
# FY'21 annual results

8 March, 2022

# Agenda

- 2021 highlights
- McPhy at a glance
- Scale up strategy
- Q&A

**Jean-Baptiste LUCAS**

Chief Executive Officer

**Emilie MASCHIO**

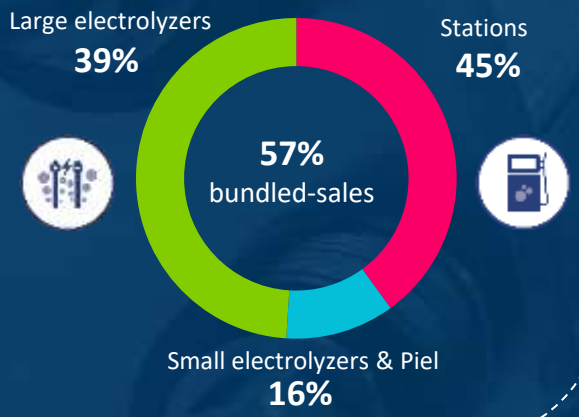
Chief Financial Officer

# 2021 Highlights

# | 2021 Highlights

**13.1 m€**

**revenue**




**19.3 m€**

**order intake**

**-23.5 m€**

**EBIT**

**20.2 m€**

**backlog**

+32% vs. 2020

**177.2 m€**

**cash balance**

# 2021 financial highlights

| IFRS (in m€) | 2021 | 2020 | 2019 |
|---|---|---|---|
| **Orders** | **19.3** | **23.0** | **13.0** |
| 1 **Backlog** | **20.2** | **15.2** | **6.0** |
| 2 **Sales revenue** | **13.1** | **13.7** | **11.4** |
| 3 EBITDA | (16.2) | (7.6) | (3.9) |
| 4 **Current Operating Income (EBIT)** | **(23.5)** | **(8.8)** | **(6.5)** |
| Operating Income | (23.5) | (9.0) | (6.5) |
| **Net income (loss)** | **(23.6)** | **(9.3)** | **(6.3)** |
| Operating Cash flow | **(11.3)** | **(7.3)** | **(7.5)** |
| 5 Change in cash | **(20.5)** | **184.7** | **(1.9)** |
| **Closing cash** | **177.2** | **197.7** | **13.0** |

Structuring projects will continue in 2022 :
+60 recruitments, industrial investments
(~4m€ excl. GigaFactory), etc…

1 **Signing of 1st multi-MW contract in 2021.**
Lower order intake but backlog that is getting stronger.

2 **Revenue :** The expected growth for the year was slowed down in the first half of 2021, partly due the wait-and-see attitude of certain stakeholders dependent on public funding mechanisms.

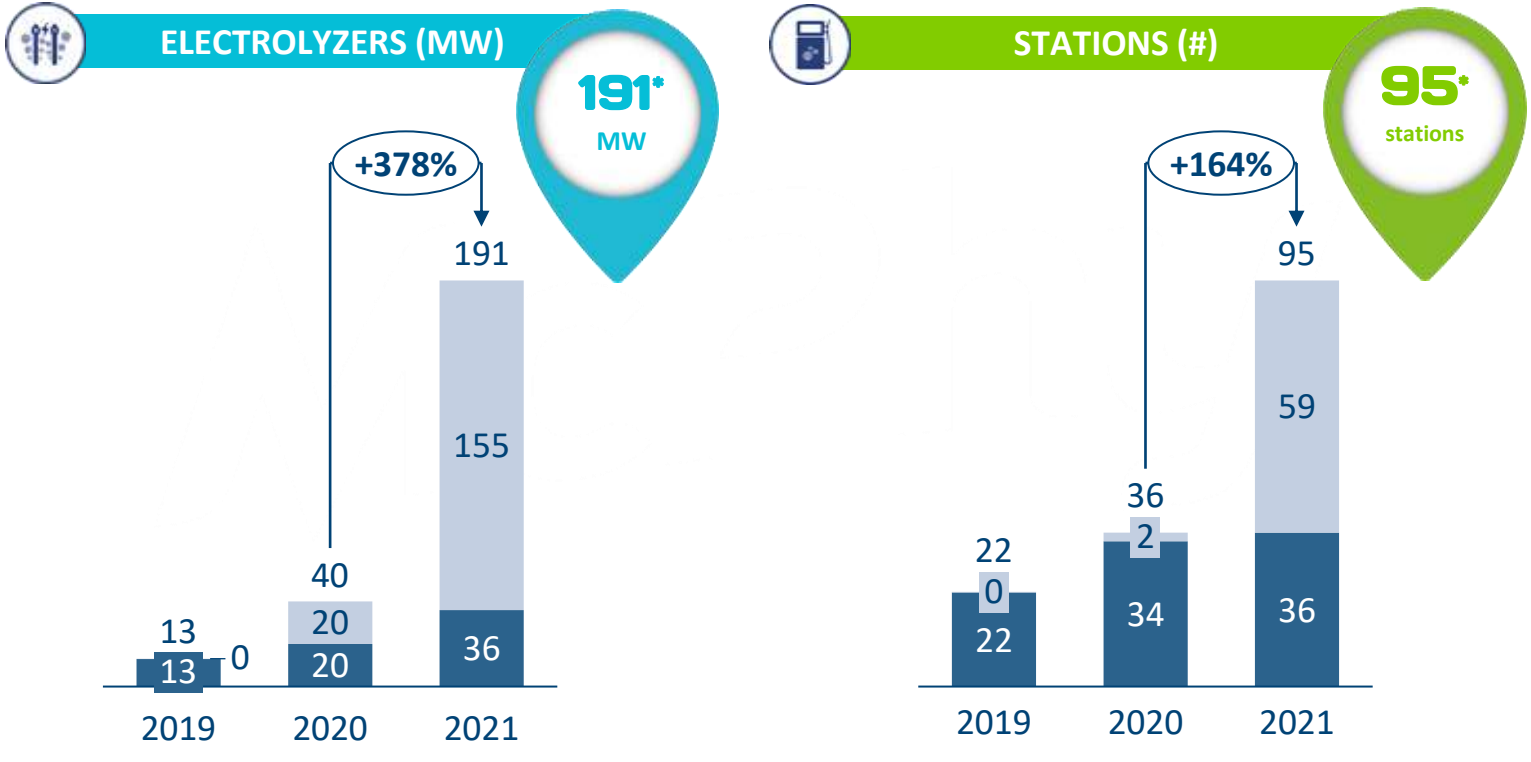
3 Growth in purchases and external charges in proportion to the activity and in line with the strategy :

- **Continue to invest in R&D** : 5m€ (2m€ P&L impact + 3m€ capitalized)
- First steps of the **industrialization plans** : 3m€ sales reinforcement, IT deployment, structuring and increasing skills in a context of hyper-growth, etc…
- **Invest. in people** : 4m€ so +44 internal people & ~40 external people onboarded. Total number of employees of 154 as of December 2021.

4 Includes 5 m€ all expenses related to the potassium hydroxide leak incident.

5 Change in cash incl. (11.3) operational cash flow, (5.1) Investments & (4) Loan reimbursement.

# McPhy significant commercial acceleration since 2020




Preferred partner

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 the revenue 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 the revenue as of 2023)*

** Including 23MW and 56 stations for Hype*

# 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 at a Glance

| Driving clean energy forward


*Shutterstock*

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

## Electrolyzers

- Modular design:
  1MW / 4MW / 20MW / 100MW+
- Pressurized Alkaline electrolysis (30 bar)
- High-current density electrodes
- For Industry, Mobility and Energy markets
- Supply & Service

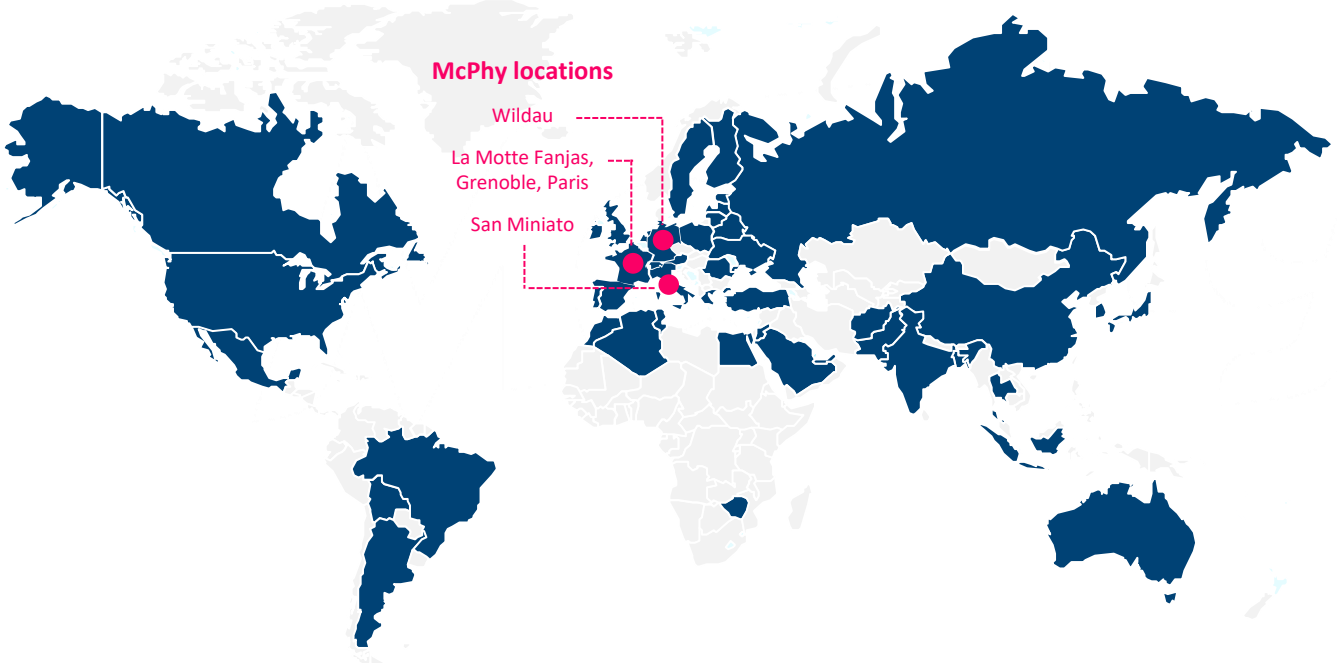
## Stations

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

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

# 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 the revenue as of 2023)*
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** Including 23MW and 56 stations for Hype*

# Scale-Up Strategy

# Ambition

***Strengthening our position as an industrial leader and participate in the decarbonation of Europe, by contributing to the large-scale deployment of green hydrogen solutions***

*Partner with our customers in the industry, mobility and energy sectors*

*Optimize constantly the performance of our technologies, at the highest levels of quality and safety*

*Accelerate our industrial scale-up to increase the competitiveness*

# Committed to the deployment of our scale-up strategy

## | +177 m€ end of 2021 to finance our 4-pillar strategic plan

### Invest in TECHNOLOGY

- As a technology company: maintain leadership in electrolyzers and hydrogen stations
- Focus on XL sizes (100+ MW / 2,000+ kg/d)
- Ensure state-of-the-art quality and safety of the systems

### Build up strong REFERENCES

- Increase bankability of value proposition through emblematic clean energy projects
- Build international/pan-European partnership ecosystem to establish market-wide references
- Accelerate international commercial ramp-up

### Improve COMPETITIVENESS

- Grow industrial footprint to generate economies of scale: new capacities for stations and electrolyzers
- Deliver cost out roadmap

### Invest in PEOPLE

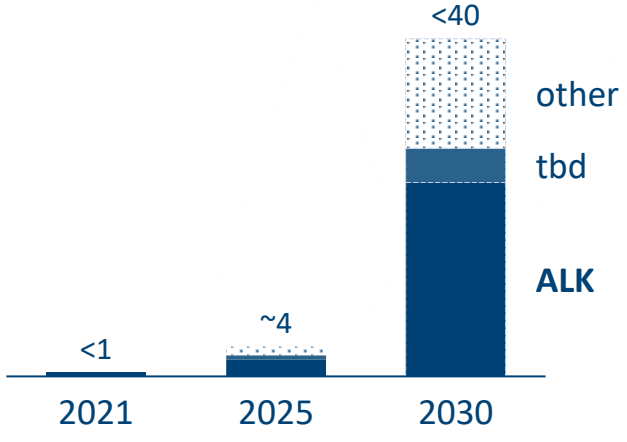
- Learning company: grow a diverse and highly skilled Team, in a market under construction
- Hire key talents and capitalize on them: +60 recruitments planned in 2022
- Structure organization and processes
- Partner with the academic community

# 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
- 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?

## | Front runner within electrolysis technology

*Containerized configuration: lower building and installation costs*
*Perfectly adapted to green field environment.*


## Electrolyzers

- High current density electrodes
- Flexibility and fast response time
- High efficiency: < 4.9 kWh / $Nm^3$
- High-pressure: 30 bar, no need for further compression stage
- Modular technology (standardization and replicability): 1 / 4 / 20 / 100+ MW
- Compact footprint: 20 MW installed in less than 900 $m^2$
- Highest quality & safety standards

Invest in TECHNOLOGY

# Why choosing McPhy?

## | Ready for the zero-emission heavy transportation revolution

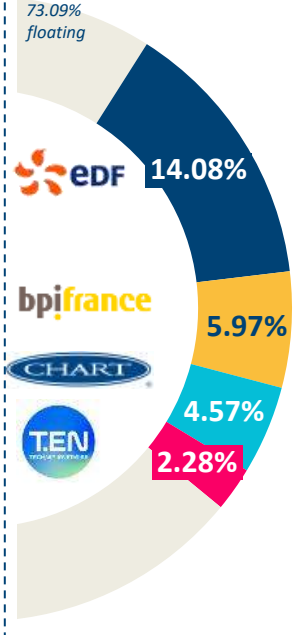
*1,600 kg/d configuration: passenger vehicles, buses and tub trailers refueling*

## Stations

- Scalability of McPhy stations (storage): 200 / 400 / 800 kg/d
- As of 2,000 kg/d: a proprietary & patented architecture
- All dispensing pressures: 350 bar / 700 bar / Dual Pressure
- Increased availability and flexibility, optimized energy efficiency
- Optimized investment and operating costs
- Easy coupling with electrolyzers

# Building partnership ecosystem around technology
## | Integrated offer along the value-chain

### | STRATEGIC PARTNERS & SHAREHOLDERS




**Customer for industry, mobility and energy**
- Joint commercial and technology development
- Performance test on real conditions
- Interaction with low carbon and renewable energies (grid versatility)

**Manufacturing and liquid $H_2$ expert**
- Joint commercial and technology agreement
- Expertise in manufacturing scale-up and supply chain
- Long term market access North America in heavy-mobility

**French sovereign funds' support**
- Supports innovative companies involved in the deployment of green energies

**EPC preferred partner for GW-scale electrolysis**
- Joint commercial and technology agreement
- Short term European pipeline of projects above 100 MW platforms
- Long term strategic position for new geographies outside of Europe

*Capital structure as of . December 31, 2021*

### | TECHNOLOGY & COMMERCIAL PARTNERS

**Technology partnership**
- Exclusivity on high current density electrodes
- Joint technology development

**Commercial partnership in Services**
- Non-exclusive partnership on mobility
- Delegation of maintenance of some stations to TSG
- Joined answers to calls for tender in Europe

**Technology partnership**
- Non-exclusive partnership on mobility
- Focus on refueling protocols and interfaces tanks/stations
- Pooling expertise, developing industrialized approach

**Industrial, commercial, financial partnership**
- Supporting last mile mobility EUR deployment
- Co-Exclusivity on Large Stations
- Preferred partner on ALK electrolyzer
- Product performance improvement program

Strong REFERENCES

# Deep involvement in the hydrogen ecosystem

## | Sharing a vision of hydrogen in the global decarbonation scenarios

Hydrogen Council

109 companies from 20+ countries
are members of this global CEO-led initiative

France Hydrogène
Engagée pour la transition écologique

250 members from the whole $H_2$ value chain

Comité stratégique de filière

Conseil National de l'Hydrogène
16 members

A.F.E.M.O.

gruppo tecniche nuove

CARA
EUROPEAN CLUSTER FOR MOBILITY SOLUTIONS

Pôle Véhicule du Futur
Solutions pour véhicules & mobilités du futur

Hydrogen Europe

tenerrdis
ENERGY CLUSTER

AHK
Deutsch-Französische Industrie- und Handelskammer
Chambre Franco-Allemande de Commerce et d'Industrie

European Clean Hydrogen Alliance

Mobilité Hydrogène France

BRM

DWV

HYPOS

performing energy

**Strong contribution and advocacy to unlock market potential**

# Pan-European involvement in structuring $H_2$ projects


## DNV Joint Industry Project

McPhy and more than 18 partners from diverse industrial sectors are joining DNV to develop a certification scheme applicable for electrolyzer projects - including the interface with renewable energy - on the topics of safety, performance and regulation


## Hydeal Ambition

30 energy players initiate an integrated value chain
Collective goals: deliver green hydrogen across Europe at €1.5/kg before 2030 - achieve 95 GW of solar and 67 GW of electrolysis capacity by 2030 - to deliver 3.6 million tons of green hydrogen per year

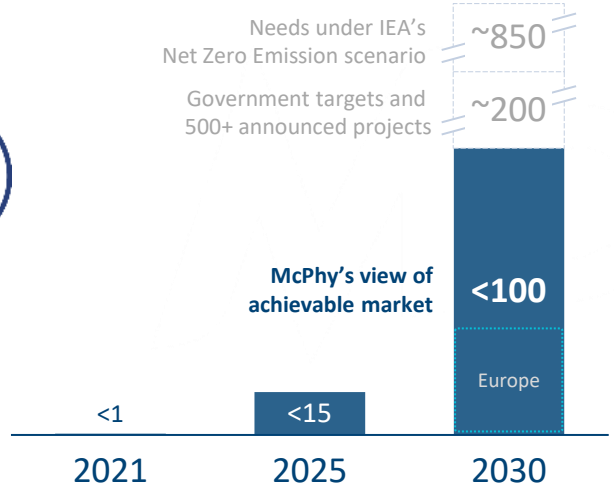
# Unprecedented commercial activity

## | Driven by electrolyzer market growth

### MARKET

**Est. cumulative global installed electrolysis capacity**

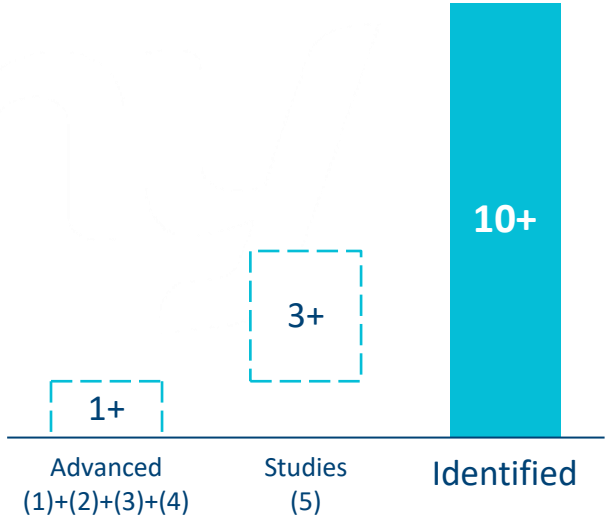
2021-2030 (GW)




### MCPHY

**2021 McPhy's electrolyzer pipeline (*)**

By 2030 (GW)




**Commercial projects seen today materialize multi-GW installed base of the decade**

*Source : IEA, Hydrogen Council, Press announcements, Desk research*

(*) Pipeline = tenders managed during a year :
(1) preferred partner status (2) confidential MOU signed (3) final stages of negotiation (4) Quotations submitted in response to commercial tenders in the last 12 months (5) project leads and feasibility studies

# Industrial plan materializing


## Stations Factory

150 stations /y. capacity

Transition to an industrial scale with a new hydrogen stations production site located at the heart of Grenoble
Increase McPhy's hydrogen station production capacity sevenfold as of spring 2022

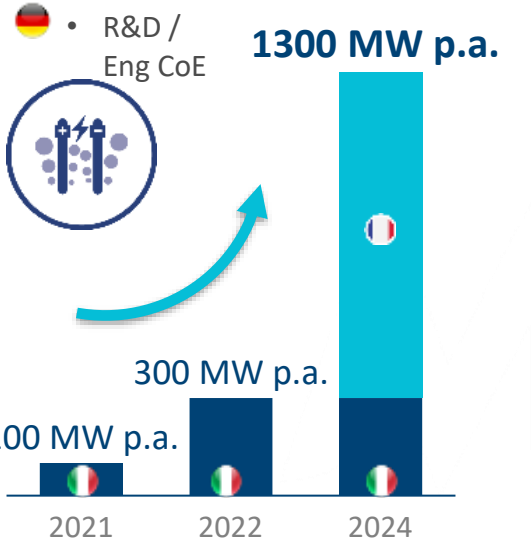

## Gigafactory

1 GW /y. capacity

Belfort preselected as a strategic site, located at the heart of the European hydrogen ecosystem
A major achievement
in the constitution of a competitive offer of green hydrogen
FiD expected summer of 2022

# 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

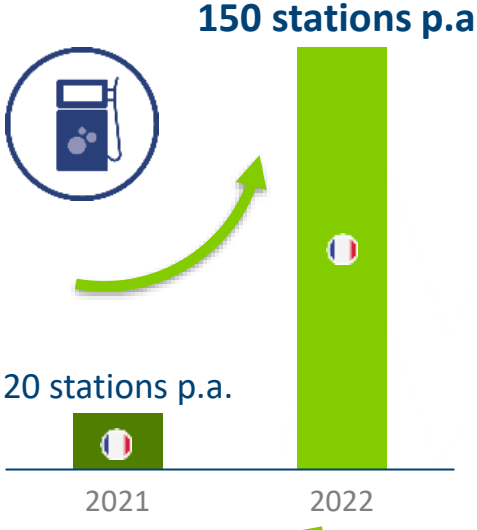

**-60% Capex**
By 2030
through economies of scale

**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%*

# 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.**

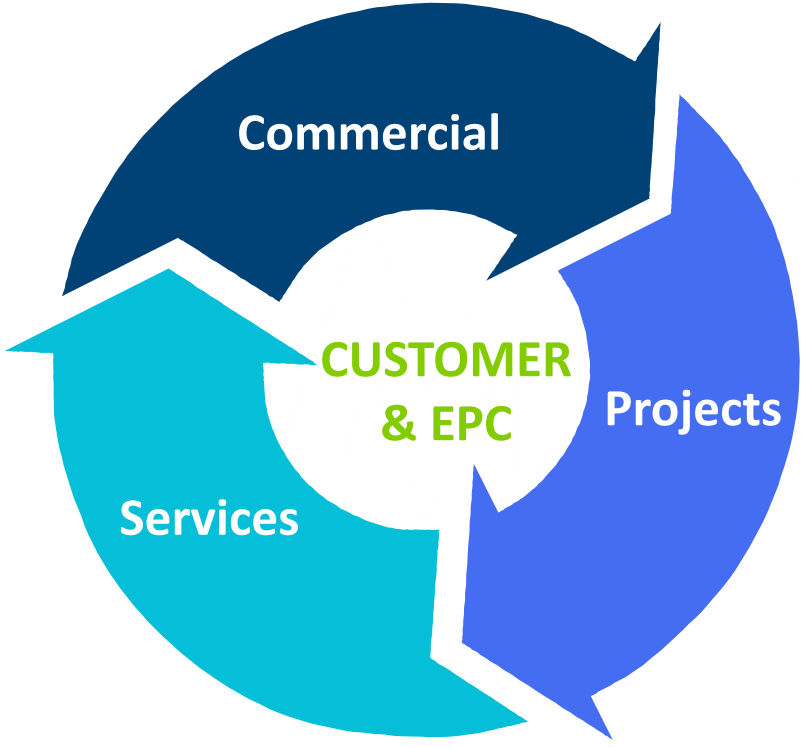
- Transfer of activities to Grenoble in spring 2022



**-70% Capex**
By 2030
through economies of scale

**6 to 7€/kg**
of $H_2$ delivered

# Robust structure to execute on Growth agenda




| | |
|---|---|
| **Business Dev.** | • Scope addressable and entitled markets<br>• Develop pipeline |
| **Sales** | • Screen and grow leads<br>• Transform leads into orders |
| **Tender** | • Co-construct technical offers<br>• Coordinate transverse parties (EPC, suppliers) |
| **Product** | • Design technology roadmap<br>• Structure projects |
| **Manufacturing** | • Coordination within McPhy premises across Europe |
| **Sourcing** | • Daily management of suppliers and partners |
| **Project** | • Overall PMO and supervision |
| **Erection** | • Installation at site, in sync w/ customer constraints |
| **Commissioning** | • Start of operations<br>• Site Acceptance Test |
| **Customer Serv.** | • Smooth hand over to customer / operator<br>• Service center |
| **Maintenance** | • At site or remote<br>• LTSA - Level 1 to 4 |
| **Digital** | • Data management for equipment and fleet operators |

**End to end capacity to deliver on Customer expectations and project delivery**

# Invest in McPhy people

## | “One McPhy” team and strengthened operating model

### Diverse

20+ citizenships

20+ % female

3 countries:
45% France,
30% Germany,
25% Italy

### Experienced

Executive Committee:
~25 years
of average working
experience

Board of Directors:
10 senior experts
and CEOs

### Qualified

Top EU & global
engineering
universities
and schools

50+% PhD
or Engineers

### Growing

154 people
(Dec, 31, 2021)

+40% increase
in 2021

and 2022

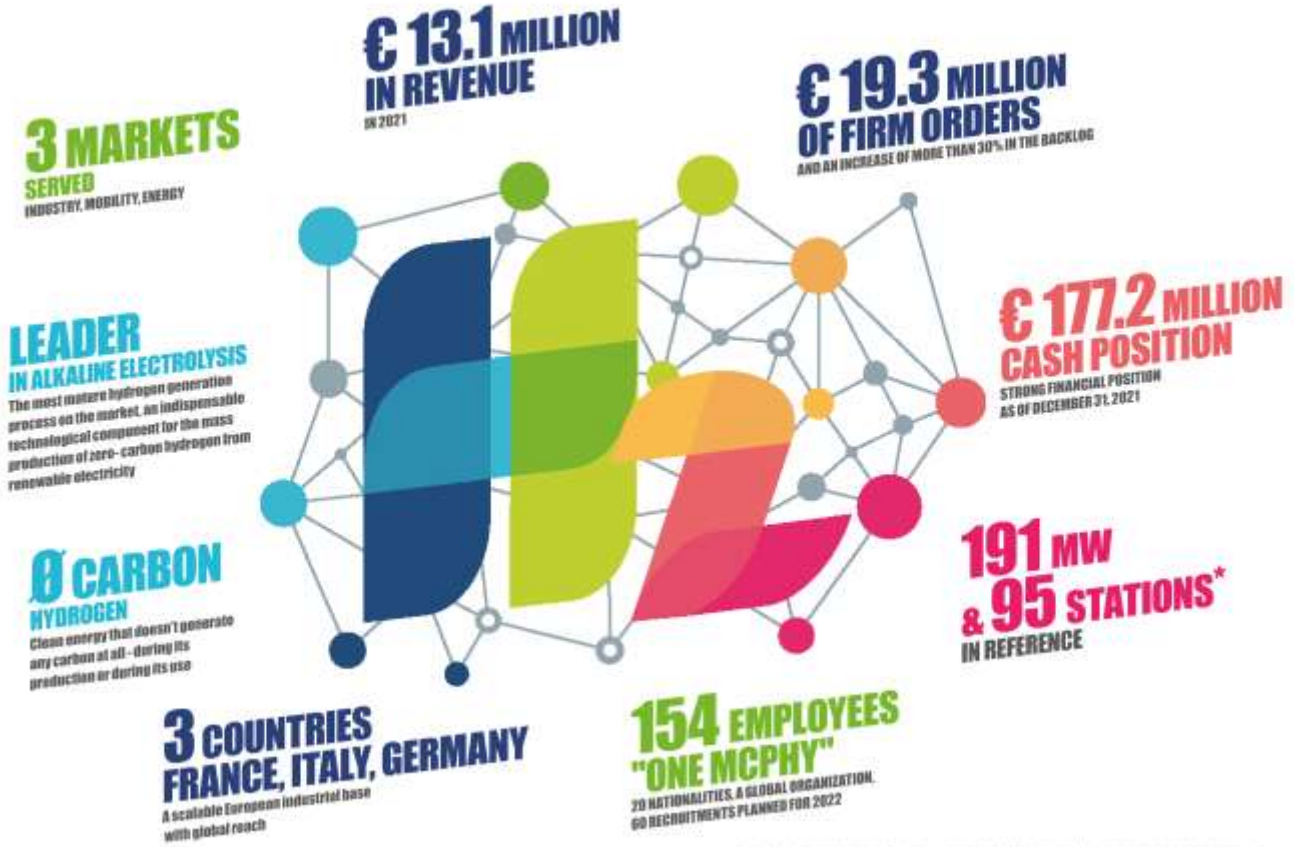
(60 FTE)

*Credit_E.Tolwinska_Presences_Grenoble*

# Summary

# Snapshot 2021

## | In 2022, let's continue driving clean hydrogen forward



# Q&A

# Appendix

## | Build strong references


*Sorigny*

# CEOG

*Guyana | Order: 2021*

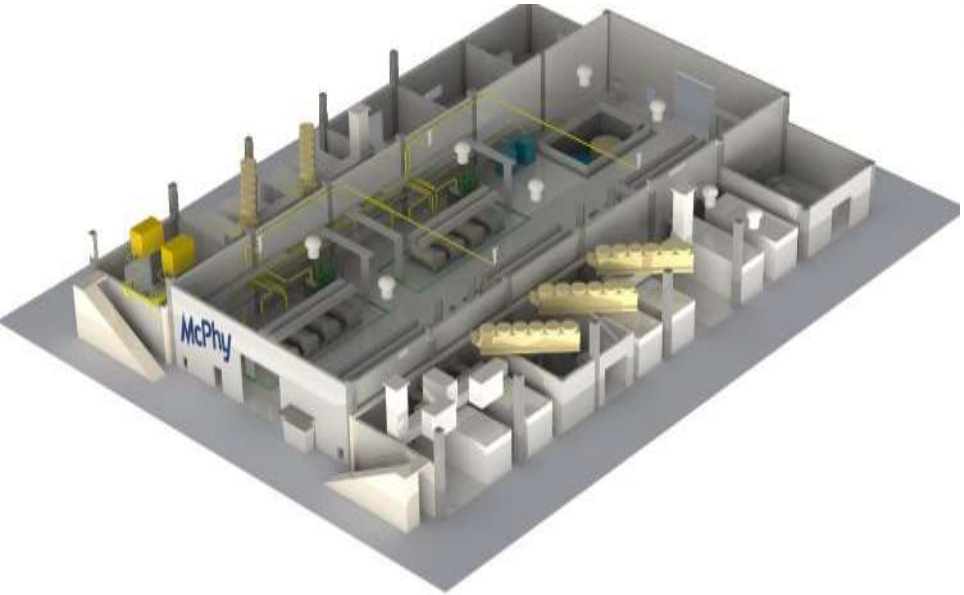
## World's first multi-megawatt hydrogen power plant

- 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 CO2 per year avoided
- Fed by a PhotoVoltaic farm
- Commissioning 2024

*Partners:*

meridiam HDF SARA

# 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€*

# 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

*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*

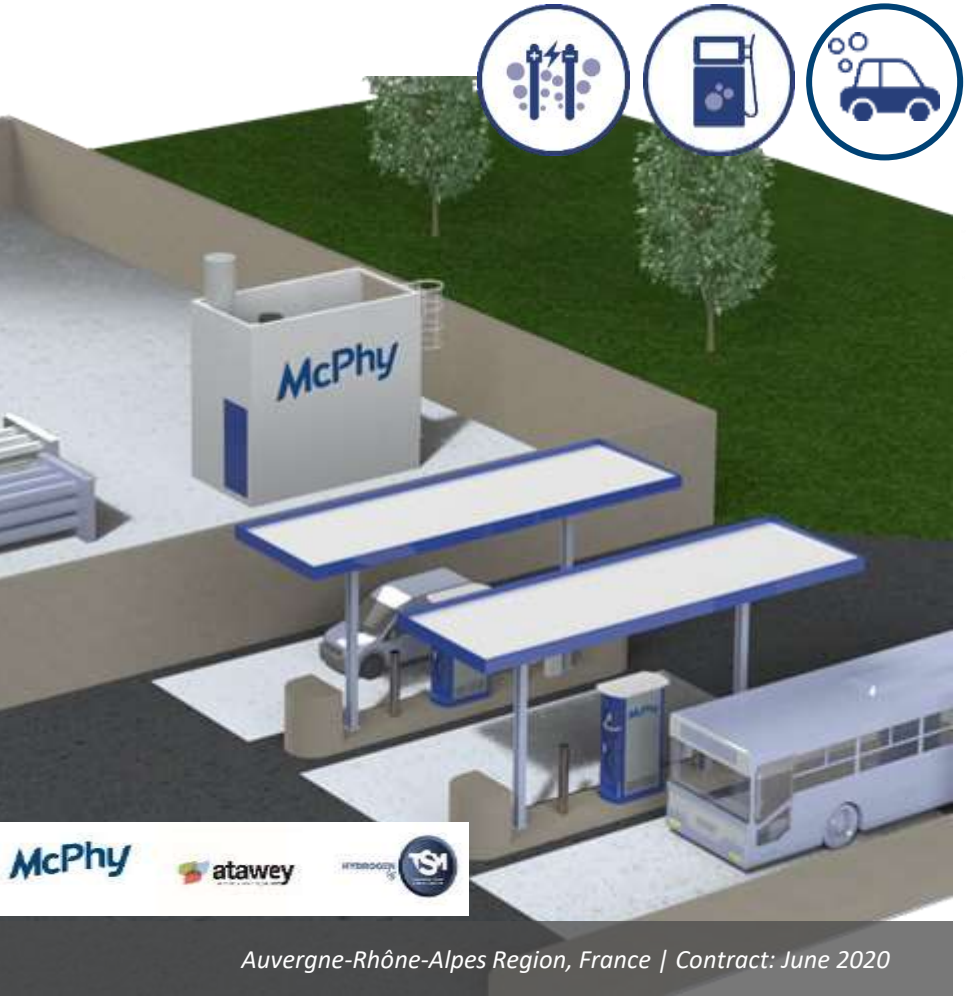
## Innovative $H_2$ system, first hydrogen station in Strasbourg

- 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.*

# 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€*

# 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€

Jupiter 1000 GRTgaz

# Hydeal Ambition


- **Solar developers**: DH2/Dhamma Energy (Spain), Falck Renewables (Italy), Qair (France)
- **Electrolysis** OEMs, engineering and EPC providers: McPhy Energy (France), VINCI Construction (France)
- **Gas TSOs**: Enagás (Spain), OGE (Germany), SNAM (Italy), GRTgaz (France), Teréga (France)
- **Energy and industrial groups**: Gazel Energie, subsidiary of EPH (France), Naturgy (Spain), HDF Energie (France)
- **Infrastructure funds**: Cube, Marguerite, Meridiam
- **Consultants and advisors**: European Investment Bank, Corporate Value Associates (CVA), Clifford Chance, Cranmore Partners, Finergreen, Envision Digital, Energy Web

*Announcement: Feb. 2021*

## McPhy is part of this unique industrial initiative

- 30 energy players initiate an integrated value chain
- Collective goal: deliver green hydrogen across Europe at €1.5/kg before 2030
- Ambition is to achieve 95 GW of solar and 67 GW of electrolysis capacity by 2030 , to deliver 3.6 million tons of green hydrogen per year
- First initiative expected within a year in Spain, based on a portfolio of solar sites with a capacity of close to 10 GW

Strong REFERENCES

# DNV's "Joint Industry Project"


*DNV's JIP: 2022*

## McPhy is proud to be one of 18 partners involved in DNV's JIP

- DNV launched in 2022 a Joint Industry Project ("JIP") to enhance the standardization for reliable, safe and cost-efficient hydrogen production systems that use renewable energy-powered electrolysis to produce green hydrogen.
- McPhy and more than 18 partners from diverse industrial sectors are joining DNV to develop a certification scheme applicable for electrolyzer projects - including the interface with renewable energy - on the topics of safety, performance and regulation.

# Appendix

## | Management Team


*Shutterstock*

# A highly experienced, international, Executive Committee

Chief Executive Officer
**Jean-Baptiste Lucas**

## Manufacturing, Procurement, Quality

Chief Manufacturing, Procurement & Quality Officer
**Antoine Ressicaud**

## Technology

Chief Technology Officer
Country Leader Germany
**Gilles Cachot**

## Product, Sales & Marketing

Chief Commercial Officer
**Bertrand Amelot**

Chief Customer Service Officer
Country Leader Italy
**Marco Luccioli**

## Project Management

Chief Project Management Officer
**Alexander Picco**

## Finance, Administration, IT

Chief Financial Officer
**Emilie Maschio**

## Human Resources

Chief Human Resources Officer
**Anne Delprat**

## Legal

General Counsel & Board Secretary
**To be hired**

# Board of Directors made of senior experts and CEOs










McPhy

Driving
clean energy
forward

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