

# AEMpowered



Smart. Simple. Scalable.



37. MKK - Münchner Kapitalmarkt Konferenz  
24. & 25. April 2024

# Enapter at a glance



Started in Nov 2017



**Pioneer and commercial leader** in patented AEM electrolysis, with high operating flexibility without using rare materials, especially Iridium.



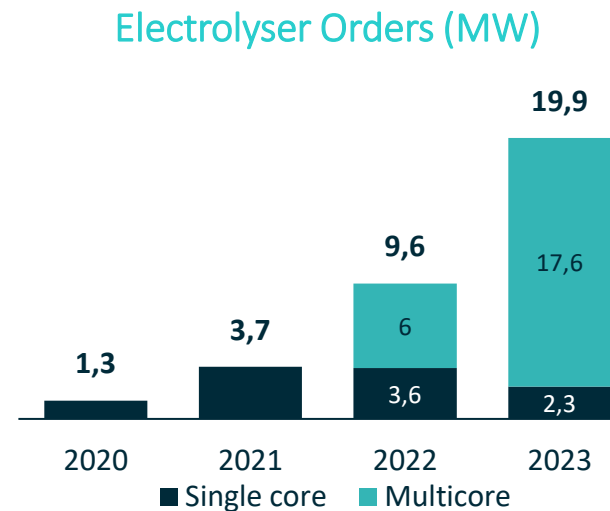
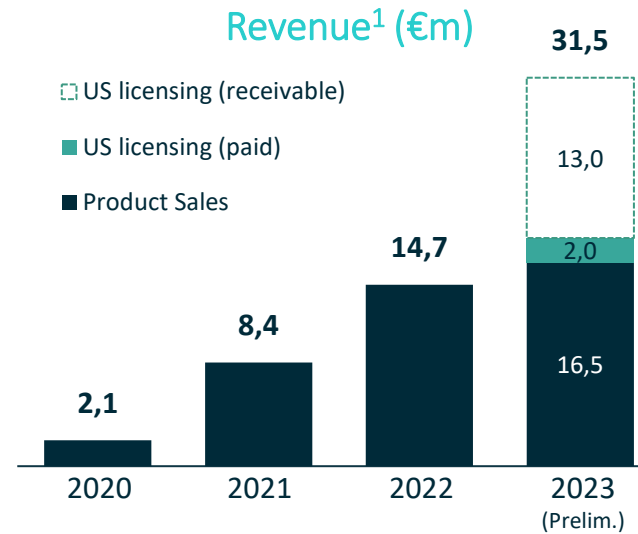
More than 15,000 electrolyzer cores ordered by >375 customers across >50 countries



**Attracting world-class partners:** Partnership and €20m equity investment by Johnson Matthey (market Cap: €3.4bn) in 2022



**Rapidly shifting to multicores.** >95% of enquiries are now for multicores. First multicore delivered Jan 2024



## Enapter

Registered office: Heidelberg, DE  
 Stock exchange: Frankfurt / Hamburg Regulated Market  
 Bloomberg ticker: H2O GR  
 Shares outstanding<sup>2</sup>: 27.2m  
 Market cap<sup>2</sup>: €144m  
 Current FTE<sup>2</sup>: >200

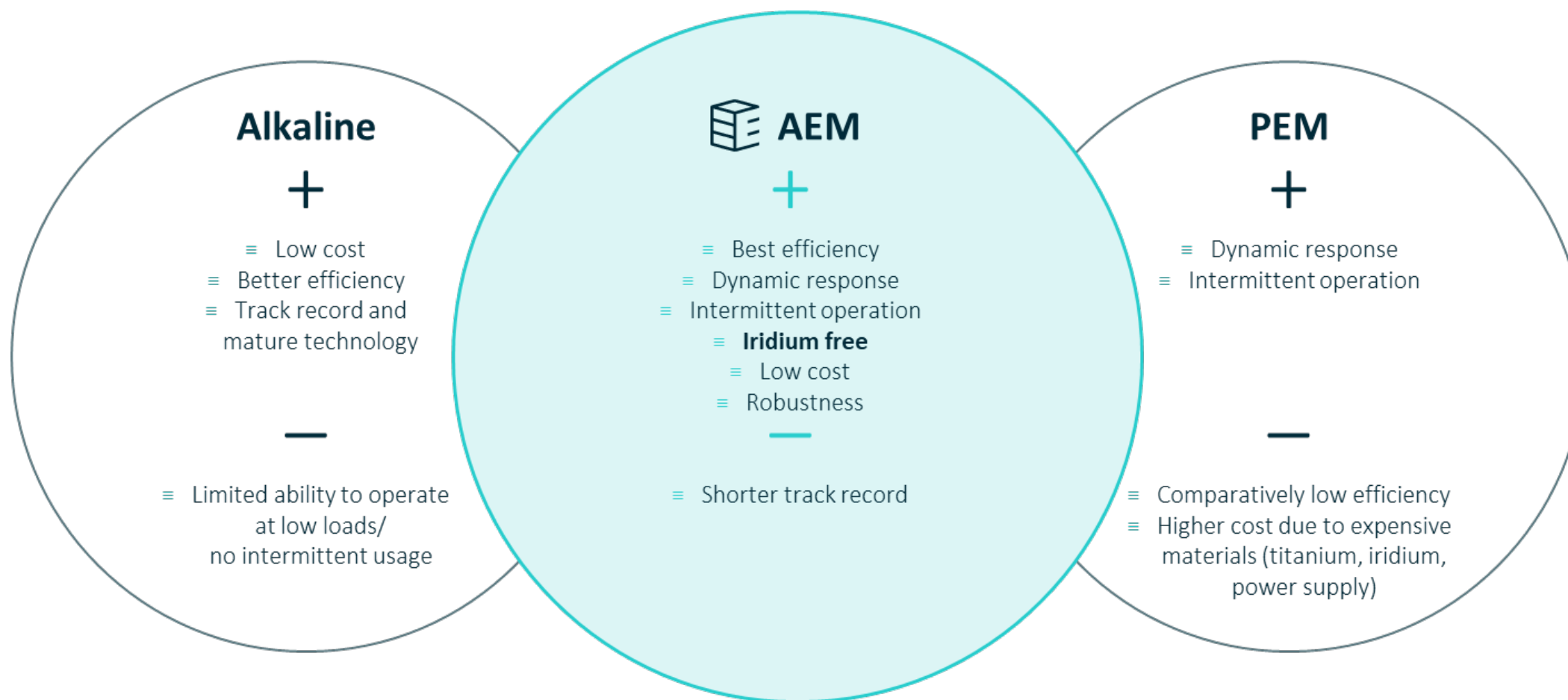
### Major Shareholders:

|                                    |        |
|------------------------------------|--------|
| Blugreen Company Ltd. <sup>3</sup> | 65.14% |
| Svelland Global Trading Fund       | 5.01%  |
| Sergei Storozhenko                 | 4.12%  |
| Johnson Matthey                    | 3.87%  |
| Morgan Stanley                     | 3.04%  |
| Other shareholders                 | 18.82% |

### AWARD WINNING COMPANY



# AEM offers the best of two worlds:



AEM's competitive advantage



Enapter's AEM technology avoids the use of iridium-based catalysts. This enables Enapter to achieve

- greater **price stability**
- lower **supply chain** vulnerability,
- without **performance** restrictions.

Enapter avoids the use of any PFAs and titanium-based plates and porous transport layers. This leads to

- **cost reduction** compared to PEM-based stacks,
- a lower **carbon footprint** and enhanced sustainability.

# Iridium-free

## Our unique selling proposition.

AEM's competitive advantage

# AEM is the future

|                                  | PEM | ALK | AEM |
|----------------------------------|-----|-----|-----|
| Supports intermittent renewables | ✓   | ✗   | ✓   |
| Iridium free                     | ✗   | ✓   | ✓   |
| Titanium free                    | ✗   | ✓   | ✓   |
| PFAS regulation ready            | ✗   | ✗   | ✓   |
| Compact design                   | ✓   | ✗   | ✓   |
| High current density             | ✓   | ✗   | ✓   |
| Electrochemical compression      | ✓   | ✗   | ✓   |
| Safe-to-handle electrolyte       | ✓   | ✗   | ✓   |

# Technology review

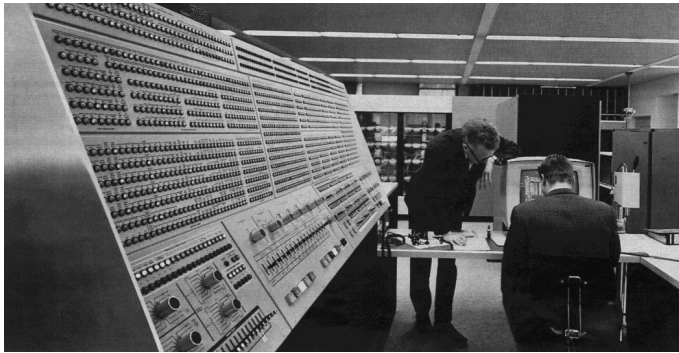
# Modular systems scale faster

Large scale industrial systems

Modules

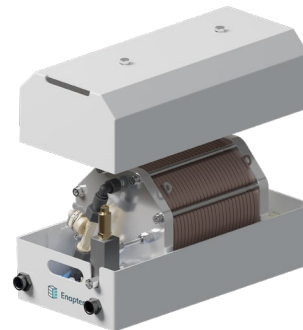
Multicore solution

COMPUTING:



In the past

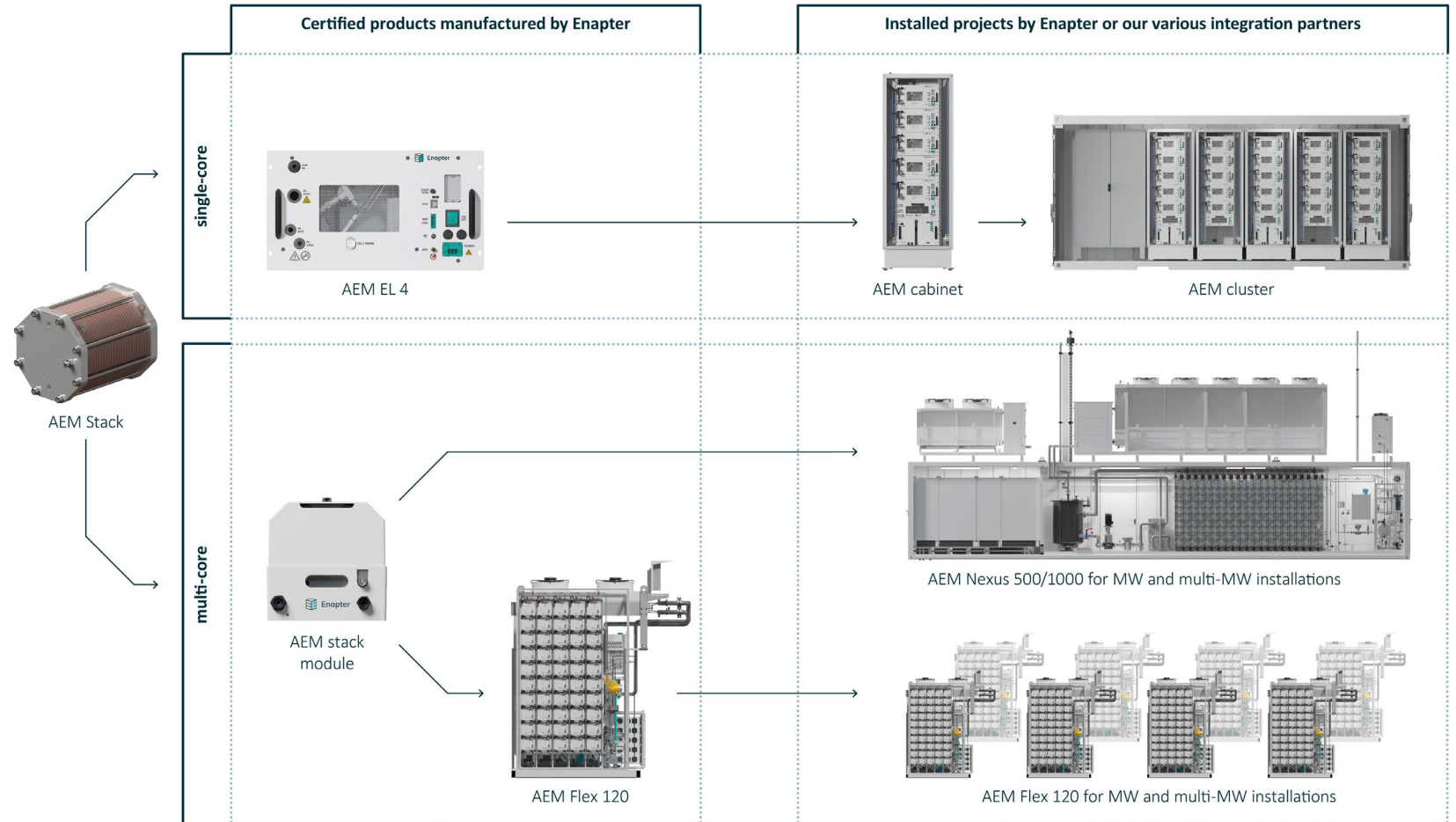
ELECTROLYSERS:



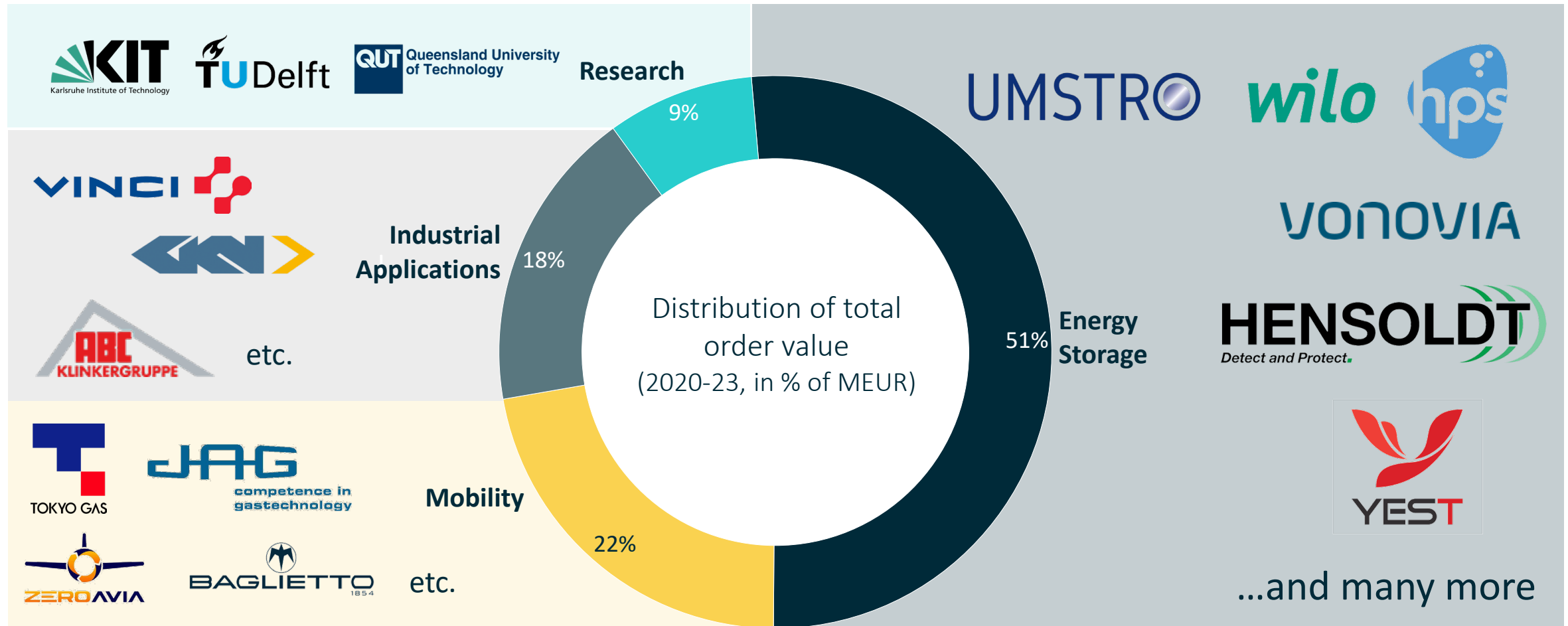
In the past

# Modular AEM stacks for singlecore and multicore applications

- ≡ The AEM stack module is the center piece of our product platform, our minimum modular unit (MMU).
- ≡ The AEM stacks can power a compact and modular single-core AEM electrolyser.
- ≡ The same stacks can also deliver megawatt-scale green hydrogen in our multi-core setup.
- ≡ Competitors have to develop different stacks for different products.
- ≡ We can leverage our modular platform strategy designed for mass production to achieve significant cost reductions via economies of scale.



# Selected clients, partners and certified partners





# Selected segments from our customers

## Energy Storage



Electricity can be converted into hydrogen in order to be stored over extended time periods. Our clients use our electrolyzers to bring power to remote communities, stabilise the electricity grid, or make their businesses or homes energy independent

## Industry



Industrial innovators use green hydrogen to pioneer new industrial applications: Power-to-X, green ammonia, and bio-methane are just a few applications that our industrial customers have built with the help of our electrolyzers

## Mobility



Our electrolyzers provide a compact solution for any refuelling need. Mostly, mobility clients use them for on-site hydrogen production for their mobility applications: Trucks, buses, cars, and corporate fleets

## Research



Various institutions and universities around the world use our electrolyzers for groundbreaking research. From Australia to Canada, Enapter's products contribute to advancing the understanding of the global hydrogen economy

# AEM multicore electrolyzers

## Enapter multicore products

- ≡ Enapter provides various sizes of multicore ranging from 50 to 420 cores. These include the AEM Nexus 1000 (420 cores; 1008 kW) and AEM Flex 120 (50 cores; 120kW)

## Advantages of Enapter multicores

- ≡ **High efficiency** and longer running times, enabling us to offer customers an **uptime guarantee**
- ≡ **Cheaper** than similarly-sized PEM electrolyzers (and on par with alkaline), Enapter's AEM Multicore unifies the best of water electrolysis technologies
- ≡ Hot-swapping capability provides **built-in redundancy for green hydrogen that never sleeps**
- ≡ **Rapid reaction** to intermittent renewable energy supply, with ability to operate at lower energy input levels than competing players

Inside the AEM Nexus 1000



AEM Flex 120



# References for MW class systems ordered



**Delivered** (as of end Feb 24)

- ≡ **Braunschweig Research Airport (Steinbeis):** First AEM Multicore delivered. In commissioning as of Feb 2024, to deliver sustainable on-site fuel for heating and mobility at a leading European mobility competence centre



**Selected orders from backlog** (as of mid April 24)

- ≡ **Adsensys:** Ordered an AEM Multicore to produce green hydrogen on-site at a hydrogen filling station in the Netherlands



- ≡ **Intelligent Energy:** Ordered an AEM Multicore for fuel cell FAT testing in the United Kingdom



- ≡ **Prince Edward Island (AKA/Re-Fuel):** Ordered two AEM Multicore to increase energy self-sufficiency in the areas of heating, transportation, shipping, industry, and aviation in Canada



- ≡ **Jeju island (YEST):** Ordered an AEM Multicore to demonstrate and compare different hydrogen production technologies in South Korea



- ≡ **Wolong:** JV with Chinese engine manufacturer that includes framework supply contract of 5 MW multicore systems for various customers in China and production of AEM electrolysers locally in China.




















- ≡ **Unigranit:** Ordered an AEM Multicore intended to be expanded to 1 MW in long term to inject hydrogen into gas mix to make production processes more sustainable



- ≡ **Films Spa:** Ordered AEM Multicore for on-site green hydrogen production project from solar power to be used in Anzola (IT) facility for metal hardening processes

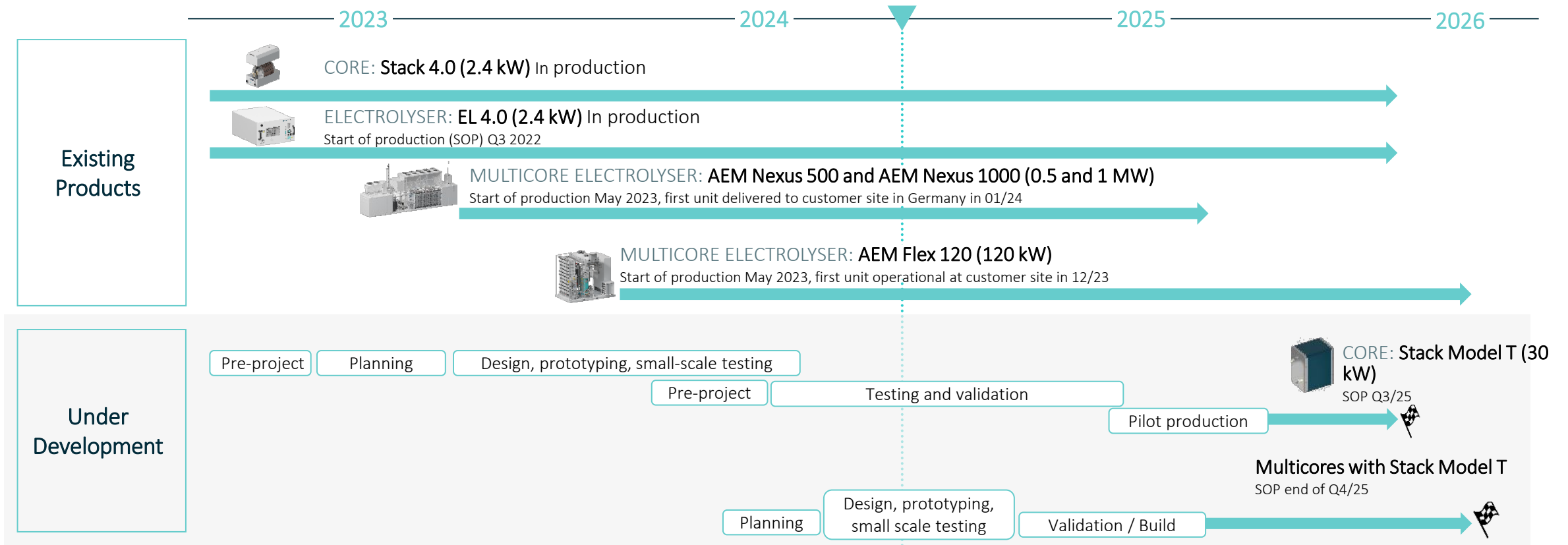


# More information on key go-to-market partners

| Partner name  | Country   | Footprint | Sectors                        | Comment  |
|---|---|-----------|--------------------------------|--|
|  Adsensys                                  |    | Europe    | Mobility                       | Long-standing partner who started with single cores and has now added multicores for HRS in NL to their portfolio  |
|  RE-FUEL <sup>INC</sup>                    |    | Canada    | Heating, Mobility, Industrials | Canadian partner who ordered 2 AEM Nexus 1000 in 2023 to increase energy self-sufficiency on Prince Edward Island  |
|  <b>WOLONG</b><br><i>Power your future</i> |    | China     | Industry                       | JV established for distribution in China, plus framework supply contract for delivery of 5 MW multicore systems and hundreds of single cores for customers in China                      |
|  YEST                                      |    | Asia      | Various                        | Ordered multicores for delivery in 2025 to demonstrate and compare different hydrogen production technologies in South Korea (joint pilot project on Jeju island)                        |
|  H2<br>CoreSystems                         |    | Worldwide | Various                        | H2 Core Systems develops modularly configurable electrolysis systems that use Enapter electrolyzers and builds and markets the AEM Flex 120  |
|  hps                                       |    | Germany   | Households                     | HPS picea <sup>®</sup> system is the the world's first product for a CO2-free energy supply in single- and two-family homes and features Enapter's electrolyzers                         |
|  Fuel Cell<br>SYSTEMS                    |  | UK        | Mobility, Industrials          | Fuel Cell Systems Ltd are a UK based Hydrogen and Fuel Cell design and integration company providing solutions for off-grid power and hydrogen refuelling systems for fuel cell vehicles |
|  HEPHAS<br>energy                        |  | Asia      | Energy                         | Hephas Energy is a Taiwan based engineering company provides hydrogen equipment and fuel cell testing equipment  |
|  CLEAN H <sub>2</sub>                    |  | USA       | Energy                         | Exclusive partnership with a distribution agreement in the USA   |

# Product range - existing and under development






- Enapter is focused on ramping up the commercialization of existing products using the Stack Model 4.0, while continually making quality improvements
- Meanwhile, the company is investing in R&D to develop a larger AEM electrolyser core, under project name "Stack Model T", and multicore products utilizing this larger core
- This will increase the scale of solutions Enapter can offer, while continuing to drive further cost efficiency

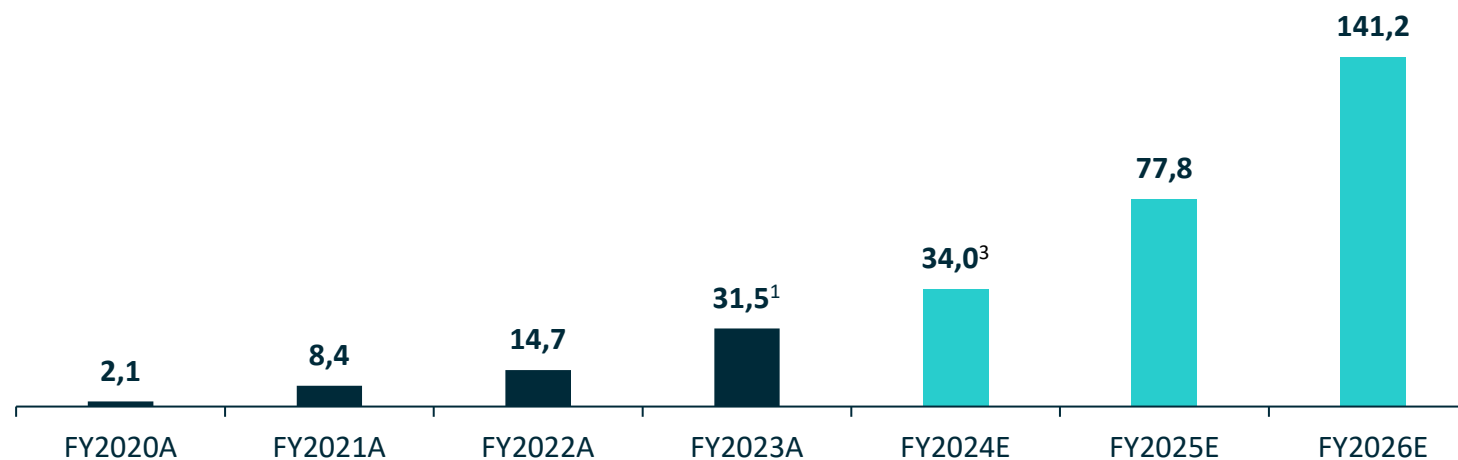


# Historical & projected revenue development

Revenue (€m)

Broker research estimates<sup>2</sup>

|   | FY2020A | FY2021A | FY2022A | FY2023A                 | FY2024E           | FY2025E     | FY2026E      |
|---|---------|---------|---------|-------------------------|-------------------|-------------|--------------|
|  Enapter             | 2.1     | 8.4     | 14.7    | 31.5 <sup>1</sup>       | 34.0 <sup>3</sup> |             |              |
|  AlsterResearch      |         |         |         |                         |                   | 84.0        | n/a          |
|  BRYAN, GARNIER & CO |         |         |         |                         |                   | 48.6        | n/a          |
|  Pareto Securities   |         |         |         |                         |                   | 111.0       | n/a          |
|  First Berlin        |         |         |         |                         |                   | 67.4        | 141.2        |
|   |         |         |         | <b>Broker Consensus</b> |                   | <b>77.8</b> | <b>141.2</b> |








- Enapter guidance projects product sales to approximately double from FY 2023-24 with multicore deliveries in 2024
- FY2023A revenue was composed of EUR 16.5m product sales and EUR 15m recognised on US license agreement
- In FY 2023 Enapter shifted its focus to marketing the multicore products which accounts for the nearly flat sales revenue as single core electrolyser sales grew incrementally and orders flowed in for multicore products
- From FY 2021-22 single core electrolyser revenue grew by 75% while Enapter was focused on the single core

Note: 1) FY23 revenue based on Enapter's preliminary figures for FY2023. 2) FY24E – FY26E is based on the latest broker research from AlsterResearch (01.03.2024), Bryan Garnier (09.01.2024), First Berlin (01.03.2024) and Pareto (06.09.2023). Note: 3): Enapter Guidance

# Historical & projected EBITDA development

EBITDA (€m)

Broker research estimates<sup>2</sup>

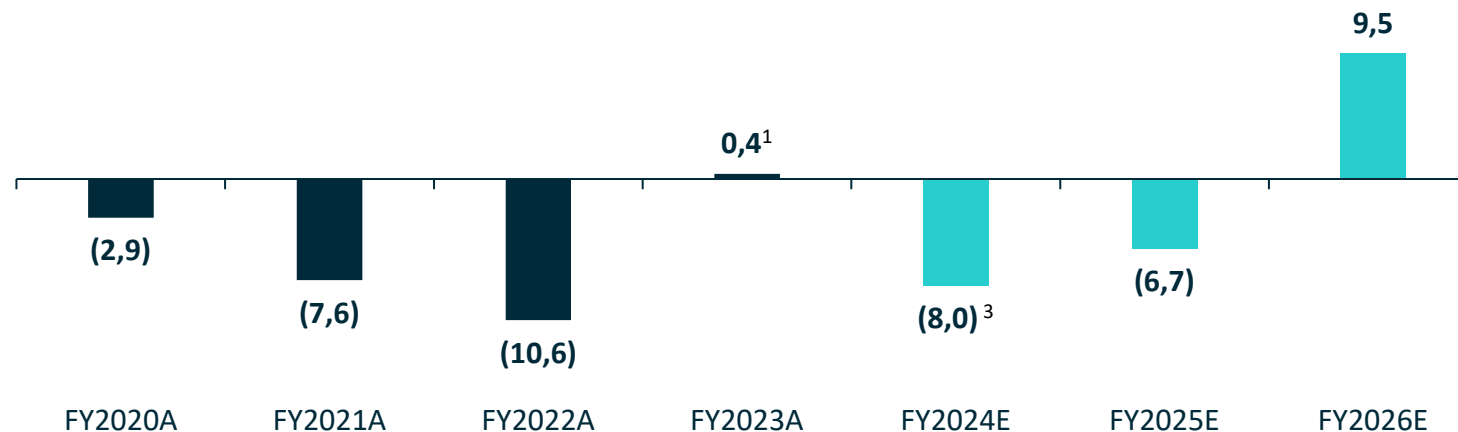
|   | FY2020A | FY2021A | FY2022A | FY2023A                 | FY2024E              | FY2025E      | FY2026E    |
|---|---------|---------|---------|-------------------------|----------------------|--------------|------------|
|  Enapter             | (2.9)   | (7.6)   | (10.6)  | 0.4 <sup>1</sup>        | (7)-(8) <sup>3</sup> |              |            |
|  AlsterResearch      |         |         |         |                         |                      | (7.7)        | n/a        |
|  BRYAN, GARNIER & CO |         |         |         |                         |                      | (20.0)       | n/a        |
|  Pareto Securities   |         |         |         |                         |                      | 7.0          | n/a        |
|  First Berlin        |         |         |         |                         |                      | (6.8)        | 9.5        |
|   |         |         |         | <b>Broker Consensus</b> |                      | <b>(6.7)</b> | <b>9.5</b> |



Economies of scale in production ensure better margins.



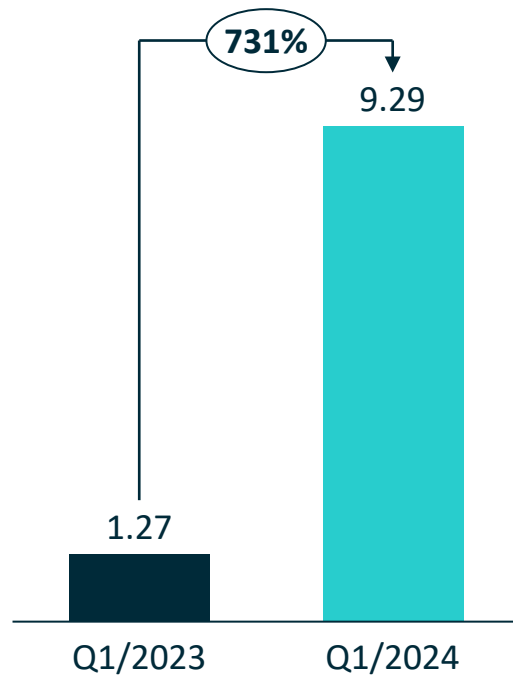
Massive demand for megawatt systems underpins growth and automated production build-up.



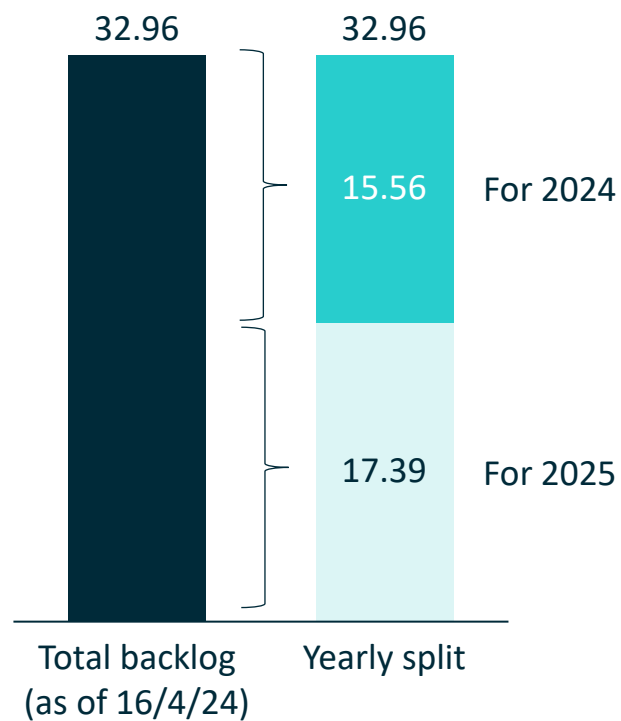
Note: 1) FY23 revenue based on Enapter's preliminary figures for FY2023. 2) FY24E and FY25E is based on the latest broker research from AlsterResearch (01.03.2024), Bryan Garnier (09.01.2024), First Berlin (01.03.2024) and Pareto (06.09.2023). Note: 3): Enapter Guidance

# Order intake and backlog

Order intake (€m)



Order backlog (€m)



Order intake has increased sevenfold compared to the previous year and totalled **EUR 9.3M in Q1/2024**



Order backlog (as of April 2024) stands at EUR 32M, out of which **EUR 15.6M are orders for 2024**





# Enapter

**Investor Relations**

[ir@enapter.com](mailto:ir@enapter.com)

<https://enapterag.de/investor-relations/>

**Dr. Jürgen Laakmann**

CEO

[j.laakmann@enapter.com](mailto:j.laakmann@enapter.com)




**Gerrit Kaufhold**

CFO

[g.kaufhold@enapter.com](mailto:g.kaufhold@enapter.com)



 @enapter

 @enapter

 youtube.com/enapter

[www.enapterag.de](http://www.enapterag.de)

[www.enapter.com](http://www.enapter.com)