

A large industrial machine with multiple yellow rollers is shown in a factory setting. The machine is composed of several parallel rollers supported by a metal frame. The background shows a dark industrial interior with overhead lighting and structural beams.

# POWERING INNOVATION. ENERGIZING TOMORROW.

Corporate Presentation

HydrogenPro



# HydrogenPro is a global provider of market-leading, largescale green hydrogen technology & systems

1


## STATE-OF-THE-ART ELECTROLYZER

- 5 MW single stack suitable for renewable energy input
- A modular system that can be scaled to any size for large-scale industrial applications
- Pressurized hydrogen ready for industrial use

2

## GAME-CHANGING ELECTRODE TECHNOLOGY

- 14% lower electricity need for same H2 output
- Reduced cooling water need
- Reduced OPEX from H2 production



Market-leading levelized cost of hydrogen

# Serving industrial applications and hard-to-abate sectors



Renewables



Water



- Power-To-Gas
- Refinery/Decarbonization
- Synthetic fuel
- Balancing the grid
- Fertilizer/ammonia
- Steel Production

# Four strategic pillars



## Technology Leader

- › *R&D investments as top priority*
- › *Expanding research center*



## Global footprint

- › *Building the organization to serve projects globally*
- › *Main focus on US and Germany*



## Scalability

- › *Commissioning world's largest H2 project (ACES)*
- › *Focused offering on large-scale projects*



## Life Cycle Partner

- › *Gen3 electrodes for upgrading*
- › *Increase focus on service offering*

# Corporate statement

**VISION** 

**BECOME #1 PROVIDER OF  
LARGE-SCALE GREEN  
HYDROGEN TECHNOLOGY  
& SYSTEMS**

**MISSION** 

**ACCELERATE GLOBAL  
DECARBONIZATION WITH  
WORLD-CLASS  
SUSTAINABLE GREEN  
HYDROGEN SOLUTIONS**

**VALUES** 

-  **COURAGE**
-  **INTEGRITY**
-  **COLLABORATION**
-  **INNOVATION**

Mission, vision and values statements serve as the foundation for an organization's strategic plan. They convey the purpose, direction and underlying values of the organization. When developed and implemented in a thoughtful and deliberate manner, these statements can serve as powerful tools that provide organizations with meaningful guidance, especially under times of rapid change.

Consequently, taking the time to craft relevant mission, vision and value statements should be carefully considered. Our ambition is that our employees will embrace and live the values, and that our customers, business partner, and other stakeholder will recognize these when collaborating and interacting with HydrogenPro and that they will associate these values with the company.

# WE ARE ENERGY/ GIVERS/

Our employees are the heart and soul of our company, driving its success through their dedication, expertise, and passion.

No matter what position we hold or where we are located, it is our employees who make the difference. On all levels. We are energy givers, constantly looking for greener ideas, better materials, smarter methods.



# Building a global brand



# Manufacturing & Testing

Electrolyzer  
manufacturing



**CHINA**

TIANJIN FACTORY  
**500 MW capacity**



Electrode  
manufacturing

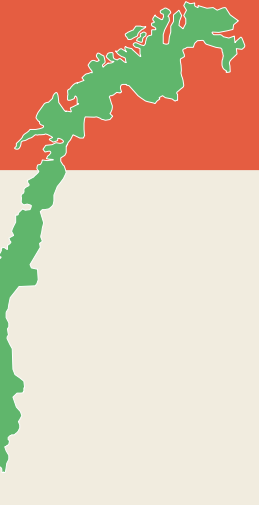


**DENMARK**

AARHUS FACILITY

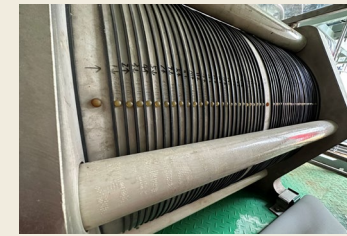


Electrode  
Testing



**NORWAY**

PORSGRUNN TEST CENTER





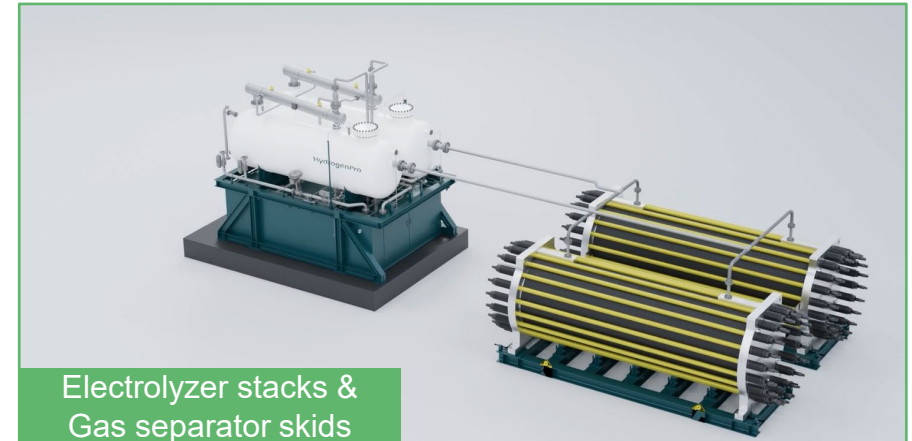
# Large scale modular solution

## OUR STANDARD SCOPE:

- Electrolyzers (in pairs, with a capacity of 1050 Nm<sup>3</sup>/h each, total 2100 Nm<sup>3</sup>/h)
- Gas separator units, with separate lye circulation systems and gas scrubbers with instrumentation
- Gas analyzers for detection of H<sub>2</sub> in O<sub>2</sub>
- Gas analyzers for detection of O<sub>2</sub> in H<sub>2</sub>

## OPTIONALS:

- Feed water tanks and pumps
- Lye mixing tanks and pumps



## Scope delivered together with partners

Electrical Systems

- Mitsubishi, ABB, Andritz, J.H.K.

Auxiliary systems

- Targeting additional strategic partnerships going forward

EPC (engineering, procurement, construction)

# Why HydrogenPro?



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10+ years of experience



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R&D focus on electrode technology



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Manufacturing partnership in Europe



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State of the art manufacturing facility



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500 MW production capacity



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Large scale references



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Inhouse engineering

# Delivering to projects across geographies and industries

340 Awarded

>1755 FEED

**Porsgrunn, Norway**  
Test facility, operational

**Kokkola, Finland**  
Voikoski, Power-to-X, operational

**Kristinestad, Finland**  
Koppö [ANDRITZ], power-to-X, FEED

**Raahe, Finland**  
Fortum, green steel, FEED completed

**Utah, US**  
ACES, Mitsubishi, power-to gas, delivering

**Europe**  
Undisclosed energy company, refinery, FEED completed

220

5.5

>200

>5

200

100

9

200

5.5

**Japan**  
Takasago Hydrogen Park, Mitsubishi, power-to-gas, operational

Additionally, final negotiations for FEED:

**North America**  
1100MW power-to-gas  
>300MW ammonia

**Northern & Central Europe**  
>100MW hydrogen plant  
>200MW hydrogen plant

**Southern Europe**  
>100MW power-to-X  
>150MW power-to-X

**Texas, US**  
Undisclosed, green ammonia, FEED

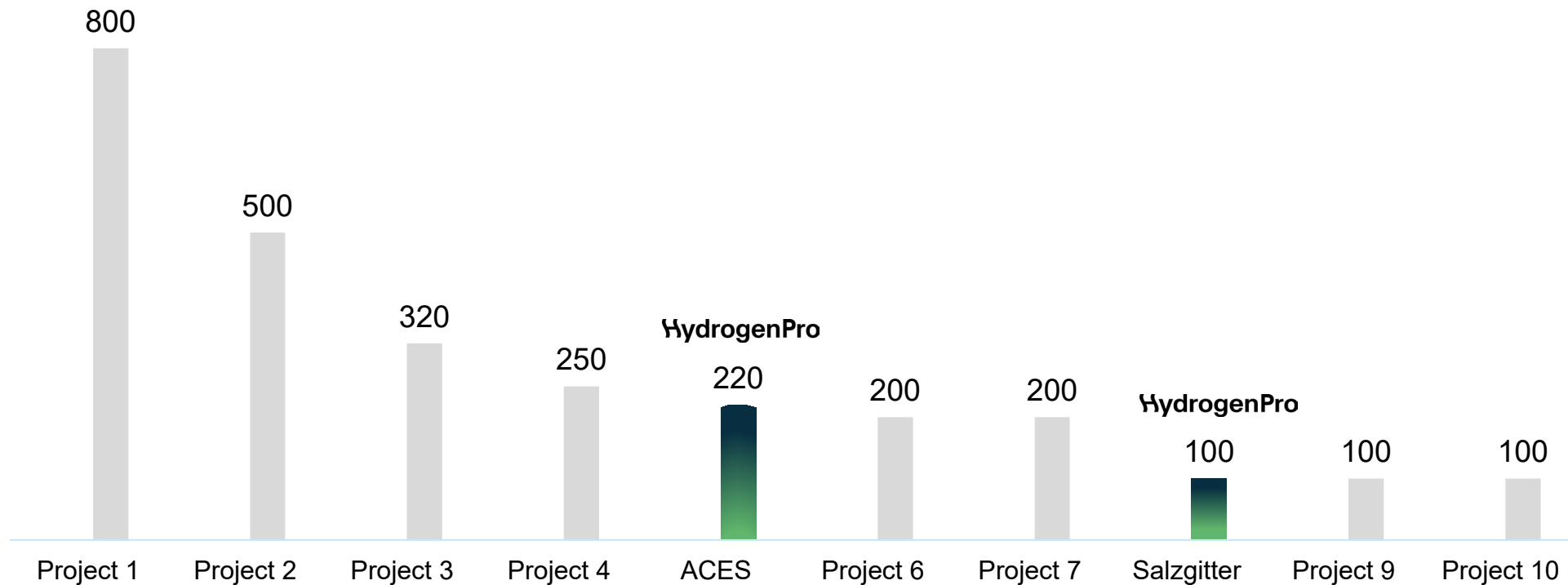
**Spain**  
Undisclosed, Ammonia, FEED

**Salzgitter, Germany**  
Salzgitter SALCOS [ANDRITZ], green steel, delivering

All numbers in MW

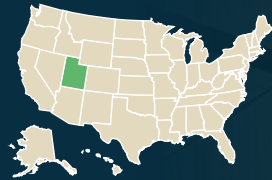
# HydrogenPro delivers 2 of the 10 largest projects (excl. China) estimated to come online in 2025

(Electrolyser capacity MW p.a.)



Source: IEA "Hydrogen production projects" database

# ACES Delta (220 MW)



ACES HUB,  
Delta (Utah)

## THE PROJECT

ACES<sup>1</sup> hub provides a complete end-to-end solution to produce, store, and convert renewable hydrogen to support carbon-free year-round power for Western US

## THE CONTRACT

- **220MW** electrolysis plant
- In addition: a **10-year service** and support agreement
- High-pressure alkaline electrolyzers, suitable for **renewable energy** input

## DELIVERY MILESTONES

- ✓ April 2022 – firm purchase order signed
- ✓ August 2023 – first batch of equipment delivered on site
- ✓ December 2023 – manufacturing process completed
- Intended to be in operation in 2025 – all electrolyzers installed

# Salzgitter Flachstahl (100 MW)

## THE PROJECT

**SALCOS**® (Salzgitter Low CO<sub>2</sub> Steelmaking), will have laid the foundations for **virtually climate-neutral steel production** in Germany.

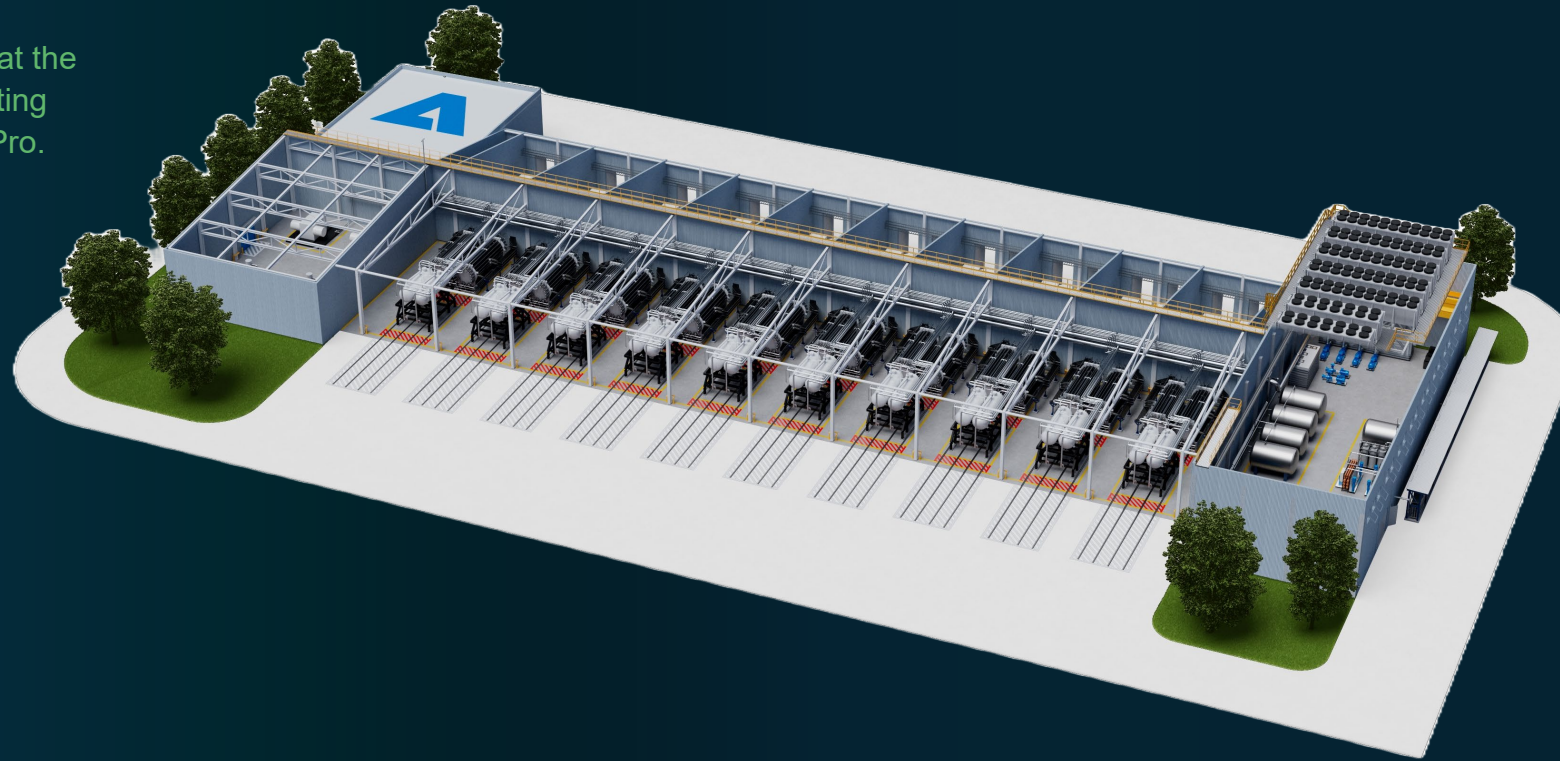
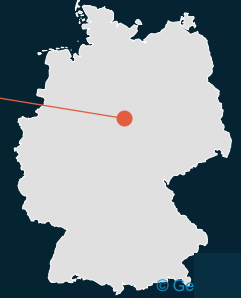
## THE CONTRACT

Our partner ANDRITZ will build a 100 MW electrolysis plant at the Salzgitter Flachstahl GmbH site on an EPC basis, incorporating pressurized alkaline electrolyzer technology from HydrogenPro.








## DELIVERY MILESTONES

First stage of project expected to be operational by 2026.

Salzgitter



# Superior positioning vs. other technologies

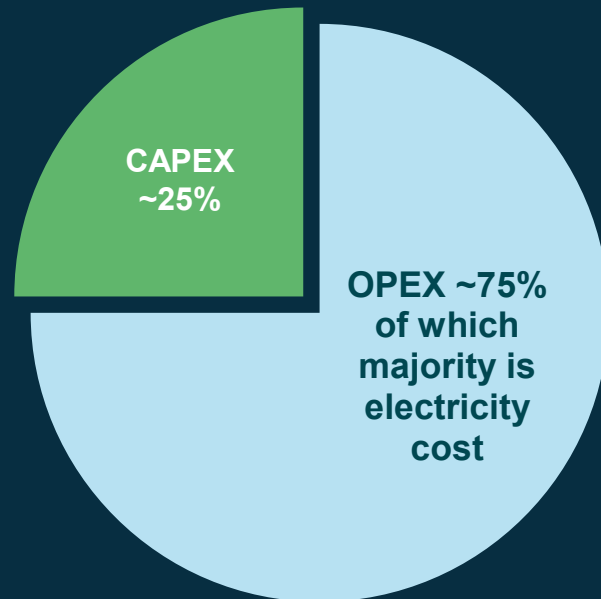
		Alkaline			HydrogenPro 3 <sup>rd</sup> Gen
		PEM	Atmospheric pressure	High pressure	
		High pressure			
	Plant efficiency	✗	✓	✓	✓
	Low cooling need	✗	✓	✓	✓
	No noble materials	✗	✓	✓	✓
	Suitable for renewable energy	✓	✗	✓	✓
	High pressure on O <sub>2</sub>	✓	✗	✓	✓
	Suitable for P2X <sup>1</sup> plants	✓	✗	✓	✓
	Proven for large-scale plants	✗	✓	✓	✓

Legend: ✓ Best capability    ✓ Average capability    ✗ No/limited capability

1. P2X = Power-to-X

# HydrogenPro's 3rd Gen electrode technology increases efficiency and reduces OPEX

## Levelized cost of hydrogen



Advanced electrodes is a *game changer* for production of green hydrogen

- HydrogenPro's 3<sup>rd</sup> Gen technology reduces consumption of electricity by 14%
- Increasingly higher advantage with high energy prices
- Significant reduction of cooling water need



# Efficient manufacturing of high-quality products meeting international standards

## International certifications






- ASME
- ISO 9001
- ISO 14001
- ISO 45001

## Manufactured in line with international standards

- ASME (US)
- EN, CE (Europe)
- KHK (Japan)



# Taking a leading role in the global electrolyzer industry

	Technology frontrunner	>	Supports premium pricing
	Large-scale track record	>	Customer confidence
	Proven scalability	>	Positioned for a growing market
	Geographic expansion	>	Aligned with market opportunities
	Cost competitive manufacturing	>	Attractive margin profile
	Regulatory tailwinds	>	Supports strong revenue growth
	Capital discipline	>	Attractive return on capital

*Pole positioned to deliver industry-leading returns*

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ENERGIZING  
TOMORROW.**