



tenerdis  
ENERGY CLUSTER

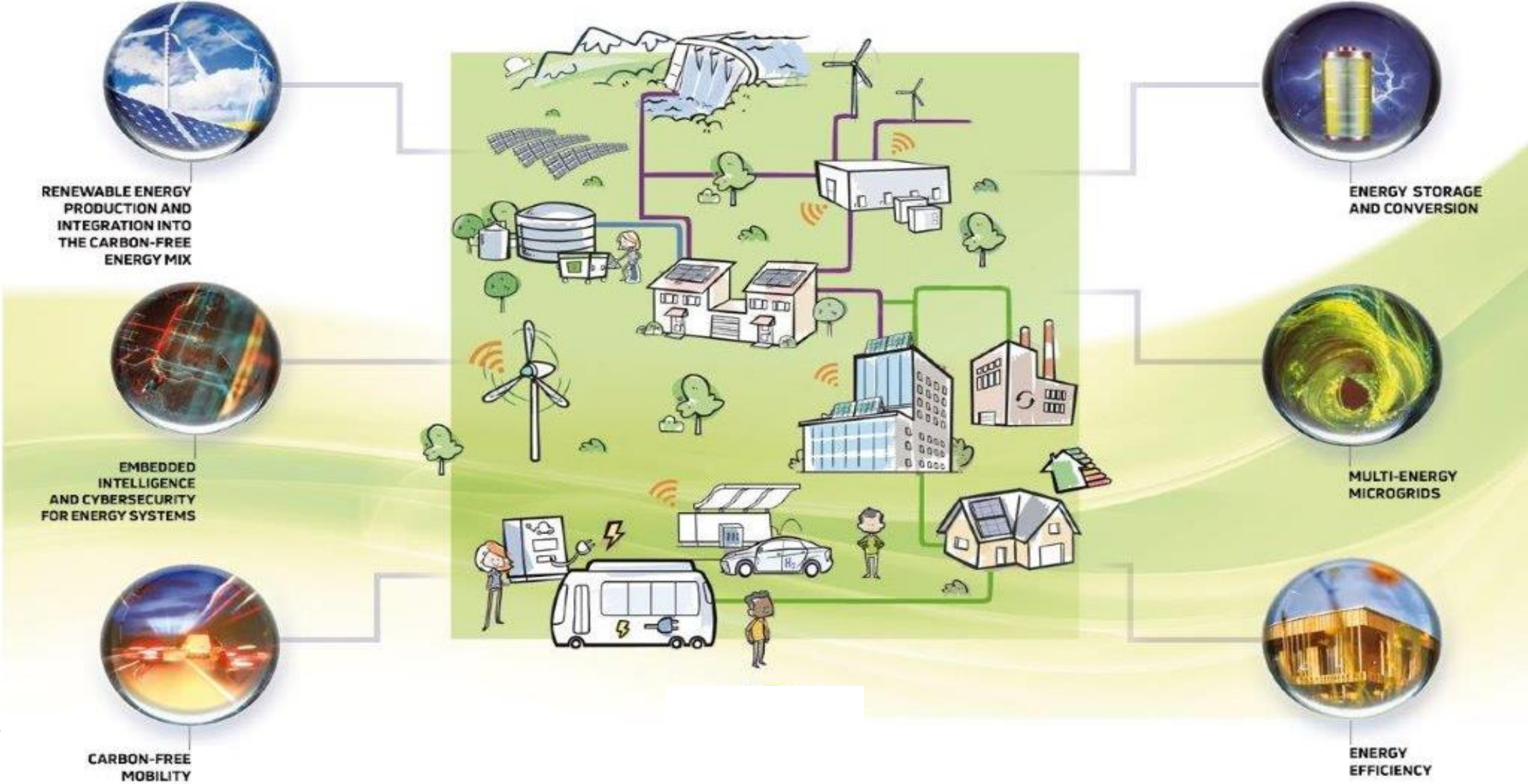
Auvergne-Rhône-Alpes 

# Opportunities for collaboration

March 24th, 2021



# Strategic Focus Sectors



# Tenerdis: key figures 2020



# NATIONAL FRENCH HYDROGEN PLAN 2020

## GREEN HYDROGEN

1 OF 11 STRATEGIC MARKETS IDENTIFIED BY FRANCE FOR FUTURE INVESTMENTS- FEB. 2020

## CALL FOR INTEREST

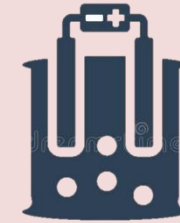
160 APPLICATIONS WERE SENT REPRESENTING €32.5B OF TOTAL INVESTMENT; €7B NEEDED FROM PUBLIC FUNDING

## PUBLIC FUNDING

FRANCE HAS COMMITTED TO €7B, OF WHICH €2B BEFORE 2022

# H2

## GOALS



INSTALL ENOUGH ELECTROLYZERS TO HAVE AN IMPACT



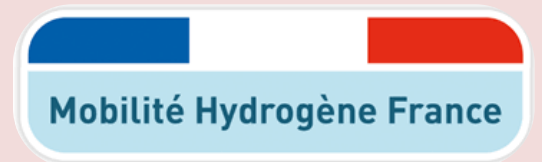
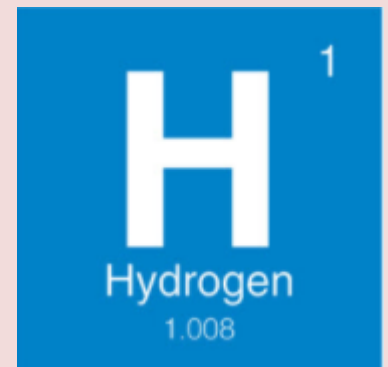
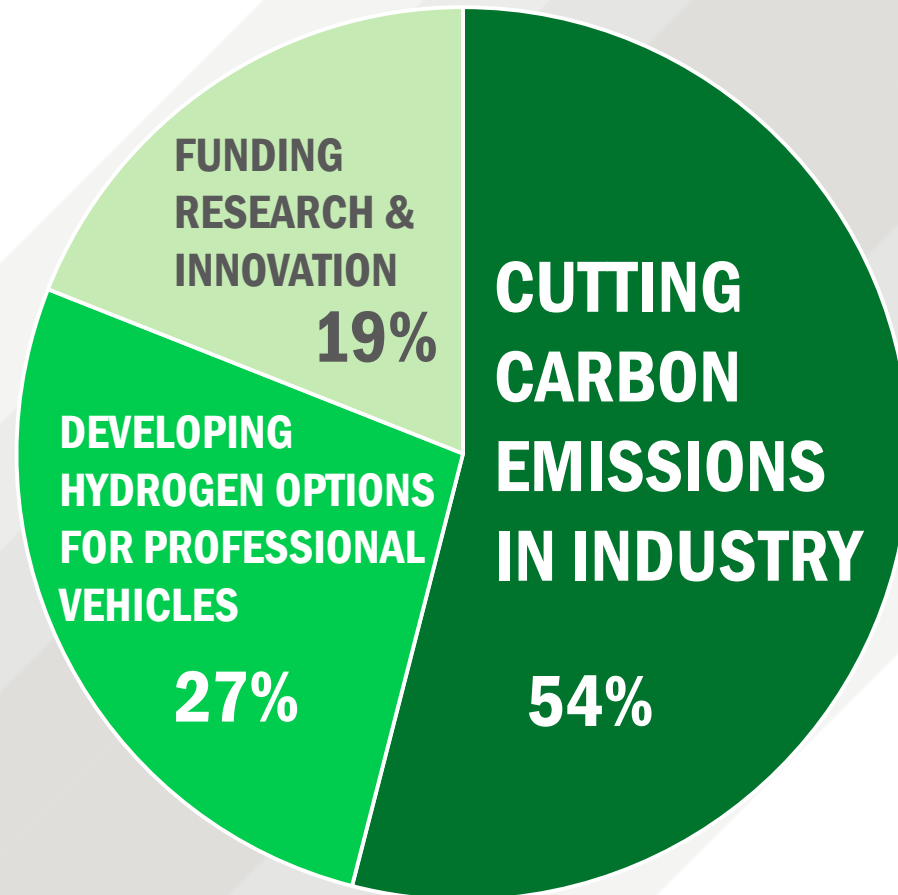
DEVELOP CLEAN TRANSPORTATION (ESPECIALLY FOR SHIPPING)



CREATE JOBS (50,000-150,000 DIRECT & INDIRECT)

# NATIONAL FRENCH HYDROGEN PLAN 2020

**FUNDING  
PRIORITIES  
2020-2023**



# ZERO EMISSIONS VALLEY (ZEV) LEADING THE H<sup>2</sup> REVOLUTION

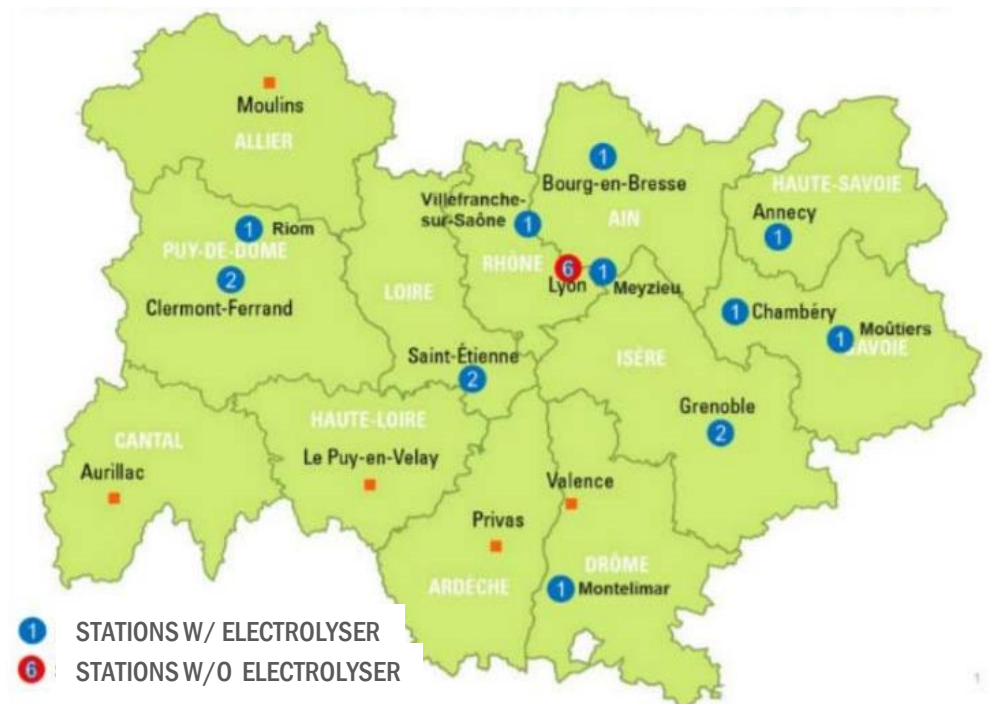
## LED BY:



## OTHER FINANCIAL PARTNERS:



## LAUNCHED IN 2017



- 1 STATIONS W/ ELECTROLYSER
- 6 STATIONS W/O ELECTROLYSER

The largest zero-emission hydrogen mobility deployment project in France & one of the most ambitious in Europe.

## THE PROJECT:



**1,200**  
H<sup>2</sup> VEHICLES



**20**  
H<sup>2</sup> STATIONS



**15**  
ELECTROLYZERS

# HYMPULSION H<sup>2</sup> PRODUCER & DISTRIBUTOR FOR THE ZEV

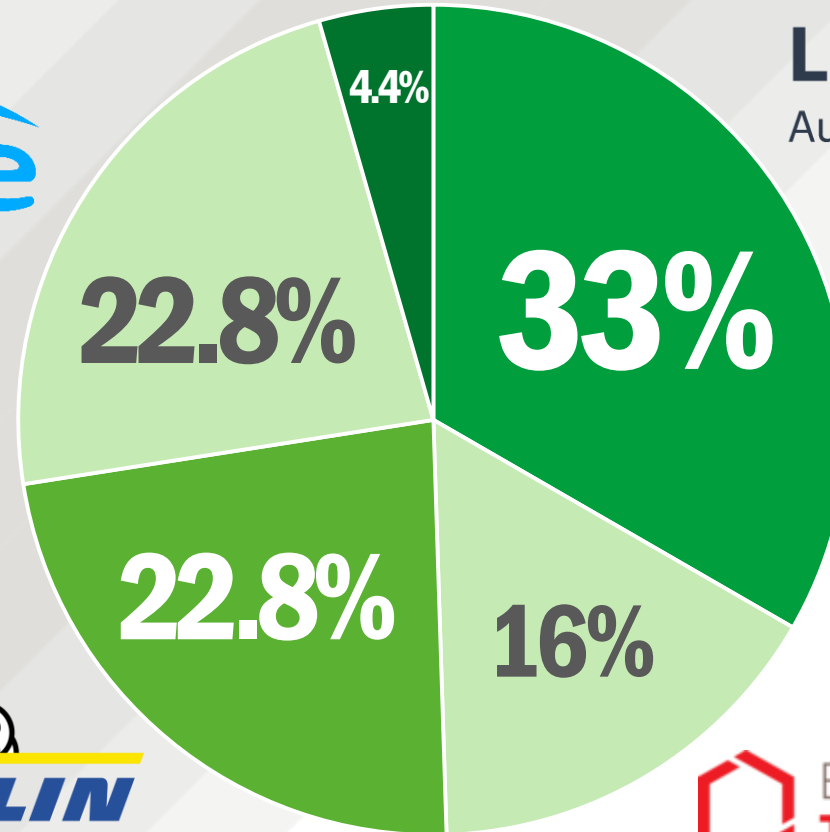
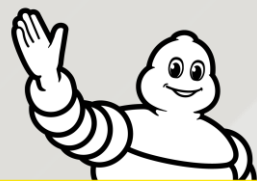


A semi-public company with multiple public & private shareholders,

In charge of the production & distribution of H<sub>2</sub> as part of the ZEV initiative.



**La Région**   
Auvergne-Rhône-Alpes



# ZERO EMISSIONS VALLEY PARTNERS

**McPhy**

 **atawey**  
ANYTIME, ANYWHERE, ENERGY

  
**HRS**  
HYDROGEN REFUELING SOLUTIONS

  
**ENGIE**  
Solutions

**3 SELECTED COMPANIES**  
WILL INSTALL THE  
FILLING STATIONS & ELECTROLYZERS

**1 COMPANY**  
WILL PROVIDE SUPPORT  
FOR ALL PHASES



“This hydrogen filling station project is part of the future. A true alternative to fossil fuels, it is the work of an entire sector, one that is particularly dynamic in the Auvergne-Rhône-Alpes region.”  
**Jean-Christian Beaumont, General Manager, Hymulsion.**



# Hydrogen Industrial Stakeholders



# CEA LITEN PIONEER IN NEW ENERGY TECHNOLOGIES

## CENTER FOR APPLIED RESEARCH IN ENERGY TECHNOLOGIES

RENEWABLE ENERGY, ENERGY EFFICIENCY/STORAGE,  
DEVELOPMENT OF MATERIALS

**liten**  
cea tech



**1,000**

EMPLOYEES

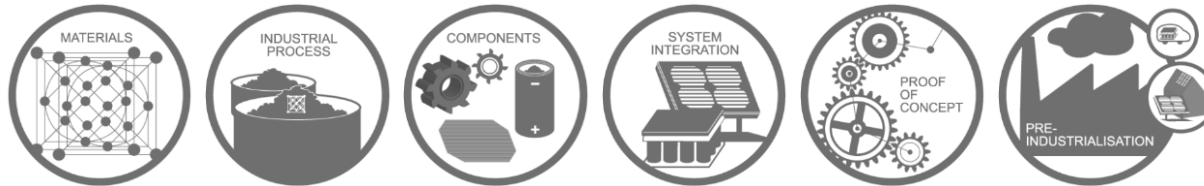
**350**

INDUSTRY PARTNERS

**1,600**

PATENTS IN ITS  
PORTFOLIO

MISSION



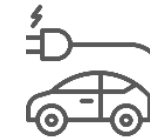
THE WHOLE VALUE CHAIN FROM MATERIAL SYNTHESIS TO  
SCALING-UP PROCESSES FOR INDUSTRIAL ROLLOUT

KEY FIGURES

€138M ANNUAL  
BUDGET



15 TECH  
PLATFORMS



100 ACADEMIC  
PARTNERS



BRIDGING THE GAP BETWEEN ACADEMIA & THE ENERGY INDUSTRY



Auvergne  
Rhône-Alpes  
Entreprises

INVEST IN  
GRENOBLEALPES

# CEA LITEN PIONEER IN HYDROGEN

PLATFORMS

## HYDROGEN STORAGE & PRODUCTION PLATFORM

liten  
cea tech



40

ENGINEERS

920m<sup>2</sup>

FACILITIES & TESTING SPACE

+10

INDUSTRIAL PARTNERS

45

PATENTS IN ITS PORTFOLIO

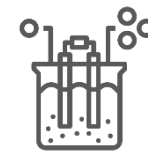


### MISSION

This platform focuses exclusively on hydrogen as an energy vector. Projects include reversible high-temperature electrolysis technology & the coupling of this technology with renewable energy production.

INNOVATIVE LABS

SOEC/SOFC FABRICATION LAB



COMPONENT PERFORMANCE & LIFE-SPAN TESTING LAB



LARGE-SCALE STORAGE LAB



# MAJOR ACTORS IN ENERGY TECHNOLOGIES



#1

INDUSTRIAL  
SITE IN FRANCE

+1,000

EMPLOYEES IN  
GRENOBLE ALPES

+100

COUNTRIES OF INTER-  
NATIONAL PRESENCE



## THE HEART OF H<sup>2</sup>

Air Liquide hydrogen filling stations worldwide are designed & produced in Grenoble Alpes.

### ACTIVITIES

H2 REFUELING  
STATIONS



MICRO FUEL  
CELLS



CRYOGENIC  
TECHNOLOGIES



ROCKET  
TANKS



Auvergne  
Rhône-Alpes  
Entreprises

INVEST IN  
GRENOBLEALPES

# MAJOR ACTORS IN HYDROGEN TECHNOLOGIES

# McPhy

**LEADER IN  
ALKALINE  
ELECTROLYSIS**



**98**

EMPLOYEES

**5**

DEVELOPMENT  
SITES IN EUROPE

**€11.4M**

REVENUE IN 2019



## **GRENOBLE ALPES R&D**

McPhy was founded in Grenoble, thanks to a joint project between the CEA Liten & CNRS. The company is based on its breakthrough hydrogen solid-state storage technology. McPhy maintains management & teams dedicated to product engineering & project management in Grenoble Alpes.

## **3 HYDROGEN MARKETS**

**INDUSTRY**



**MOBILITY**



**ENERGY**



# How to work with us

Looking for a partner for a European Project ?



Contact Hervé Muguerra, our European Project officer  
[Herve.MUGUERRA@tenerrdis.fr](mailto:Herve.MUGUERRA@tenerrdis.fr)

Want to investigate opening a subsidiary in our region ?

[andrea@investingrenoblealpes.com](mailto:andrea@investingrenoblealpes.com)

or

[alonso@investinlyon.com](mailto:alonso@investinlyon.com)

