

Electrolysers for Hydrogen Production in Fueling Stations



Cute Barcelona



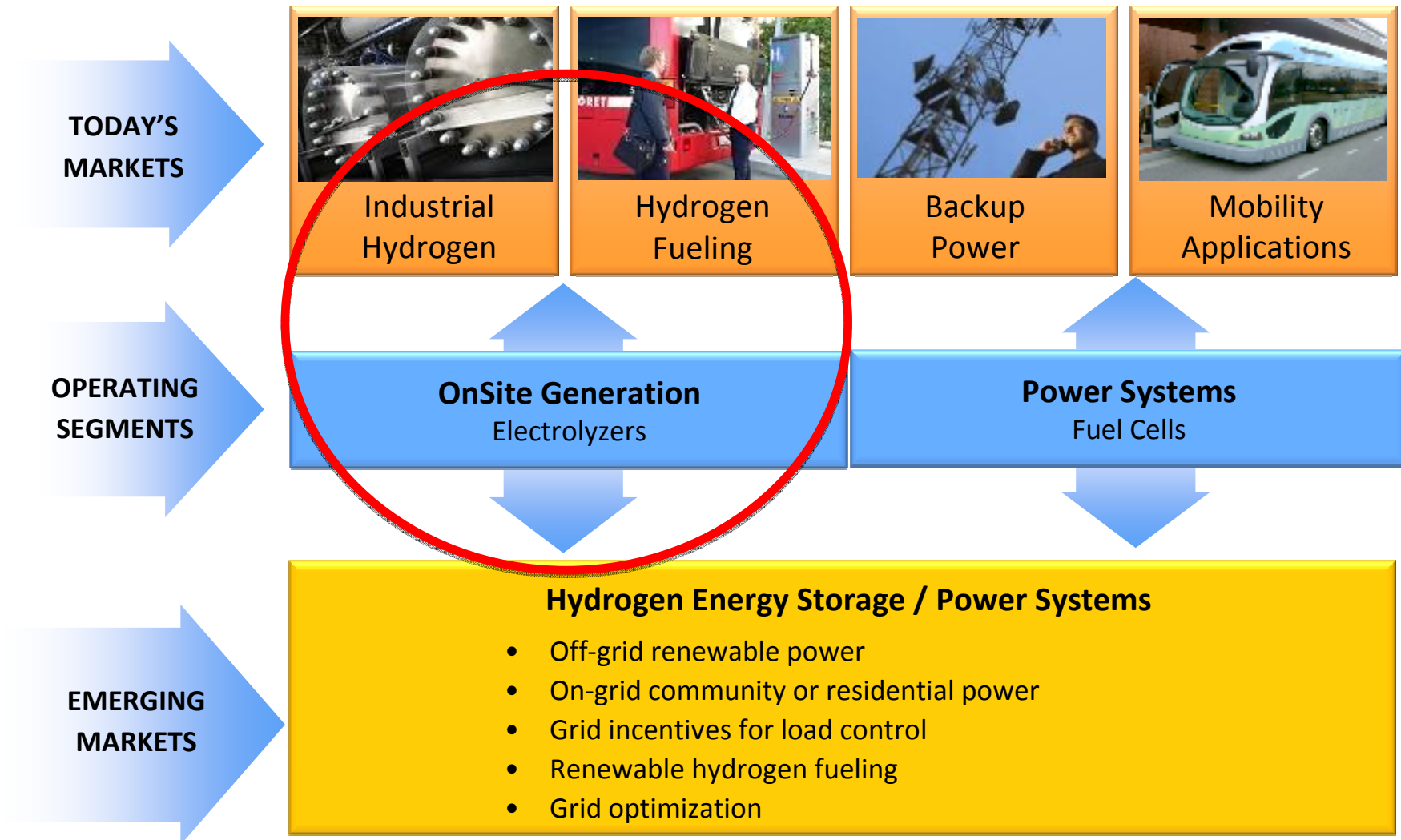


Cute Amsterdam

HYDROG(E)NICS

Advanced Hydrogen Solutions

Hydrogenics' Lines of Business



Hydrogenics Electrolysers in Fueling Stations in Europe

- Malmö , Sweden
- Amsterdam, Netherlands (CUTE)
- Barcelona, Spain (CUTE)
- Stockholm, Sweden (CUTE)
- Porto, Portugal (CUTE)
- Barth, Germany
- Dunkirk, France

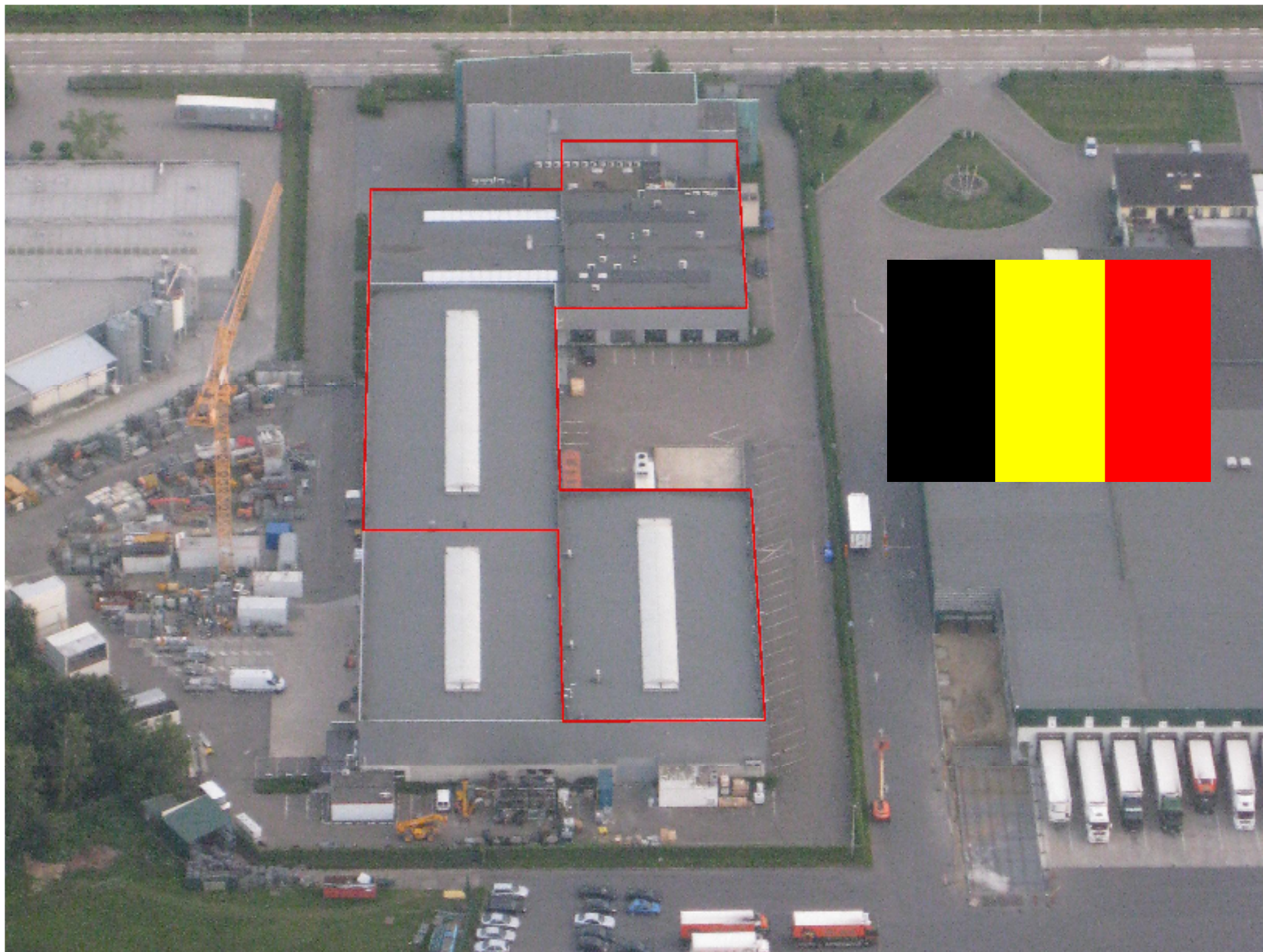


Hydrogenics Fueling Stations Experience in N. America



- Toronto ,Ontario (4)
- Vancouver, British Columbia
- Ford, Arizona
- APG, Arizona
- Richmond, California
- Torrance, California
- Diamond Bar, California
- Chula Vista, California
- Chino, California
- Oakland, California
- Rosemead, California
- Detroit, Michigan
- Minot, North Dakota

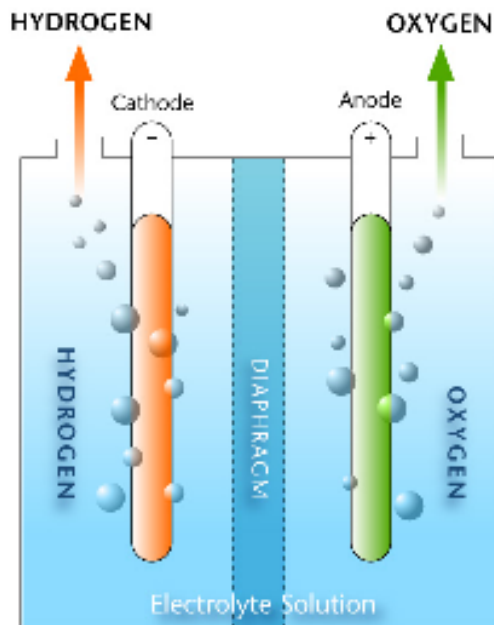




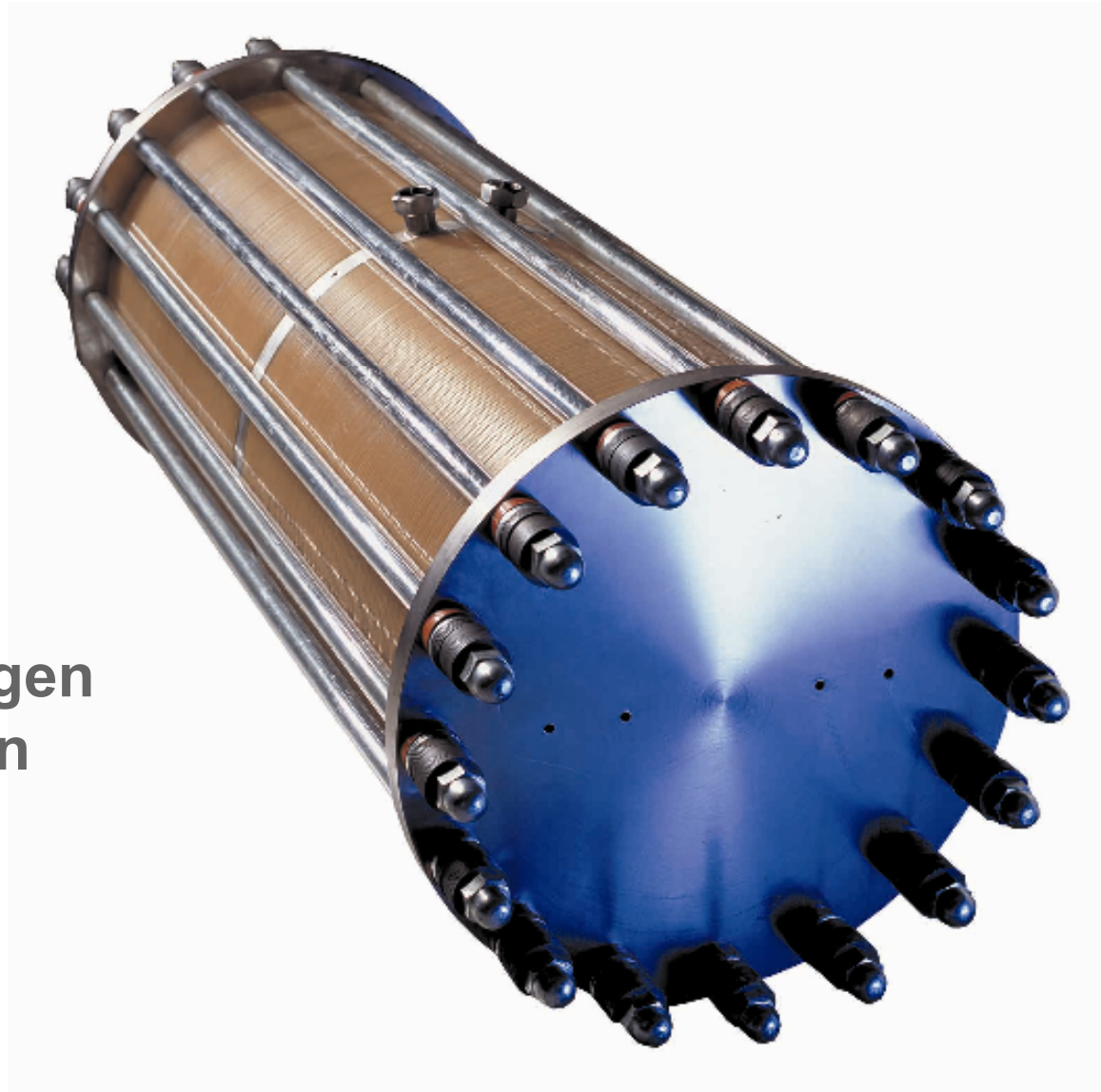


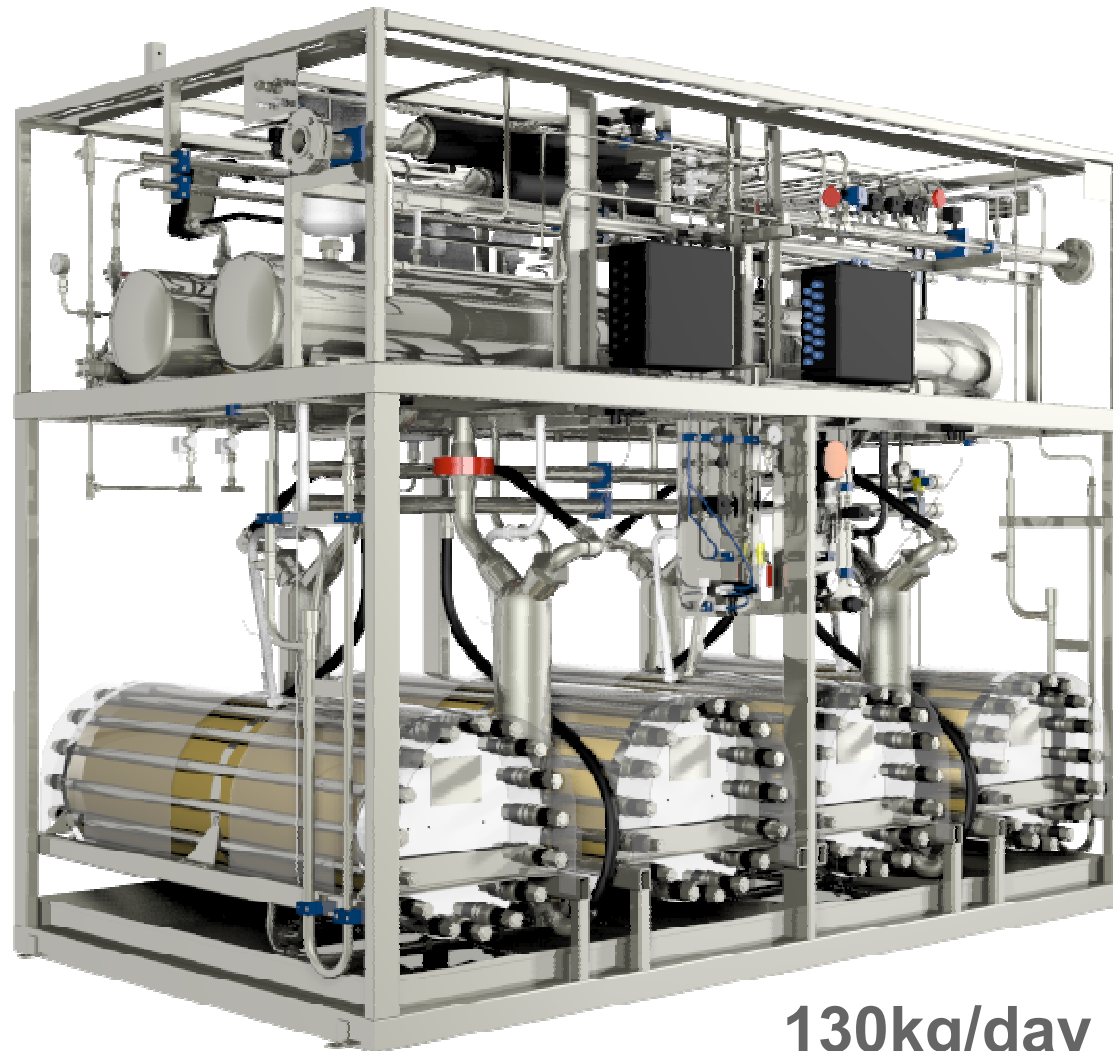




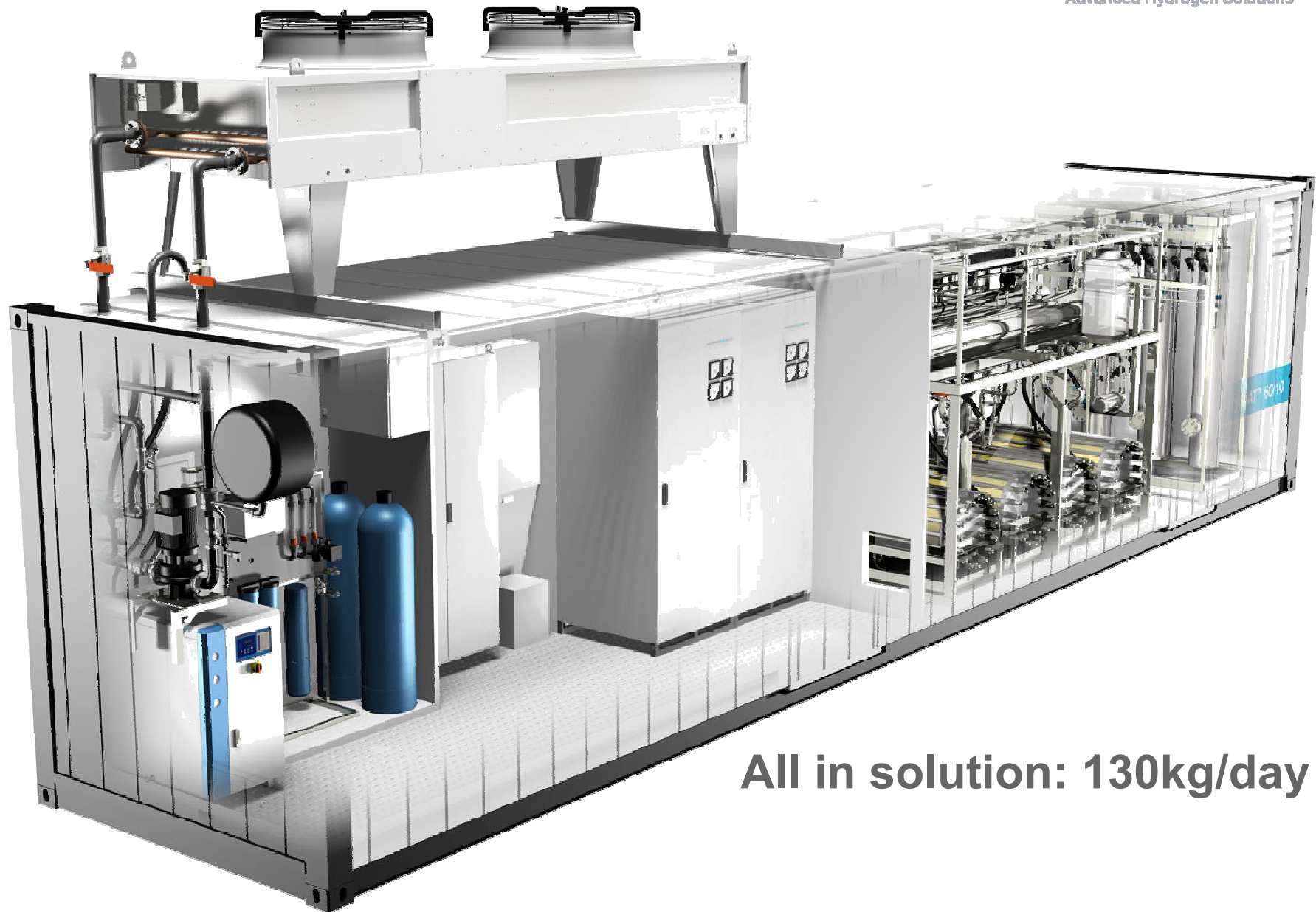


32 kg/day hydrogen
16 kg/day oxygen





130kg/day



All in solution: 130kg/day



**Turn-key and
Simple**



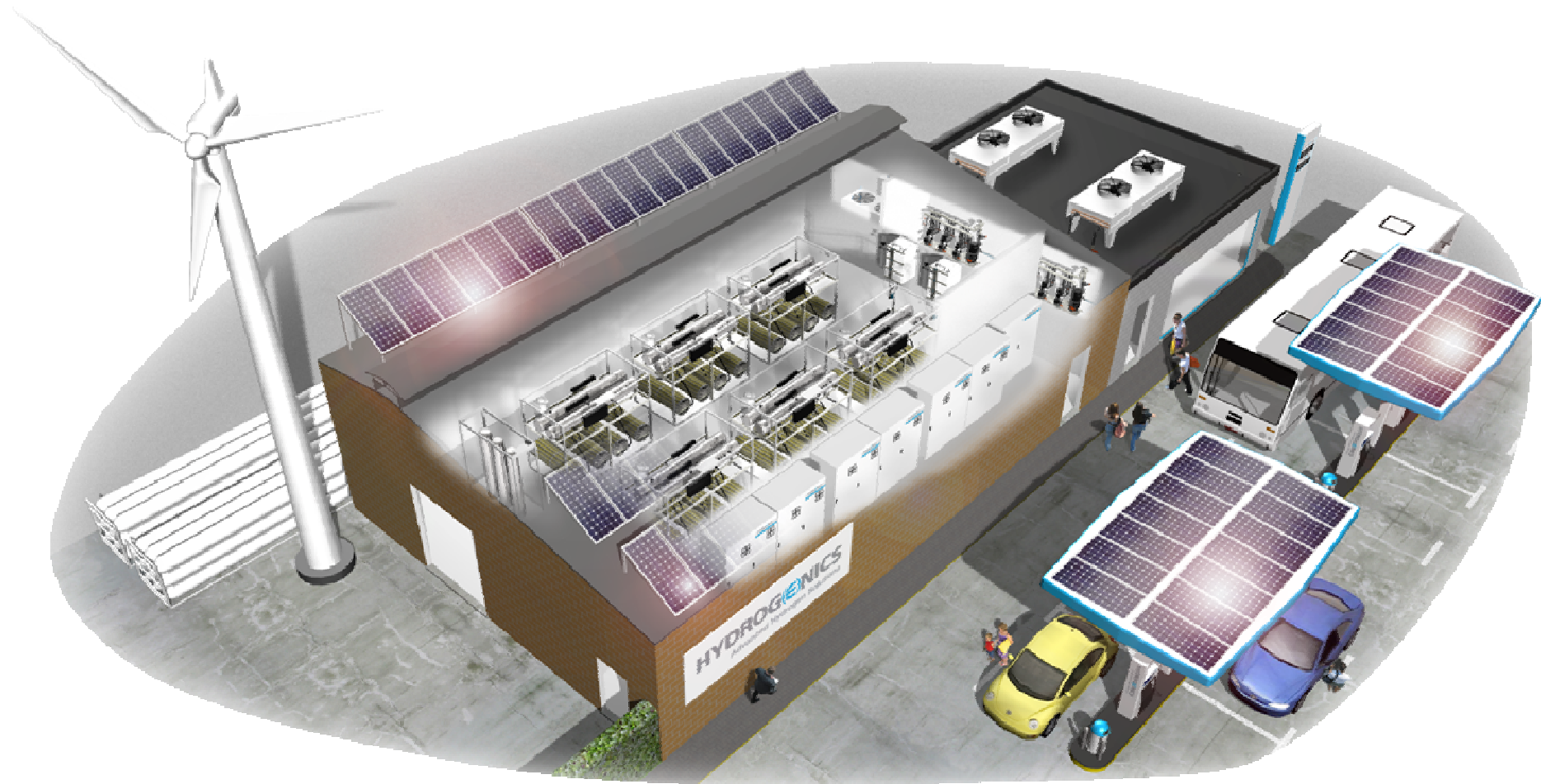
200+ Industrial Installations Worldwide
35 Sites with Electrolysis-based Fueling Stations



A fueling station is...



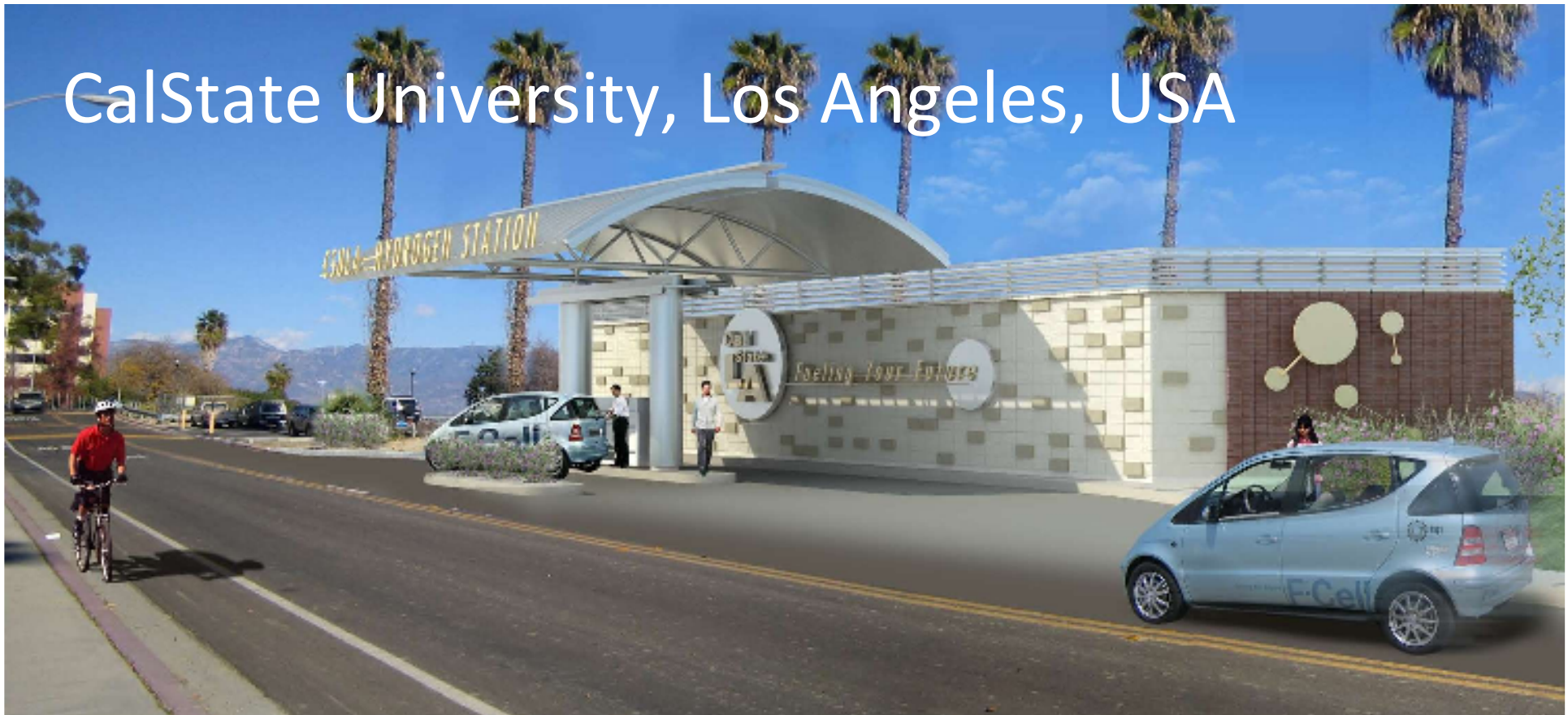
30 cars/day



**22 buses/day
or 180 cars/day**

2010 INITIATIVES

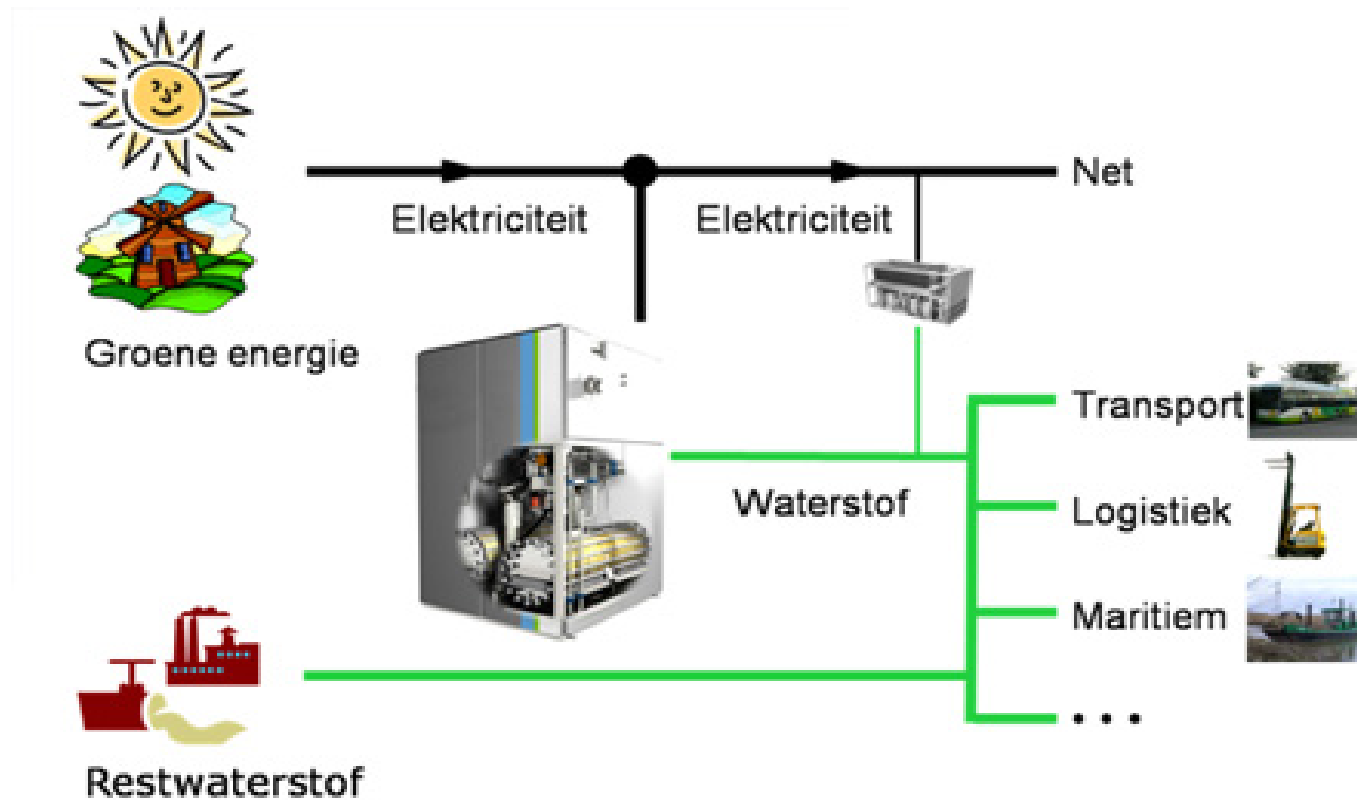
CalState University, Los Angeles, USA



Vattenfall, Hamburg, Germany



WaterstofNet



Innovative Mobile Fueling Station in Belgium

Hydrogen from Renewable Energy for Transport and Logistic Mobility

More to
come...

Progress and Bottlenecks

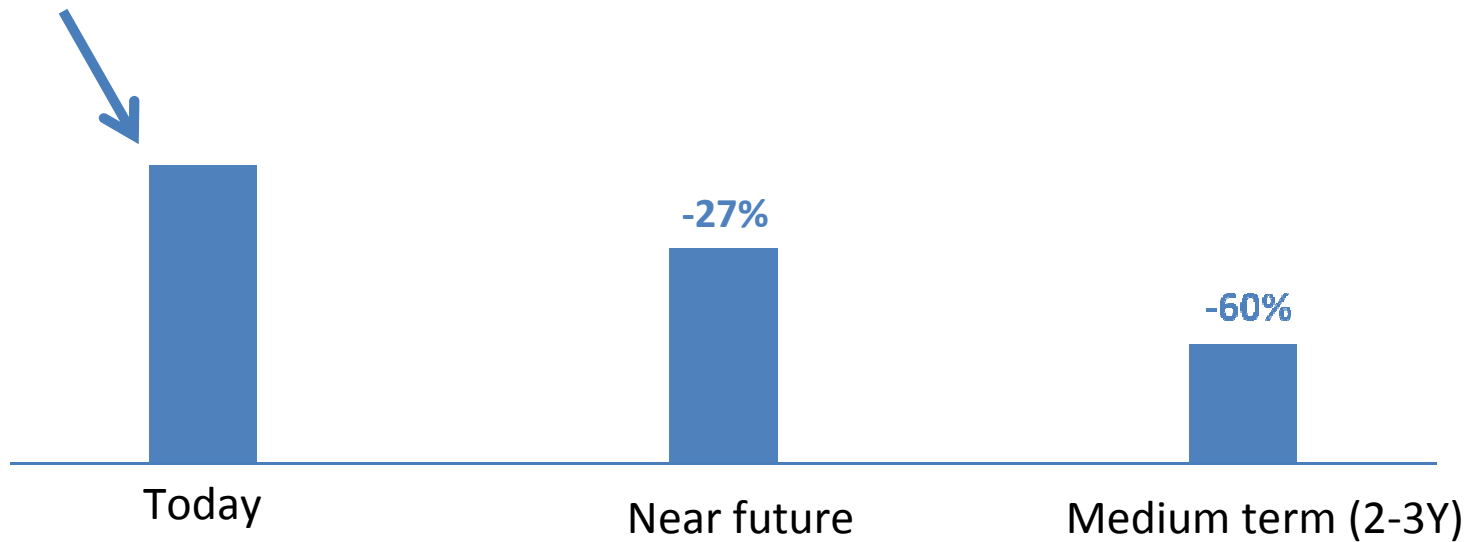


Cost?



Price

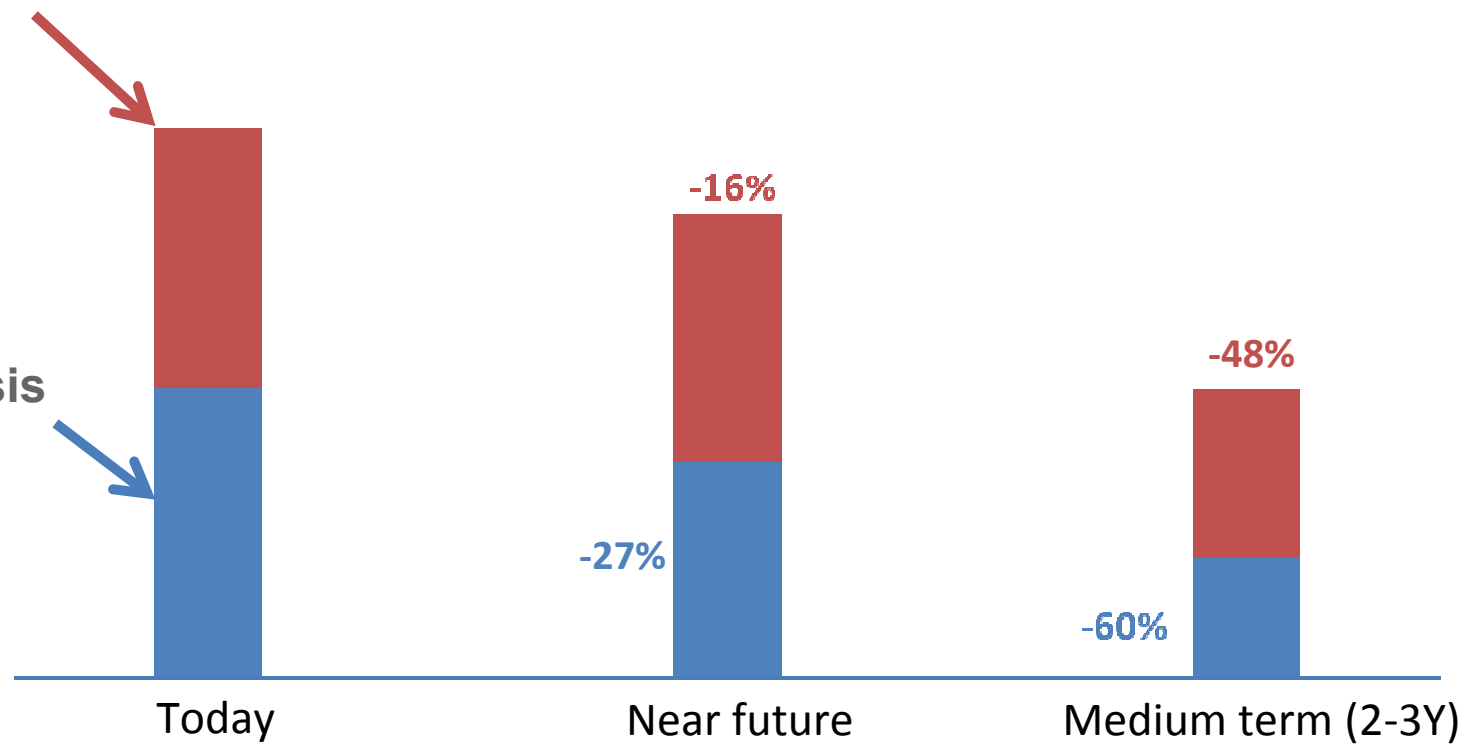
10bar Electrolysis



Price

350bar fueling

Electrolysis

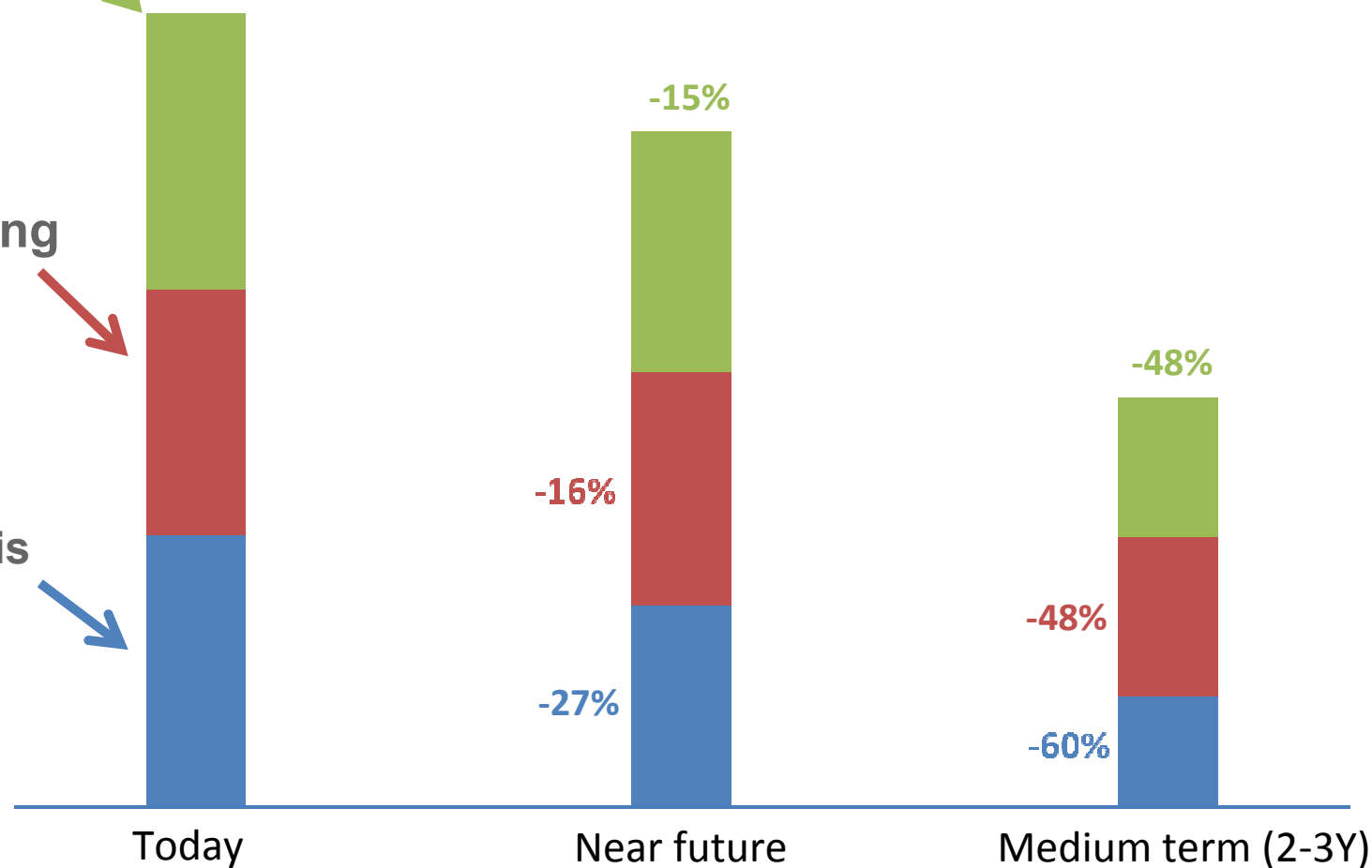


700bar fueling

350bar fueling

Electrolysis

Price



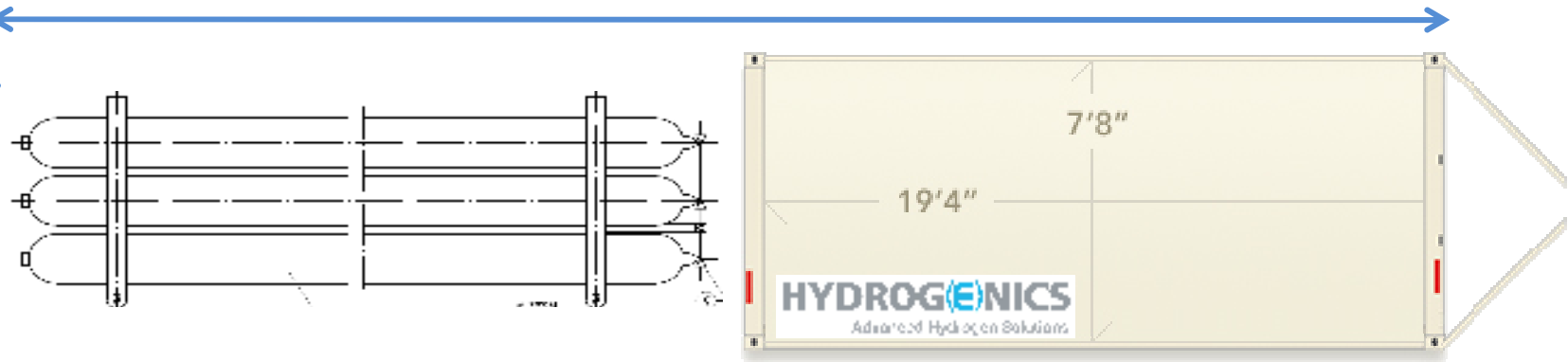
Footprint?



12 meters

6.3 m

**Today: 75m²
30 cars/day**



20'

Disp.



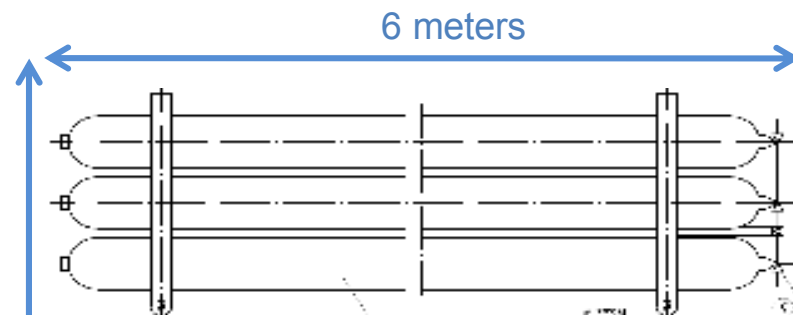
40'



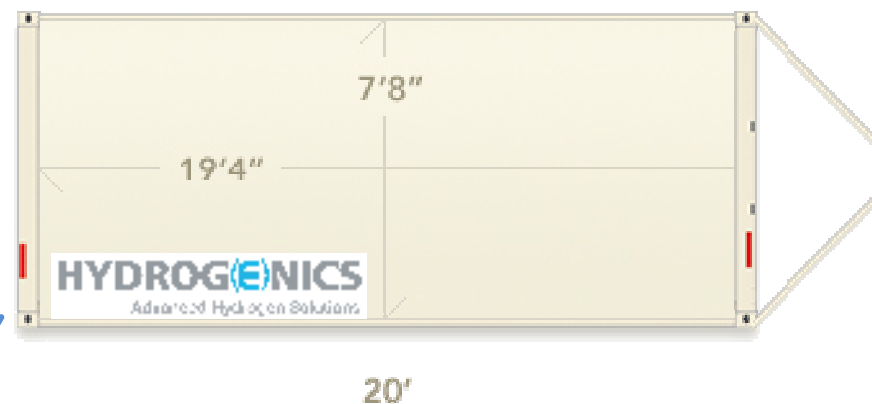


Disp.

Disp.



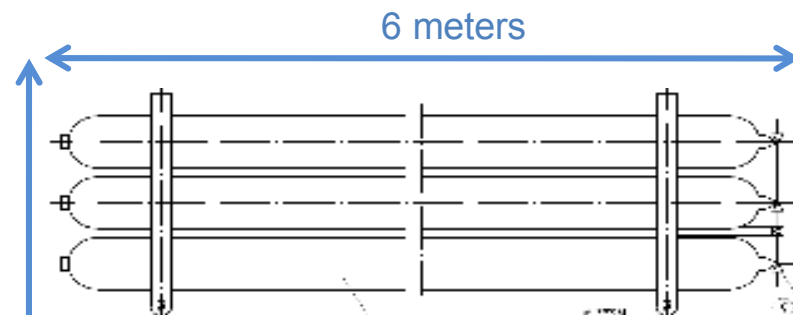
**Soon : 60m²
30 cars/day**



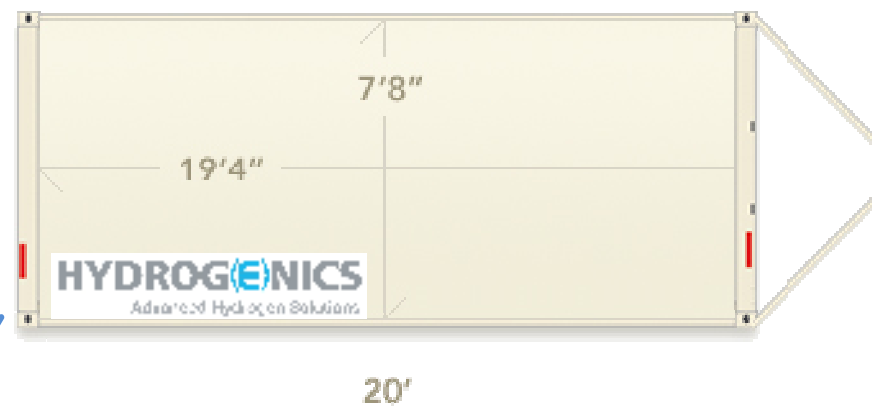


Disp.

Disp.



**Future : 60m²
50 cars/day**





Reliability/Robustness?

Hydrogenics team added value

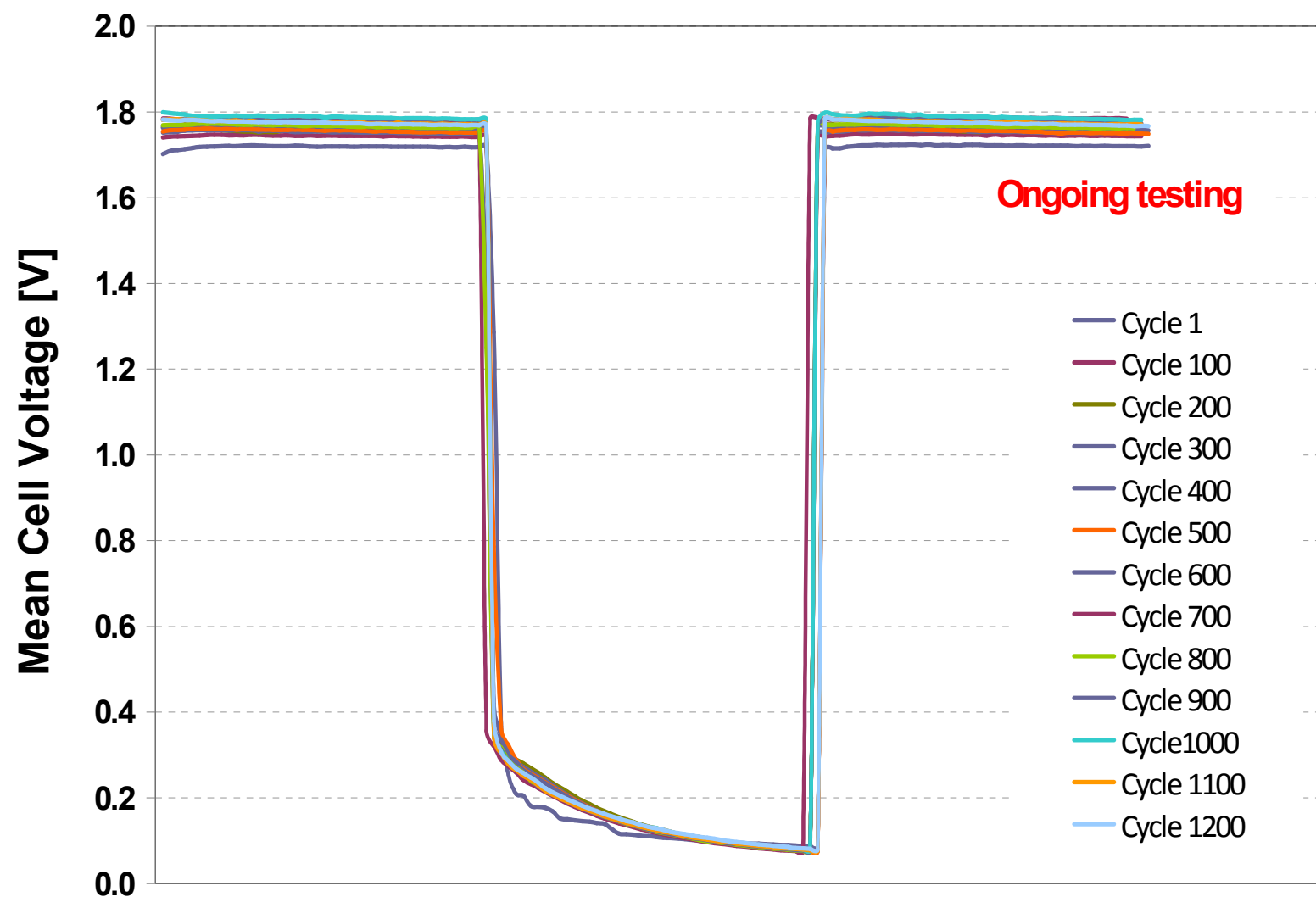
- Direct contact with the manufacturer
- Team of 120 highly skilled people
- Strong Service team
- Safety and reliability is our main concern
- 60 years of experience and professionalism
- More than **35** fueling stations delivered
- More than **200** industrial units delivered
- ISO 9001, 14001 and OHSAS certified
- Design, production and startup by Hydrogenics
- Worldwide start-up and After-sales service
- Full maintenance contract possibility
- Recognized by major companies



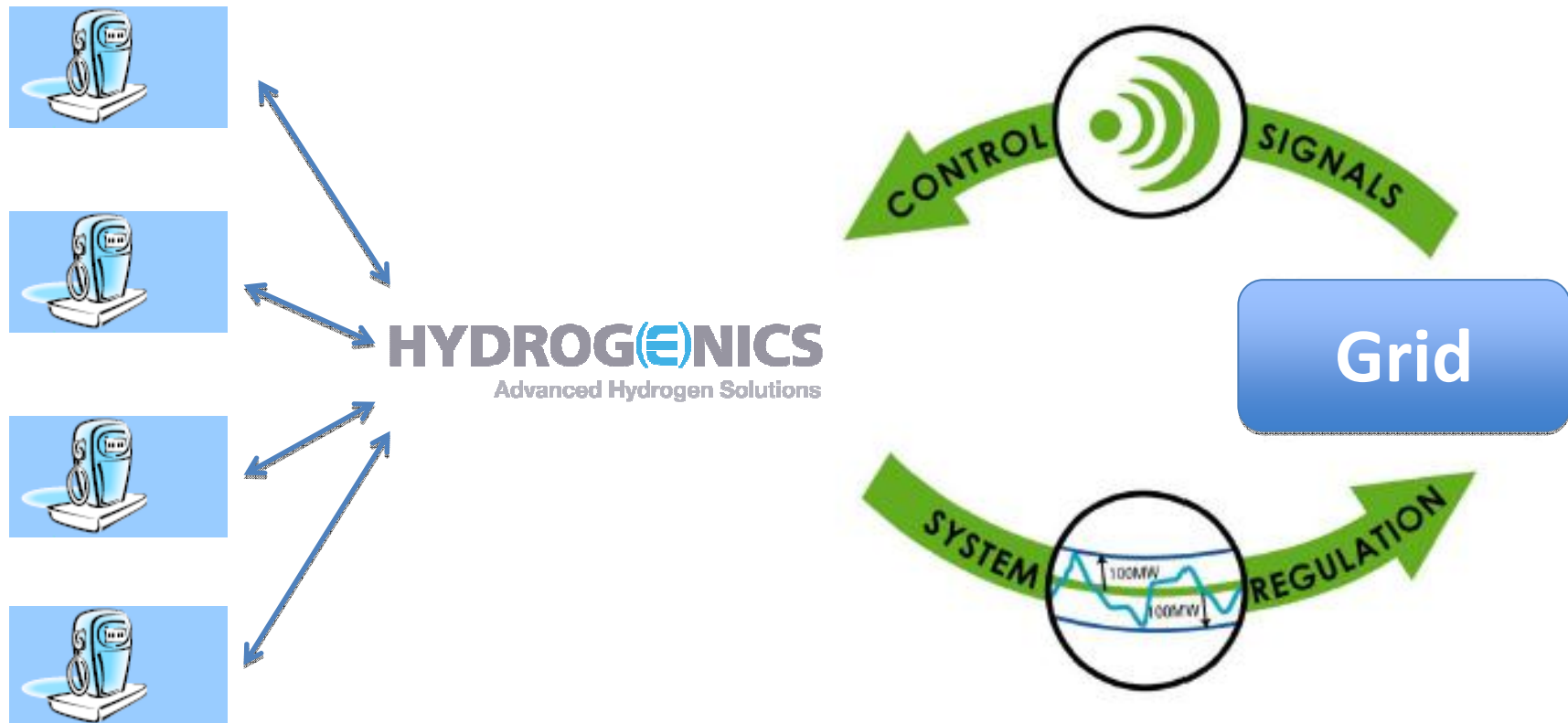


Direct Connections and Remote Multi Site
Control...

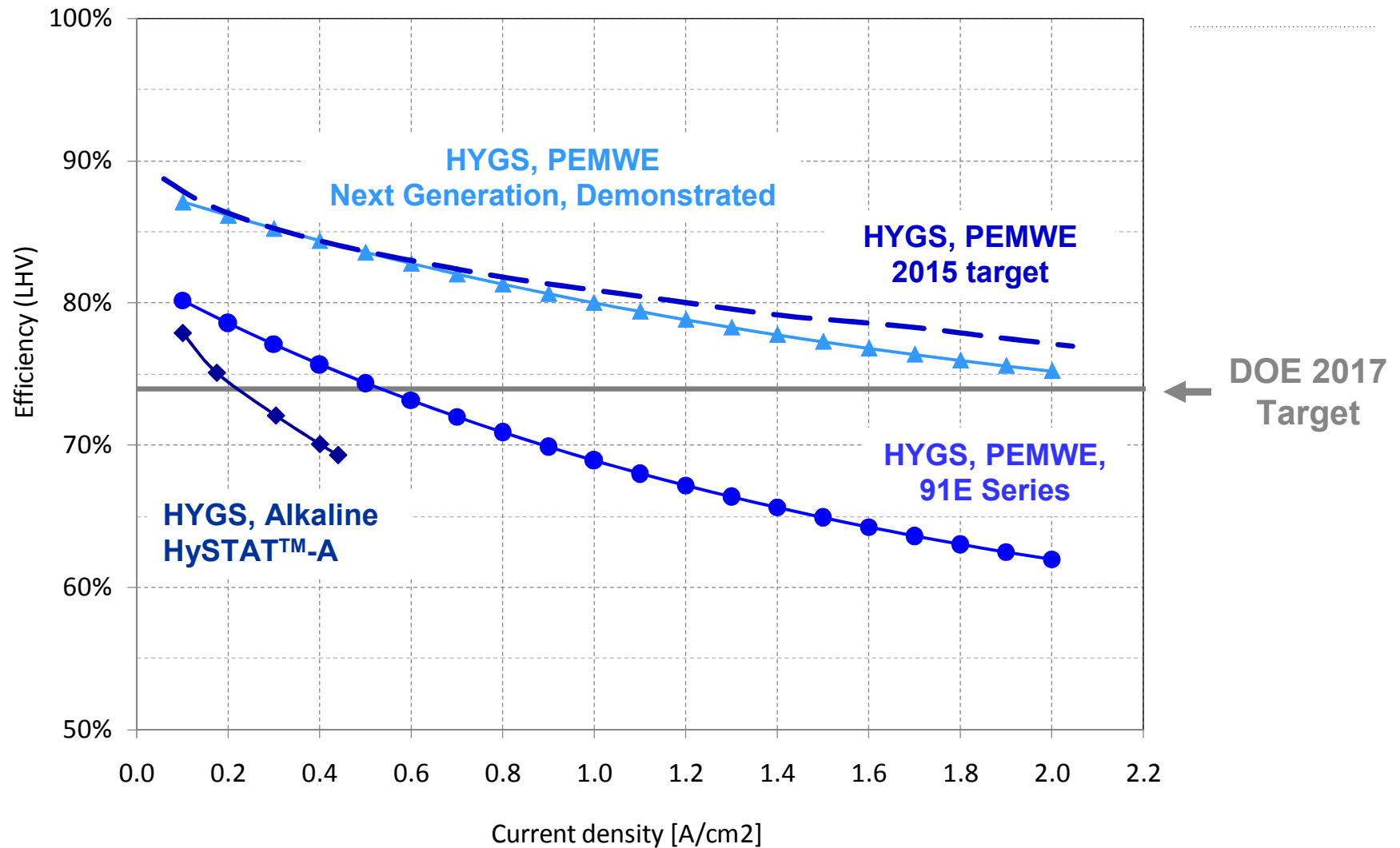
On/Off Cycling (15 min ON/15 min OFF)



Multi Site Fueling Station Control



Efficiency



PEM Water Electrolysis

- Robustness
- Demos for MW Capacities
- Component Cost Reduction



Continued Support for Compression and Storage Technologies for Stations/Vehicles



More RE Connected Stations



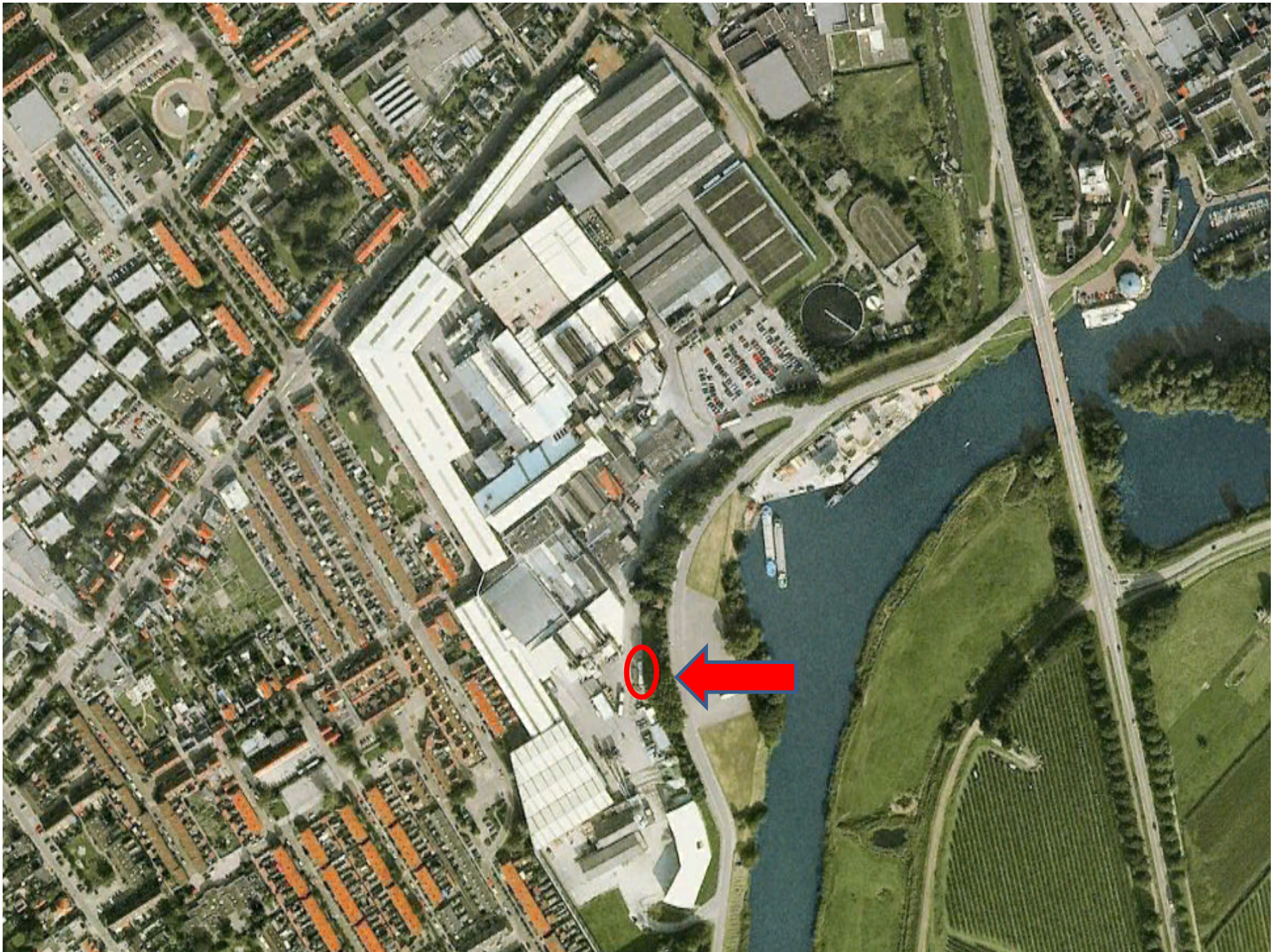




6 meters



105 trucks / year





A Clear Vision

Clean Mobility Through Electrolysis

Promotes Increased Deployment of Renewable Energy...

www.hydrogenics.com

