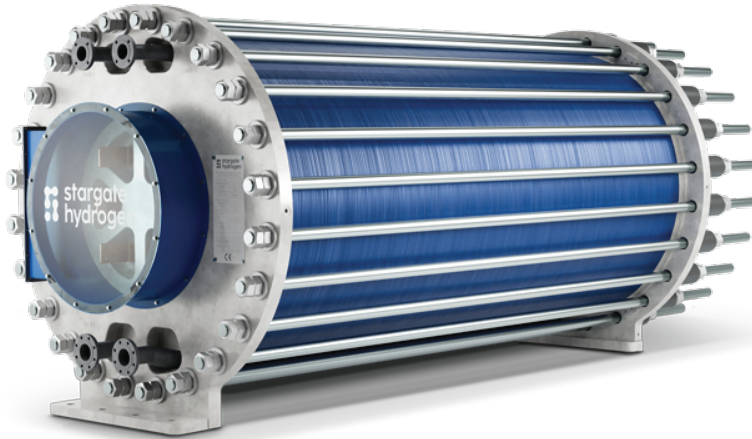
stellar EDGE

Up to 500 kW - Next
generation pressurised
alkaline stacks
for system integrators



gateway SERIES

1 MW - Containerised turn-key
hydrogen production systems
for project developers



starbase

S E R I E S

5 MW - Next generation
pressurised alkaline stacks
for system integrators

aurora

S E R I E S

10 MW - Containerised
turn-key hydrogen
production systems
for project developers

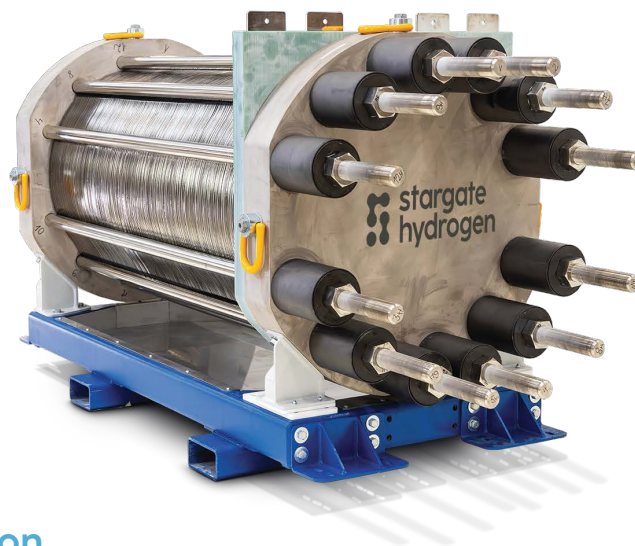


0.5 MW pressurised alkaline stacks for system integrators

stellar
EDGE

This is the Stellar EDGE
manufactured in Europe and
is customisable to your project.

- Up to 500 kW
- Patented design
- Output up to 100 Nm³/h
- Pressurised operation up to 32 barg
- 2 Stacks fit side-by-side into ISO container
- Full Integration support



Come and see the Stellar EDGE in action

The Stellar EDGE is in action at Stargate Hydrogen's first full value chain pilot project in Estonia, at Utilitas plant. There, a turn-key, containerised Electrolyser system packed with two 0.5 MW Stellar EDGE stacks is producing pure hydrogen for vehicles, and a waste heat recovery system for the district heating network.



Performance
guarantee



Full Integration
support



Fast delivery
less than 6 months



Up to
100 Nm³/h



High
Efficiency

Pressurised alkaline stacks for system integrators

stellar
EDGE

Technical specifications



Supports enhancement with STARDUST® Technology	Optional
Hydrogen hourly production rate [Nm ³ /h]	100
Hydrogen daily production rate [kg/day]	215
Hydrogen pressure [barg]	32
Hydrogen purity [%]	>98%
Oxygen purity [%] **	>98%
Stack Consumption [kWh/Nm ³]	4.59
Stack Consumption [kWh/kg]	51.07
Stack Operating temperature [°C]	80-90
Stack rated voltage - BOL [V]	227
Stack rated voltage - EOL [V]	264
Stack rated current [A]	2027
Stack minimum current [A] *	1150
Stack rated power - BOL [kW]	460
Stack rated power - EOL [kW]	535
Stack minimum operating point [%] *	40%
Stack efficiency (HHV) [%]	77.2%
Stack efficiency (LHV) [%]	65.2%

* Lower minimum load point on request.

** Crossover purity (wet) at stack outlet given that all operational conditions for the stack are maintained within their respective limits.
The final dry hydrogen purity depends on the separation and purification systems which are part of the Balance of Plant (not included).

1MW containerised turn-key alkaline hydrogen production systems

Each 40 ft container has an input power of up to 1 MW and an output of 200 Nm³/h, pressurised to 30 bar as output. The systems can be ordered with a 12-month lead time and comes with an industry-leading performance guarantee. The electrolyzers produce high purity hydrogen that is suitable for a wide range of applications such as chemical feedstock, process heat, blending and transport fuel.

gateway SERIES



High purity hydrogen



High efficiency



Leading performance



Maintenance support



Low CAPEX



Turn-key alkaline electrolysis system

for project developers

Technical specifications

Supports enhancement with STARDUST® Technology	Optional
Hydrogen hourly production rate [Nm³/h]	200
Hydrogen daily production rate [kg/day]	432
Hydrogen pressure [barg]	30
Hydrogen purity [%] *	> 99.999%
Installed electrical power [MVA]	1.2
Stack consumption [kWh/Nm³]	4.59
System efficiency (HHV) [%]	69.4%
System efficiency (LHV) [%]	58.7%
Operating range [%]	20-100%
Electrolyte	KOH
Electrical interface	Low-Voltage substation
Tap water requirement [L/h]	328
System installation location	Outdoors (containerized)
Equipment footprint incl. maintenance zones [m²]	155
Ambient temperature range [°C] **	-20 to +40
Communication interface	OPC UA

gateway
S E R I E S

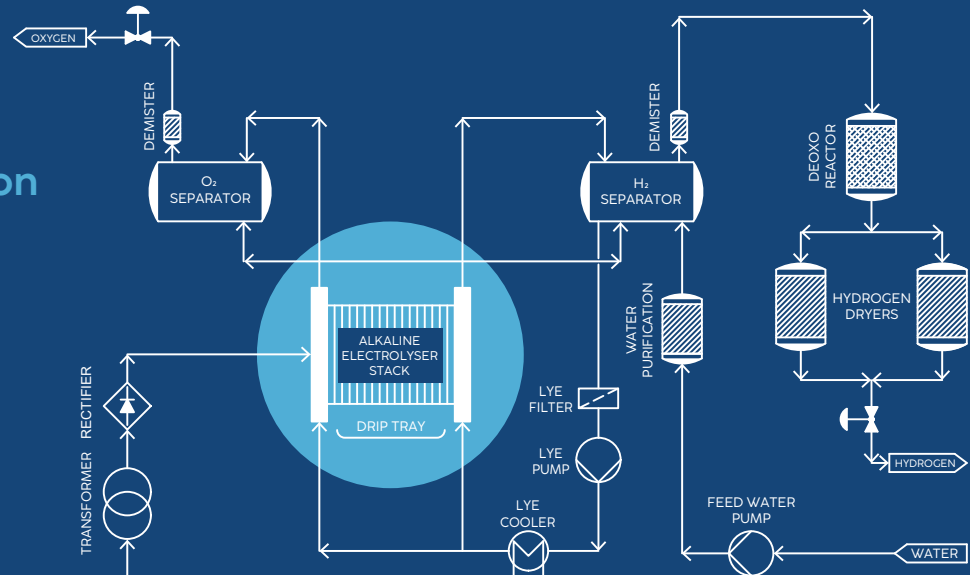


* Target purity achievable with optional purification system

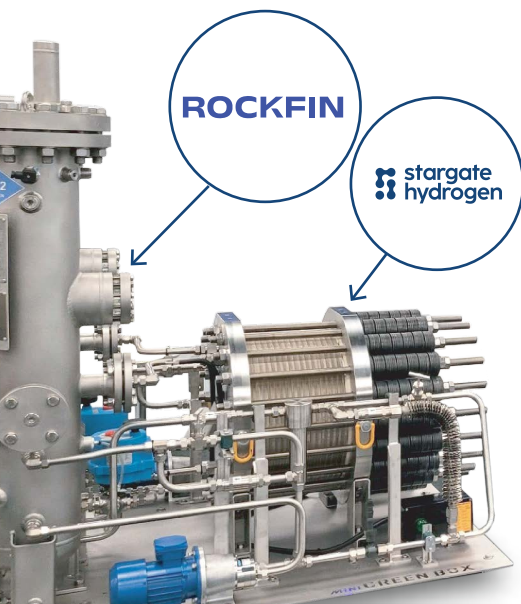
** Target temperature range available with optional extra package - Standard: +5 to +40 °C

Stargate Hydrogen Stack Integration Case Study

From stacks to seamless integration - we're with you every step of the way!



Stargate has delivered its pressurised alkaline stacks to **Rockfin** and several other engineering companies around the world.



Rockfin built customized hydrogen production systems based on Stargate's pressurised alkaline stacks.

"The passion for electrolyser stack technology and the determination of the Stargate team has been crucial to achieve this major milestone. We strongly believe in the long-term potential of hydrogen as a clean energy solution."

Michał Wróblewski, Rockfin CEO

ABB

VTT

MILANI
SPA
IMPIANTI ELETTRICI E TECNOLOGICI

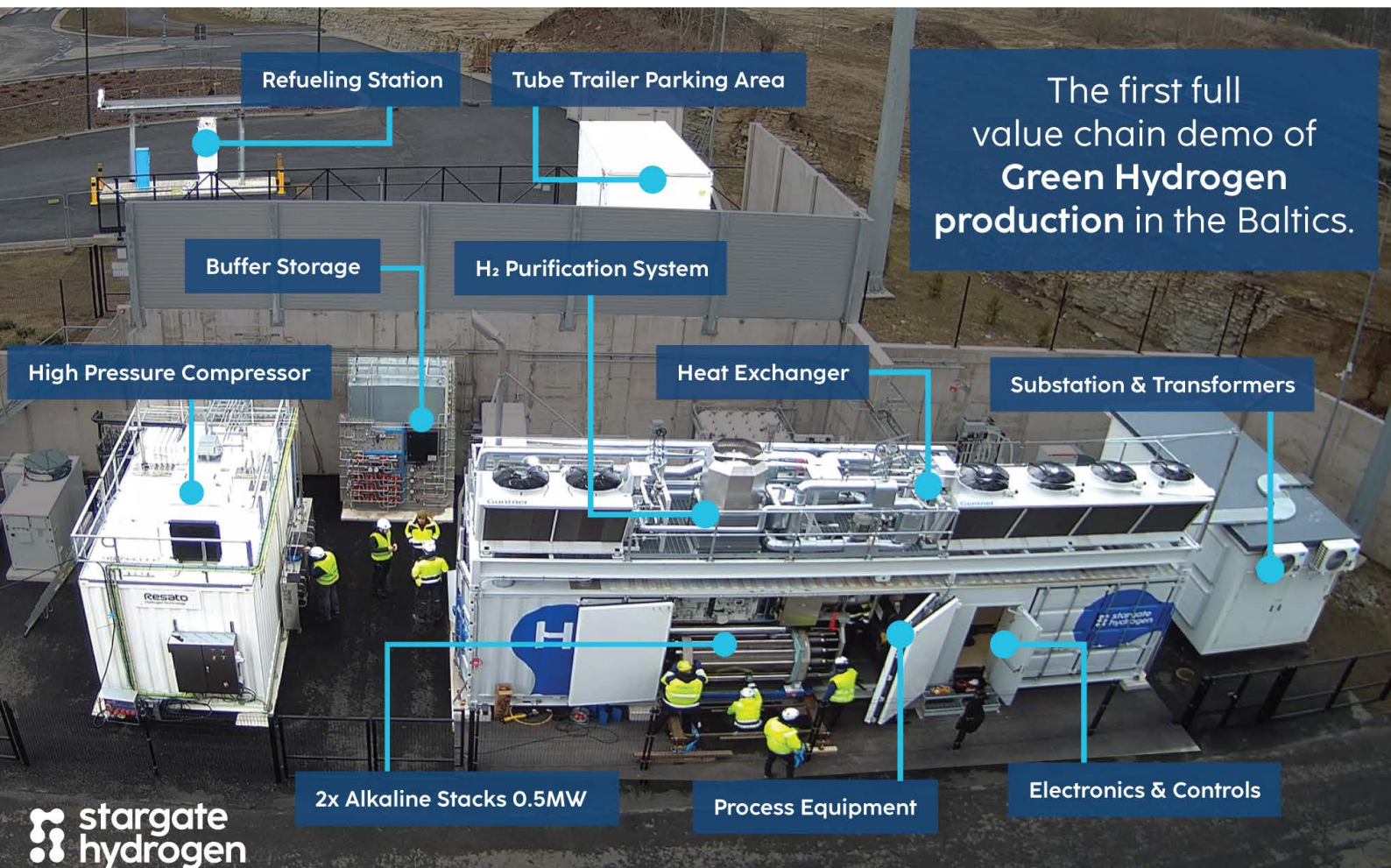
Biga H₂

BGR TECH

NextHeat

Stargate Hydrogen Turn Key System Case Study

Full value chain demonstration of green hydrogen production. The first Gateway electrolyser packs two Stellar EDGE Stacks and is operating in Tallinn, at **Utilitas** plant where there are two hydrogen refueling stations and a waste heat recovery system for the district heating network.



5MW Next generation pressurised alkaline stacks for system integrators

The Starbase Electrolyser Stack for green hydrogen production is Stargate Hydrogen's biggest Stack. A skid-mounted **5MW** pressurised alkaline stack that combines reliability with innovation to deliver a high efficiency solution. Designed and made in Europe, Starbase comes with a complete balance-of-stack, clear documentation and full integration support. This is the perfect solution for engineering companies with system integration capabilities.

starbase

S E R I E S



PGM-Free Electrodes



High efficiency



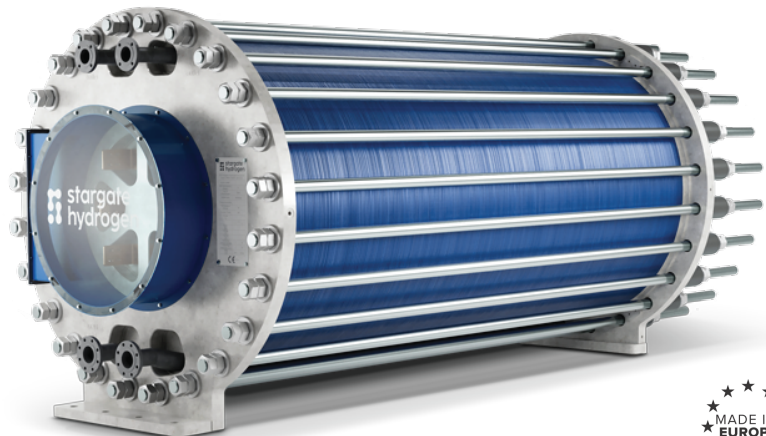
Pressurised



On-site serviceability



Low CAPEX

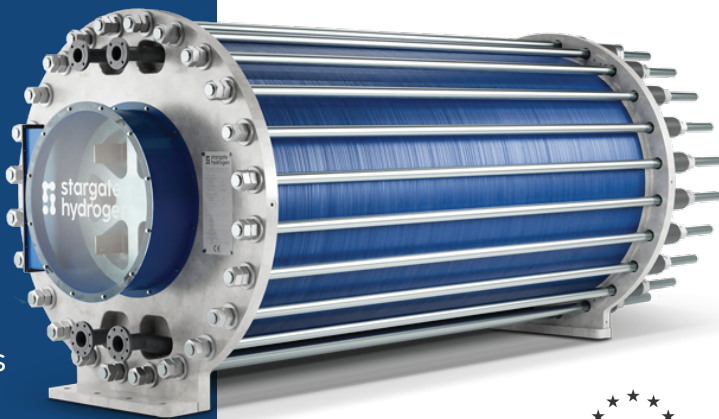


Technical specifications

starbase
S E R I E S

Starbase Stack

- 5 MW
- Pressurised at 16 barg
- Optional supply of balance-of-stack
- Ideal for large-scale systems
- Skid-mounted modular units
- Support for pre-FEED and FEED activities
- Certified as per both ASME and PED



Supports enhancement with STARDUST® Technology	Included
Hydrogen hourly production rate [Nm³/h]	1000
Hydrogen daily production rate [kg/h]	90
Hydrogen pressure [barg]	16
Hydrogen purity [%] *	>98%
Oxygen purity [%] *	>98%
Stack consumption [kWh/Nm³]	4.3
Stack consumption [kWh/kg]	48
Stack operating temperature [°C]	70-90
Stack nominal rated current [A]	10400
Stack rated nominal power - [kW]	4400
Stack minimum operating point [%] **	20% to 110%

* Crossover purity (wet) at stack outlet given that all operational conditions for the stack are maintained within their respective limits.
The final dry hydrogen purity depends on the separation and purification systems which are not included.

** The system and the stack can operate at 110% for sustained time if needed.



10MW Containerised turn-key hydrogen production systems for project developers

The Aurora Electrolyser system is Stargate Hydrogen's biggest module. Based on proven alkaline technology, it combines reliability with innovation to deliver a pressurized, compact system with 10MW consumption, offering the lowest m²/MW ratio in the market. Comes with clear documentation, full engineering support, and maintenance training by experienced technicians, Aurora simplifies ownership while maximizing uptime and efficiency.

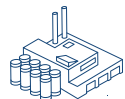
Wide range of applications



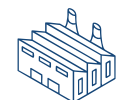
Renewables Projects



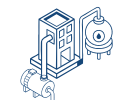
Transport Fuel



Fertiliser Industry

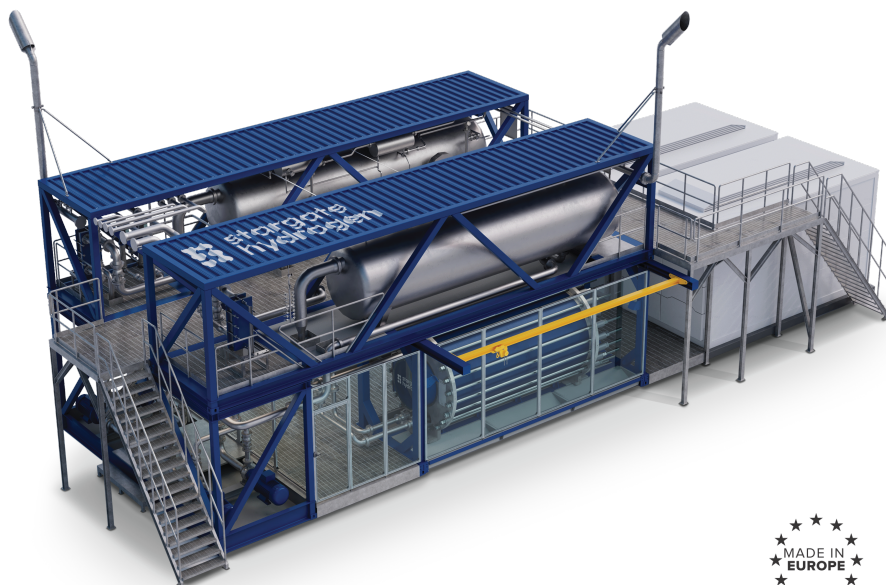


Steel Factory



Oil refinery

aurora
S E R I E S



Technical specifications

aurora
S E R I E S

Aurora 10 MW System

- Lowest m²/MW ratio
- Outdoor solution, no building needed
- Clear documentation and support
- Dynamic operation for renewables
- Support for pre-FEED and FEED activities
- Certified as per PED



Optimised
for **EPCs**

The Aurora Electrolyser system is
Stargate Hydrogen's biggest module.

Supports enhancement with STARDUST® Technology	Included
Hydrogen hourly production rate [Nm ³ /h]	2000
Hydrogen daily production rate [kg/h]	180
Hydrogen pressure [barg]	12
Hydrogen purity [%]	>99.8%
Oxygen purity [%]	>98%
Energy consumption [kWh/kg] ***	51
Rated nominal power - [kW]	10500
System minimum operating point [%] **	20% to 110%

** The system and the stack can operate at 110% for sustained time if needed.

*** Final energy consumption depends on system configuration, site location and project specifications.



The HySTAT® Stacks are now manufactured and distributed by Stargate Hydrogen.

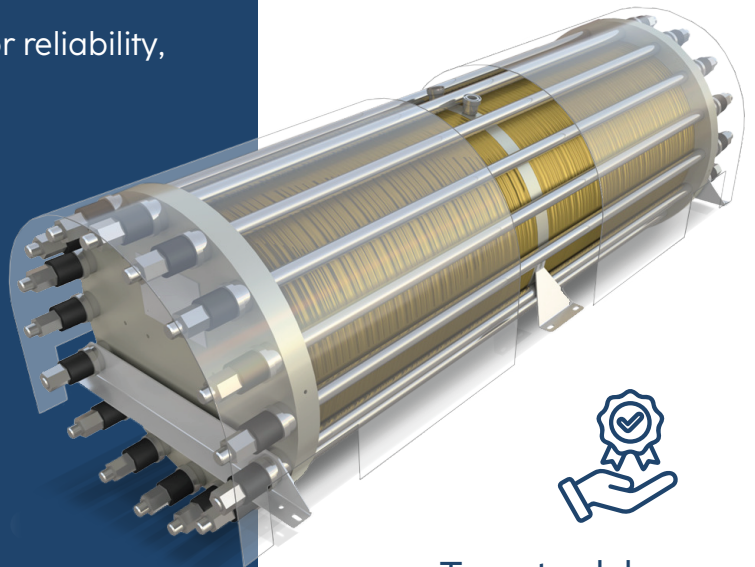
The HySTAT® modular alkaline electrolyser stack, **previously manufactured by Cummins**, has a globally proven, easy on-site installation, with simple interconnectivity to scale up, and the record for reliability, low maintenance and on-site safety.

Now manufactured and distributed by Stargate Hydrogen, the stack is EU Made and comes with clear documentation and full integration support.

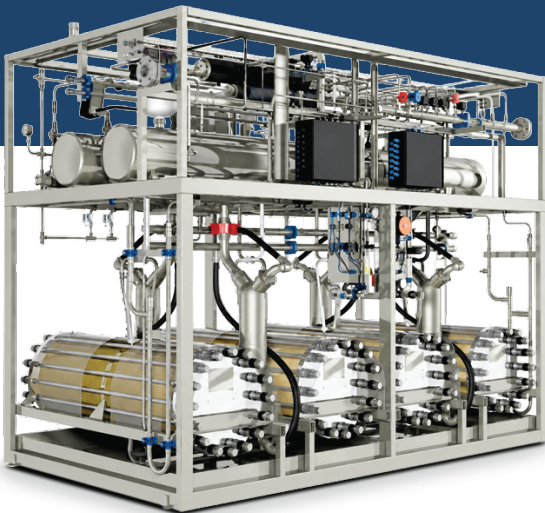
These Stacks are the perfect solution for those who value reliability and a proven track record in the hardest industries.

HySTAT

S E R I E S



Trusted by
Clients



Stargate Hydrogen now is the OEM for **more than 400 installed electrolyzers all over the world.**

Megafactory



2300m²
Factory



350m²
Lab



140MW
Yearly

Fundamental innovation on material level

Stargate develops electrolyzers with novel catalysts, called Stardust, highlighted by the European Commission as an IPCEI*

* IPCEI - Important Project of Common European Interest



Stargate IPCEI

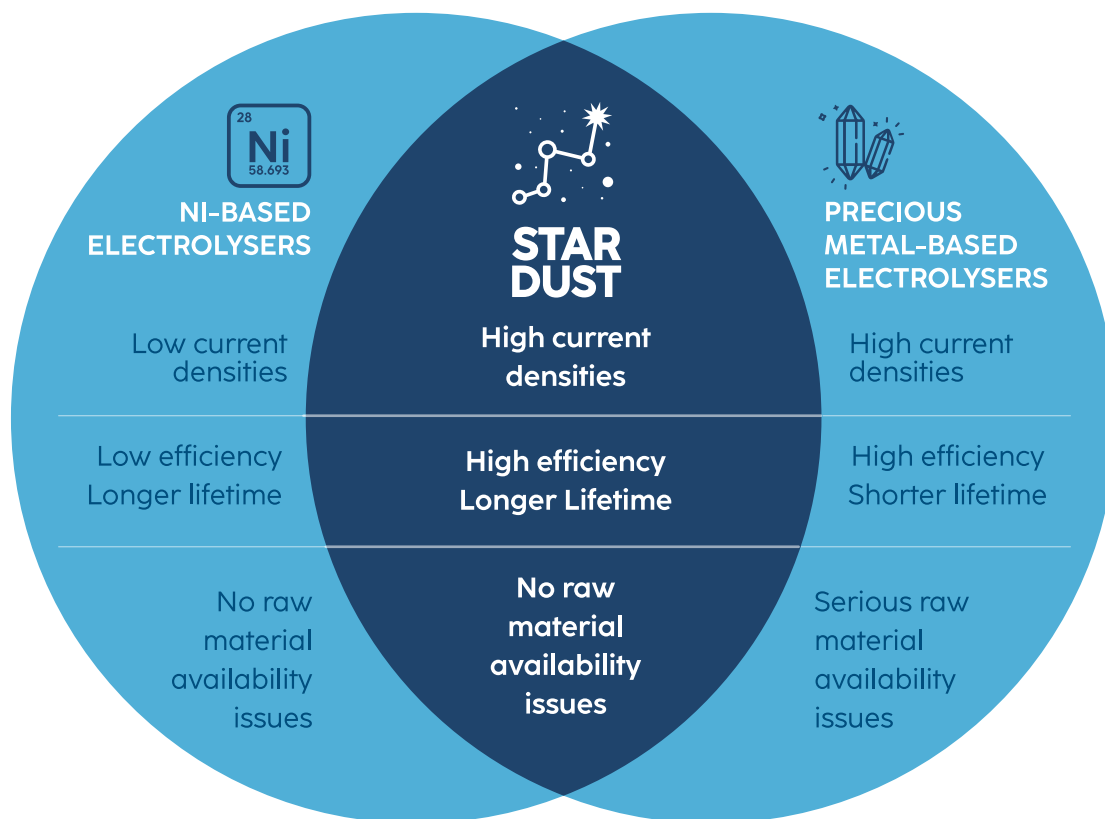
**Stargate's patents portfolio
covers materials, stacks
and electrolysis systems.**

STARDUST

a stargate hydrogen technology



Proprietary ceramic catalyst that increases the stack efficiency to **48 kWh/kg** with zero platinum-group metals.
High efficiency at alkaline prices.



Scan and learn more



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