UNLIMITED HYDROGEN

DESIGNER AND MANUFACTURER OF EQUIPMENT FOR THE PRODUCTION & DISTRIBUTION OF ZERO-CARBON HYDROGEN

BY McPhy

Electrolyzers & Hydrogen Refuelling Stations – Piacenza H2 EXPO

June, 2022

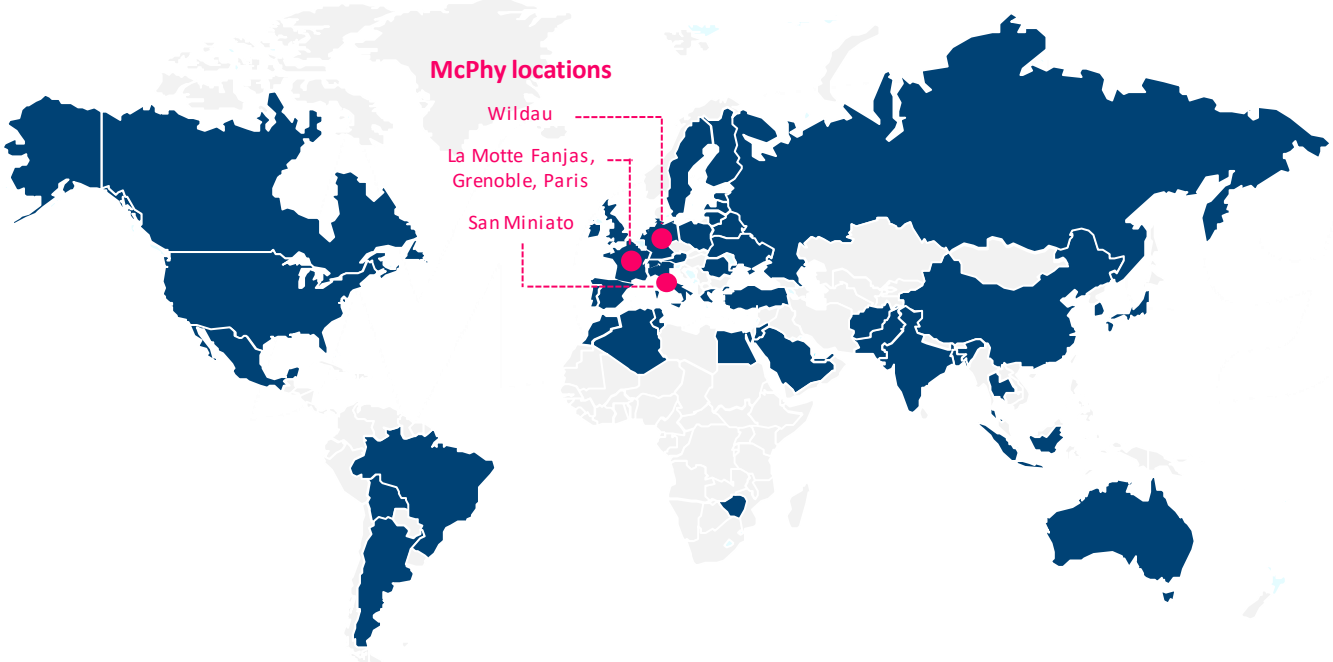
McPhy at a Glance

| Driving clean energy forward

Shutterstock

A global presence

| EU industrial footprint, global commercial reach



Countries covered

Small Electrolyzers (PIEL)
- Global reach, 50 countries
- > 1000 installed

Large Electrolyzers
- EU focus, 5 countries
- 36* MW are signed projects

Stations
- EU focus (France, Germany + UK)
- 36* signed projects

** 191 MW in reference as of Dec.31, 2021, among which: **36 are signed projects** (orders with signed purchase orders) **and 155 MW for which McPhy has been selected as preferred partner** (preferred partner and subject to the project's success, considering that some of these projects should have an impact on therevenue as of 2023)*
** 95 stations in reference as of Dec.31, 2021, among which **36 are signed projects** (orders with signed purchase orders) and **59 stations for which McPhy has been selected as preferred partner** (preferred partner and subject to the project's success, considering that some of these projects should have an impact on therevenue as of 2023)*
** Including 23MW and 56 stations for Hype*

A leading company in zero-carbon H_2 production & distribution equipment

Electrolyzers

- Modular design:
  1MW / 4MW / 20MW / 100MW+
- Pressurized Alkaline electrolysis (30 bar)
- Flexibility and fast response time
  from 0 to 100% in < 30 sec
  from 100% to 0 in < 5 sec
- High-current density electrodes and High efficiency: < 4.9 kWh / Nm3
- For Industry, Mobility and Energy markets

Stations

- High delivery capacity:
  20/ 200 / 400 / 800 / 2,000 kg/d
- All dispensing pressures:
  350 bar / 700 bar / Dual Pressure
- Easy coupling with electrolyzers
- Compact footprint:
  20 MW installed in less than 900 m2
- Main focus on heavy mobility (buses, trucks, trains, etc.)
- Supply & Service

Electricity production — **Production** — Transport & Storage — **Distribution** — End-use

Projects delivered [selection]

| Delivering to our customers

Diax
Piel electrolysis

Sintering diamond tools line
Remotely commissioned
in June 2020
0.1 m€ *contract value*

DIAX

Le Mans
Station 20 kg/d

1st H_2 station for Total
Opposite to Le Mans race circuit
Commissioned in July 2020
0.3 m€ *contract value*

TOTAL

EasHymob
8 stations 20 kg/d

Network of stations in
Normandie Region (France)
7 already commissioned
2.1 m€ *contract value*

EAS HyMob

APEX Energy
2 MW

Industrial plant
Commissioned in June 2020
2.4 m€ *contract value*

APEX energy solutions

Hebei
4 MW

8 stacks integrated system
Power to gas solution in
China (wind farm)
Commissioned
in January 2021
6.4 m€ *contract value*

Sinopec Corp.
CHINA PETROLEUM & CHEMICAL CORPORATION

Projects booked [selection]

| Transition to industrial scale

Djewels
20 MW

Industrial use (chemicals)
Booked: 1 m€
Scope McPhy: 15 m€
Timeline: 2022

Nouryon gasunie NOBIAN

Zero Emission Valley
4 MW + 5 large stations

High-capacity stations
400 to 800 kg/d (each)
Dual Pressure (350/700b)
Light and heavy mobility
Booked: 7.8 m€
Scope McPhy: >11 m€
Timeline: 2020 to 2022

Hyport
1 MW + 2 stations

High-capacity station
400 kg/d Dual Pressure
+ 20 kg/d at 350 bar
Light and heavy mobility,
and nearby industrial uses
Booked: 4.0 m€
Timeline: 2021/22

HY PORT

DMSE
1 MW + 2 large stations

High-capacity stations
400 kg/d (each)
Dual Pressure and 350 bar
Light and heavy mobility
Booked: 4.6 m€
Timeline: 2021/22

ROUGEOT ENERGIE

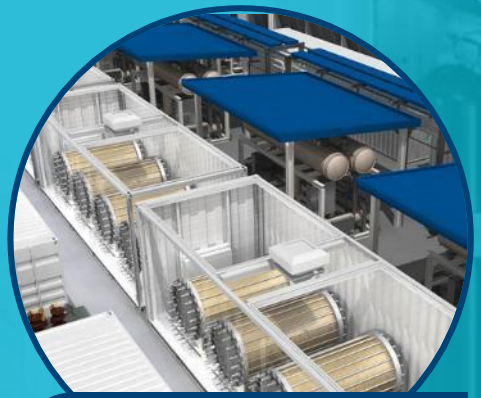
AuxHYGen
1 MW + 1 large station

High-capacity station
200 kg/d at 350 bar
Heavy mobility (buses)
Booked: 3.6 m€
Timeline: 2021/22

hynamics GROUPE EDF

2021: L and XL projects materializing growing market

(selection of projects)



CEOG
16 MW

World's first multi-megawatt hydrogen power plant
Connected to a solar farm in Guyana

Allowing steady access to electricity for 10,000+ remote households

Operations in 2024

GreenH2Atlantic
100 MW

Green H_2 production facility, multipurpose, in Sines Hydrogen Valley, Portugal

Consortium of 13 companies
McPhy is preferred partner for alkaline technology

Operations in 2025

Hype
High-capacity Stations and Electrolyzers

Short-term orders in 2022
Privileged access to a potential market of up to 50 high-capacity stations and 25 MW by 2025
Technical expertise and data mutualization to improve product performance

Operations / ramp up by 2026

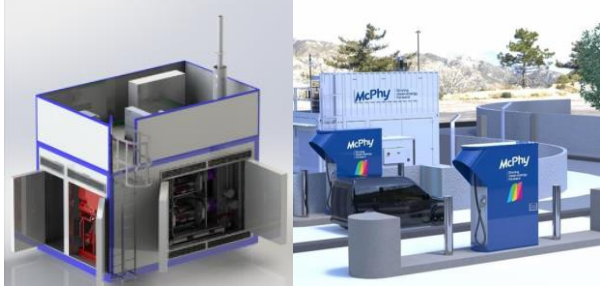
Hype strategic partnership project has not been formalized – discussions still undergoing

McPhy
Driving clean energy forward

2021 Auxerre city (France) - 1 MW alkaline electrolysis platform = 200 kg/d = 5 buses

McFilling™

n°3 H_2RS standard models



McFilling™ "StarterKit"

- ✓ 350 bar compact monobloc H_2RS
- ✓ Capacity from 20 to 50 kg/day (source: H_2 racks)
- ✓ Standard, not evolutive
- ✓ Multi protocols

McFilling™ 350

- ✓ 350 bar standard huge capacity
  - ➢ Sourcing @30 bar (ELY*) ⇒ from 200 to 800 kg/day
  - ➢ Sourcing @≥54 bar (TT*) ⇒ from 200 to > 1300 kg/day
- ✓ Evolving solution with multi dispensers and Export function (charging Tube Trailer)
- ✓ Multi protocols

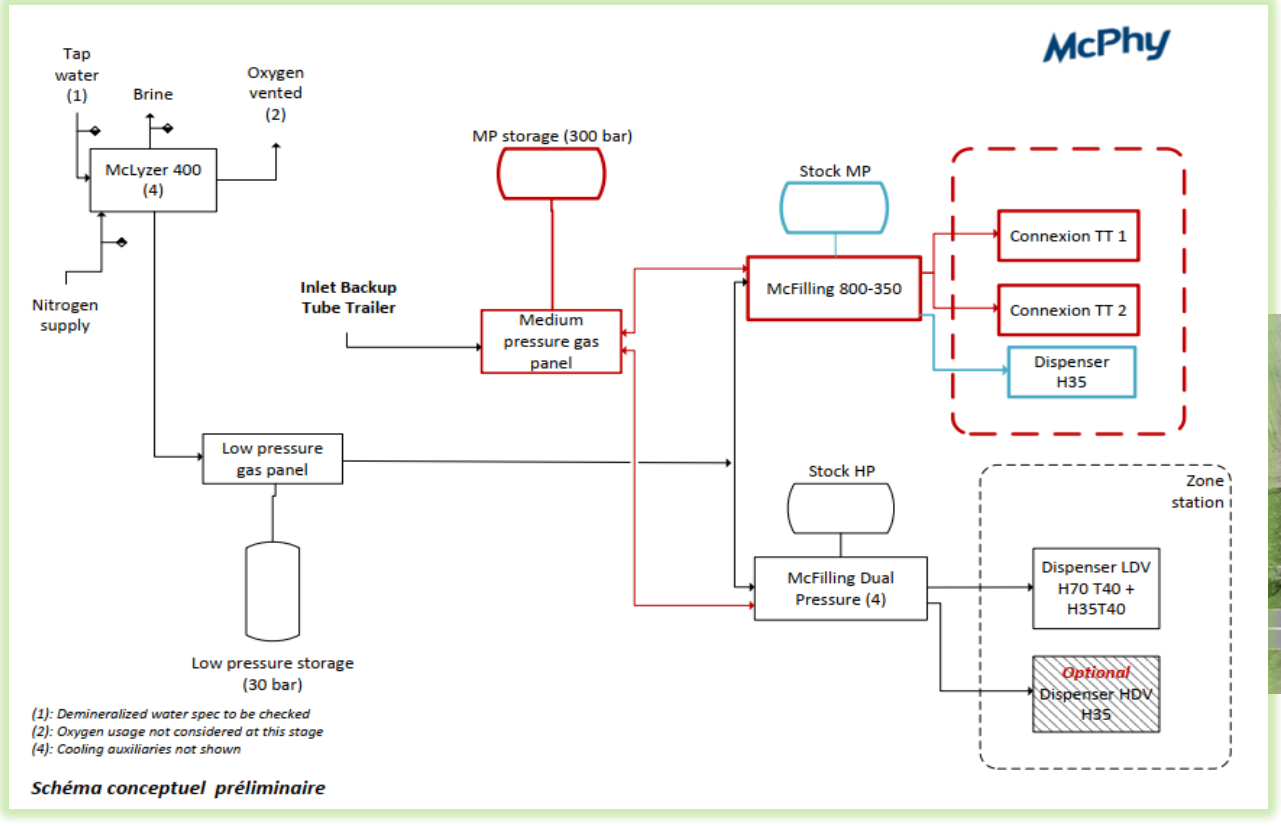
McFilling™ Dual Pressure

- ✓ 350 bar & 700 bar standard huge capacity
  - ➢ Sourcing @30 bar (ELY*) ⇒ from 200 to 400 kg/day
  - ➢ Sourcing @≥64 bar (TT*) ⇒ from 200 to 800 kg/day
- ✓ Evolving solution with multi dispensers and Export function (charging Tube Trailer)
- ✓ Multi protocols

* ELY = electrolyser | TT = Tube Trailer

Exemple : Système Hub Hydrogène

Clermont-Ferrand – Hub Hydrogène



HUB HYDROGEN for large value :

- Production
- Storage
- Refilling Heavy vehicules
- Export
- Gas network injection
- Oxygenation …

Scale-Up Strategy

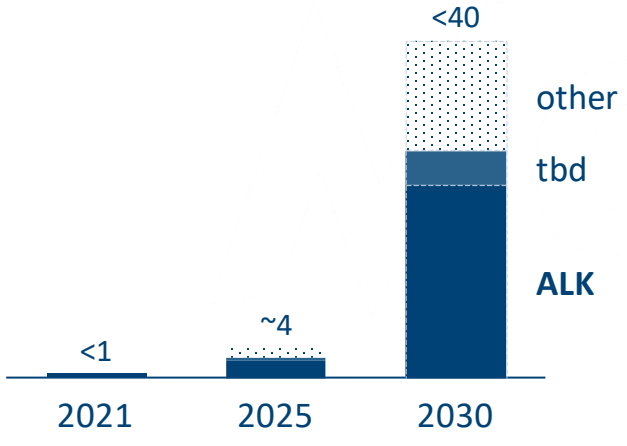
Invest in TECHNOLOGY

Positioned on prime technology: alkaline

| Proven long-term resilience and stability

Alkaline expected to weight 60+% of European electrolyzer installed base

(in MW)



Pressurized alkaline electrolysis is the most selected technology to answer the broad-scale needs of decarbonization

Pressurized alkaline technology highlights

- Proven-technology (200+ years)
- Innovative high-current density electrodes co-developed with: DE NORA our research - your future
- Long term resilience and stability
- Lower CAPEX (precious metals avoidance, ...)
- Compacity
- Flexibility suited to integration with renewables
- Better suited to large projects

The best way to move towards large-scale green hydrogen

Sources : IEA and BNEF 2022..Hydrogen Council 2021

Invest in TECHNOLOGY

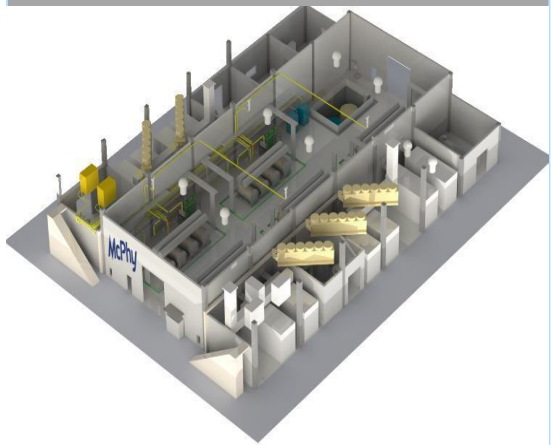
Why choosing McPhy?

| Large Platform answering Market needs

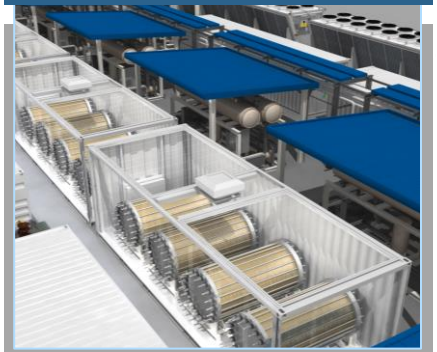
1 MW

4 MW

20 to 80 MW Electrolyzer Platform



4 to 20 MW Electrolyzer Platform Container – Energy and Mobility Market



CEOG : 16 MW delivery end 2023

DJEWELS : 20 MW FID Q3 2022 – COD end 2024

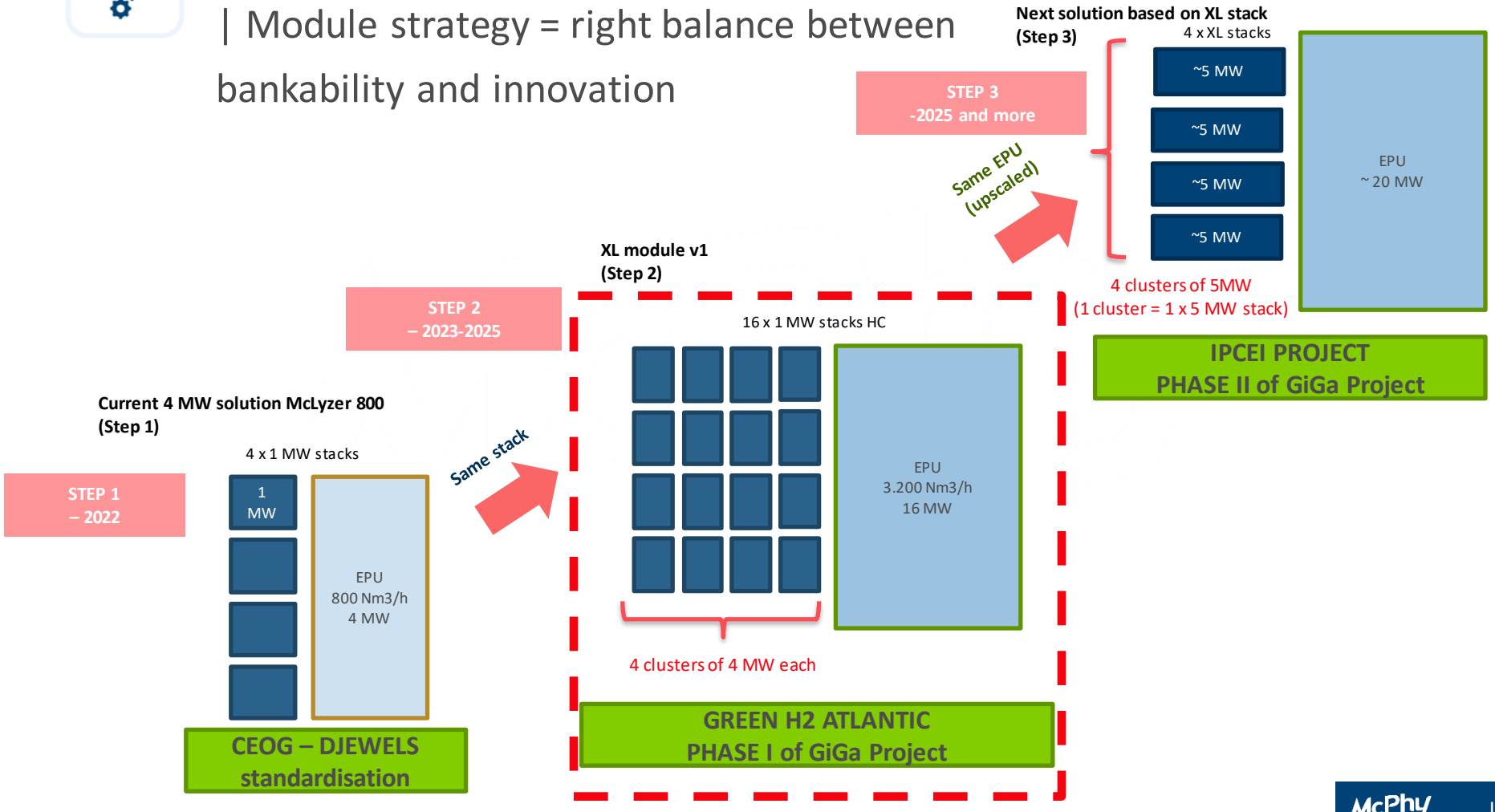
100 to 200 MW Electrolyzer Platform Building – large Industry Market

Green H2 Atlantic : 96 MW – 19.200 Nm3/h FID Q3 2023 – COD end 2025

Invest in TECHNOLOGY

Why choosing McPhy?

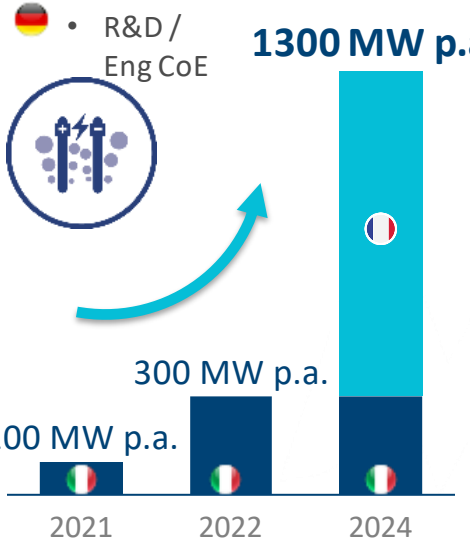
| Module strategy = right balance between bankability and innovation



Performance & COMPETITIVENESS

Increasing manufacturing capacities

| Electrolyzers



Belfort Gigafactory - France | 1 GW p.a.

- Additional capacities to McPhy San Miniato site
- Site preselection: May 2021 (Belfort)
- Final investment decision: by summer 2022
- Operational as of 2024

San Miniato - Italy | 100 -> 300 MW p.a.

- A premier industrial infrastructure
- Increased automation + 3 shifts-ready in 2022

-60% Capex
By 2030
through economies of scale

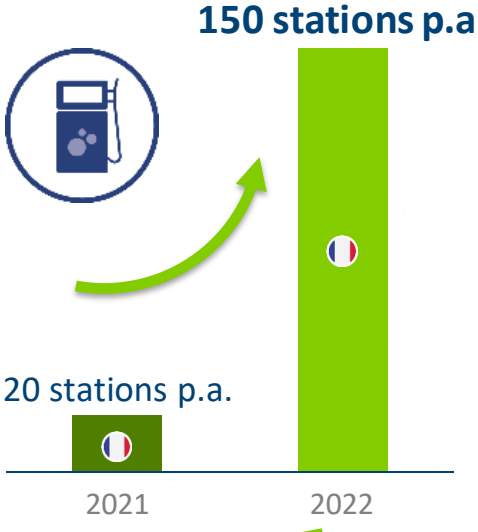
1.5 to 2.0 €/kg
of H_2 produced*

1.5 to 2€ / kg of hydrogen produced => By 2025-2030*
Assumptions => Electricity cost: from 20 to 30 €/MWh / Capacity factor: 50% / Capital cost: 8%

Performance & COMPETITIVENESS

Increasing manufacturing capacities

| Stations



Grenoble - France
| 150 stations p.a.

- New capacities in France, replacing La Motte-Fanjas, bringing together R&D, engineering, production and support functions
- A premier industrial infrastructure
- Increased testing capacities

La Motte Fanjas - France
| 20 stations p.a.

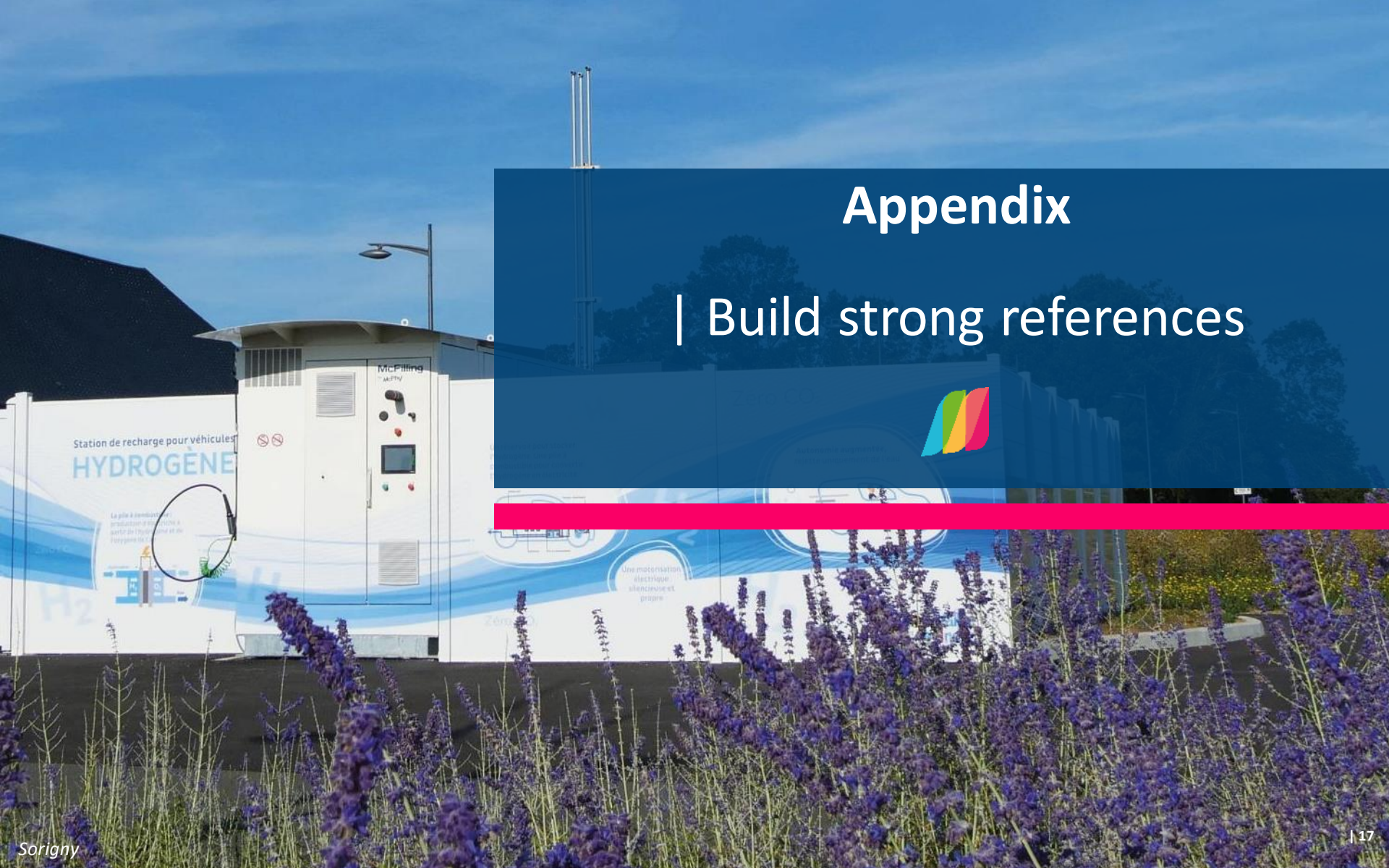
- Transfer of activities to Grenoble in spring 2022

-70% Capex
By 2030
through economies of scale

6 to 7€/kg
of H_2 delivered

Appendix

| Build strong references



Sorigny

CEOG

Guyana | Order: 2021

World's first multi-megawatt hydrogen power plant

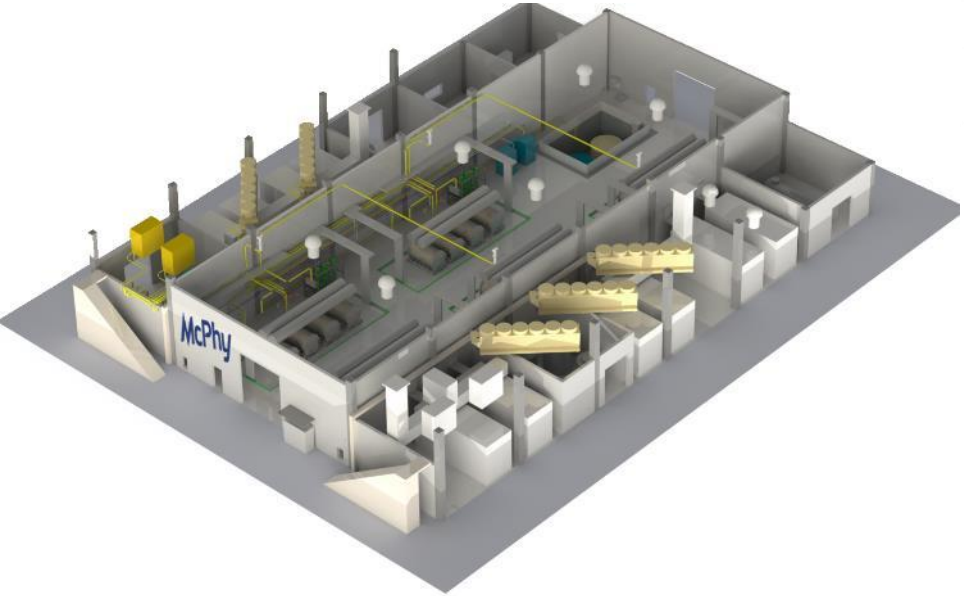
- 16 MW High Current Density alkaline
- Augmented McLyzer electrolyzer: a unique combination of high-pressure alkaline electrolysis (30 bar) and high current density electrodes
- 860 tons of green hydrogen to be produced per year, 39,000 tons of CO_2 per year avoided
- Fed by a PhotoVoltaic farm
- Commissioning 2024

Partners:

meridiam HDF ENERGY SARA

Strong REFERENCES

Djewels



Delfzijl, The Netherlands | Contract: 2020

The largest zero-carbon H_2 production unit in Europe
Located in the heart of a chemical park

- Electrolysis: 20 MW alkaline electrolysis platform
- High current density electrodes
- 3,000 tons of zero-carbon H_2 / year
  and 27,000 tons of Co_2 emissions avoided / year
- Key project to establish zero-carbon hydrogen competitiveness at large-scale
- Industrial use: chemicals
- Timeline: 2022
- 1 m€ booked | *scope of McPhy: 15 m€*

NOBIAN A Nouryon company · Nouryon · Gasunie · BioMCN · McPhy · Hinicio · DE NORA

FCH · waddenfonds

Strong REFERENCES

AuxHYGen

© IDXPROD / Séverine Regnault

Auxerre, France | Contract: 2020

© IDXPROD / Séverine Regnault

Multimodal ecosystem H_2 in the heart of the auxerrois territory

- Electrolysis: 1 MW alkaline electrolysis platform
- Station 200 kg/d
- Multimodal platform: recharging 5 buses in phase 1, but also distributing to light vehicles and trucks
- Hydrogen produced from “guaranteed origin” electricity, 2,200 tons of CO_2 avoided per year
- Inauguration: 2021

hynamics GROUPE EDF

communauté de l'auxerrois · hynamics GROUPE EDF · transdev the mobility company · ADEME · FCH · Union Européenne

This project is supported by ADEME | This project received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking program under the European Union's "Horizon 2020" research and innovation program under grant agreement no. 779563 ".

Strong REFERENCES

R-Hynoca

Strasbourg, France | Contract: 2021

Innovative H_2 system, first hydrogen station in Strasbourg

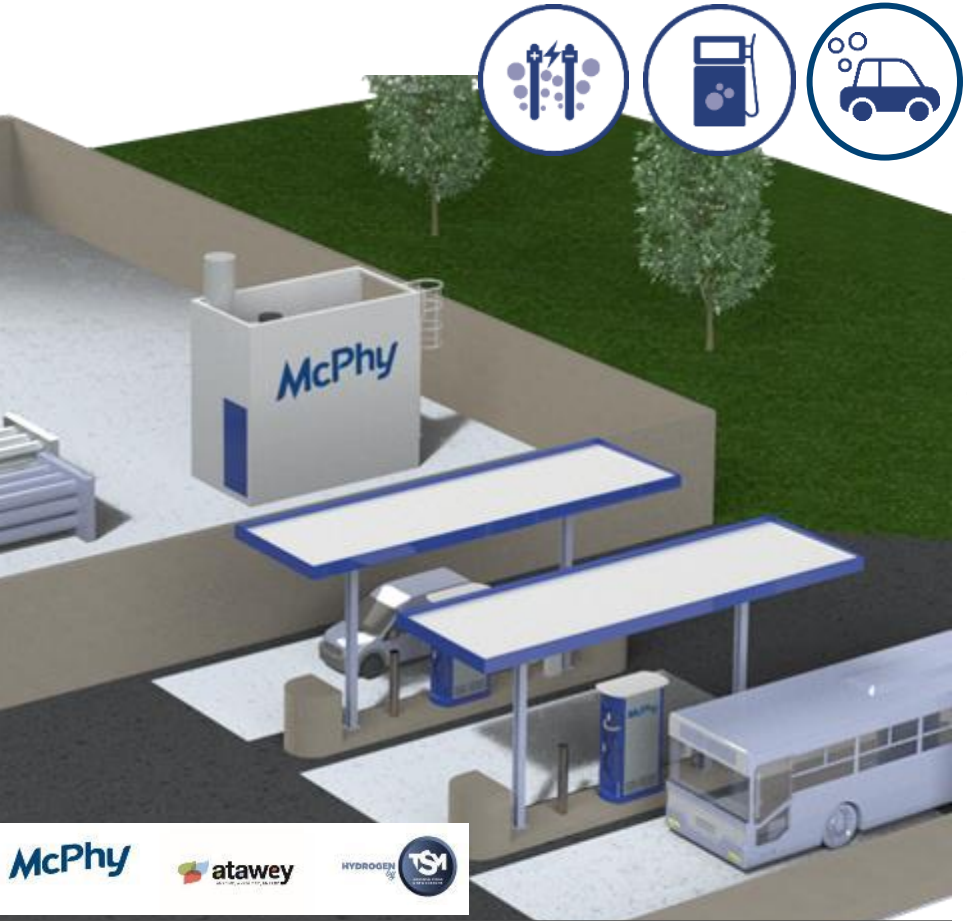
- 1 Dual Pressure high-capacity station : 700+ kg/d
- 1 refueling interface for tube trailers
- Hydrogen production is ensured by the Hynoca® process developed by Haffner Energy: carbon-neutral hydrogen from local biomass.
- Commissioning: end of 2022

R-GDS Réseaux Gaz naturel Strasbourg

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 700350. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, Hydrogen Europe and Hydrogen Europe research.

Strong REFERENCES

Zero Emission Valley



Auvergne-Rhône-Alpes Region, France | Contract: June 2020

The largest H_2 mobility deployment project in France, one of the most ambitious at a European level

- Electrolysis: 4 MW of alkaline electrolysis*
- Stations: 5 stations of 400 to 800 kg/d (each)
- The MAT consortium led by McPhy will, in total, deliver 4 MW of electrolysis and 14 stations
- Timeline: 2020 to 2022
- Booked: 7.8 m€ | *scope of McPhy: >11 m€*

Strong REFERENCES

Hyport

Toulouse, France | Contract: 2020

The first hydrogen production and distribution system to be implemented in an airport area

- Electrolysis: 1 MW alkaline electrolysis platform
- 1 Dual Pressure high-capacity station: 400 kg/d to be deployed in a public zone
- 1 Starter Kit (20 kg/d at 350 bar), to be set up in a private restricted zone for airport services
- Timeline: end of 2021
- Booked: 4.0 m€

Sinopec Hebei

Guyan, Hebei Province, China | Commissioning: 2021

A strong expertise in international projects management

- Electrolysis: 4 MW of alkaline electrolysis
- Zero-carbon hydrogen production platform, from a wind farm
- Very fast dynamic response, adapted to renewable energy variations
- Strengthens McPhy's positioning on international multi-MW projects
- Commissioned in 2021
- 6.4 m€

Sinopec Corp.
CHINA PETROLEUM & CHEMICAL CORPORATION

Jupiter 1000

Jupiter 1000 ©

Fos-Sur-Mer, France | Commissioning: 2019

First Power-to-Gas project at a MW-scale in France

- Electrolysis: 1 MW of electrolysis, 0.5 alkaline + 0.5 PEM
- Industrial + Energy end-uses
- Testing the performance of two electrolysis technologies (alkaline & PEM) under real conditions and on a real scale
- Commissioned in 2019
- 2.4 m€

McPhy

Driving clean energy forward

Thank you for your attention!

Visit us at Booth 20 at Hall 2

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PIEL Global Sales Director – MultiMW & HRS Sales Manager Southern Europe

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