

CATALOGUE OF TECHNOLOGICAL SHOWCASES

**TO VISIT DURING THE
HYVOLUTION SUMMIT**

JANUARY 30, 31 & FEBRUARY 1, 2024

CONTENTS

1. HYDROGEN IN NOUVELLE AQUITAINE	4
2. PÔLE AVENIA	5
3. VALOREM	6
4. ZHENDRE	7
5. CMP COMPOSITES	8
6. GDTECH	9
7. AKIRA	10
8. HYNAVAL	11
9. ECONAUTIK	12
10. GRTGAZ RESEARCH & INNOVATION CENTRE FOR ENERGY (RICE)	13
11. ENGIE LAB CRIGEN	14
12. AIRLIQUIDE	15
13. ABB	16
14. SAFRAN AIRCRAFT ENGINES	17
15. HYVIA	18
16. EDF LAB	19
17. SHOWROOM EDF PARIS 2024	20
18. HYSETCO	21
19. CLEANTECH INCUBATOR	22
20. INNOVEX	23
21. HYAMMED	24
22. PÔLE CAPENERGIE	25
23. SALON MEET4HYDROGEN	26
24. HYNVAR	27
25. HYGREEN PROVENCE	28
26. CORSTYRENE ENERGY	29

Nouvelle Aquitaine



Nouvelle quitaine



HYDROGEN IN NOUVELLE AQUITAINE



Goal for 2030: to become a leading hydrogen region in terms of production, storage, distribution and green hydrogen use

Key words

Industry, fuel cells, engines, fueling stations, storage, chemicals/materials, batteries, electronics, mechatronics, commercial ports.

Description of the visit to the technological showcase

Over 80 players in the hydrogen value chain, including

- Around thirty innovative industrial start-ups and SMEs, some specializing in key technologies for the sector
 - Fuel cell manufacturers: HDF, Pragma Industries, Genevos
 - Hydrogen internal combustion engines: Akira Technologies, Vision Technology, EcoNautik
 - Fueling stations: Madic Industries
 - H2 storage (tanks): CMP Composites, Hensoldt Nexeya, etc.
- Small and medium-sized equipment manufacturers in the automotive, aeronautics and ceramic materials sectors are also diversifying strategically into the hydrogen market by exploiting their expertise and capacities in R&D and production: Freudenberg, Elmetherm, Cerinnov, etc.
- A region at the forefront in the chemistry and materials sectors (Arkema, Solvay, Toray, etc. - over 30,000 jobs) with specializations in carbon fibers, ceramics (within the Pôle Européen de la Céramique, an innovation cluster in Limoges), nanomaterials, and thermoplastics.
- A pool of expertise in the electrification of energy systems, integrating complementary innovation ecosystems: batteries, hydrogen, electronics, mechatronics.

Communities ready to host your projects

- Two industrial territories deploying a strategy based on H₂ and CO₂ to produce high added-value molecules: Lacq-Pau-Tarbes and Bordeaux Métropole-Port de Bordeaux-COBAN.
- A dozen local authorities are integrating hydrogen into their economic development strategies

For further information

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PÔLE AVENIA



Key words

Basement, underground storage, natural H₂, Earth 2 project.

Description of the visit to the technological showcase

Cluster dedicated to subsoil industries. It brings together companies, research laboratories, training organizations and professional associations involved in the exploitation and uses of the subsoil for ecological and energy transition.

Areas of activity: Geothermal energy, subsoil storage (natural gas, CO₂, H₂, waste), Hydrogeology, Oil & Gas, Mining & Quarrying, Geotechnics, Natural H₂, Helium and related gases.

Management of the Earth2 project: a European program for subsoil hydrogen (natural hydrogen & geological storage).

<https://www.earth2-hydrogen.com/>

For further information

<https://www.pole-avenia.com/fr>

<https://www.earth2-hydrogen.com/>

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VALOREM

Key words

Green energies

Description of the visit to the technological showcase

French leader in green energy for 30 years and a pioneer in wind power, Valorem also develops and produces photovoltaic solar parks, small hydroelectric power plants and is involved in Offshore wind power. Valorem is present in France, Finland, Greece and Colombia.

For further information

<https://www.valorem-energie.com/>



ZHENDRE

Key words

Containers

Description of the visit to the technological showcase

The company is specialized in the design and the production of mobile solutions tailored for extreme conditions. It offers transportation and storage infrastructures for hydrogen.

For further information

<https://www.zhendre.com/home>

ZHENDRE

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CMP COMPOSITES



Key words

Composites, tanks, space, aeronautics

Description of the visit to the technological showcase

Center of excellence in the field of composite materials.
Development of hydrogen tanks for space propulsion and decarbonization in the aerospace sector.

For further information

<https://cmpcomposites.fr/>

GDTECH



Key words

Systems, equipment, optimization, prototyping

Description of the visit to the technological showcase

Innovative industrial SME providing solutions in systems and equipment engineering. Development of services and methods for the optimization and prototyping of H₂ systems.

For further information

<https://www.gdtech.fr/>

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AKIRA



Key words

Energy conversion, test benches

Description of the visit to the technological showcase

Design and production of energy conversion systems and special tests. Innovative company (motorization / propulsion / electric generation).

For further information

<https://www.akira.pro/>

HYNAVAL



Key words

Boats, retrofit, hydrogen propulsion

Description of the visit to the technological showcase

Shipyard specialized in the design, manufacture and retrofit of boats using hydrogen propulsion.

For further information

<https://hynaval.com/>

Nouvelle Aquitaine



Île de France (Paris Region)

Villeneuve-la-Garonne



ECONAUTIK



Key words

Hydrogen conversion, maritime mobility

Description of the visit to the technological showcase

Simple and quick conversion of marine thermal engines or generators to hydrogen. EcoNautik makes maritime mobility sustainable now.

For further information

<https://www.linkedin.com/company/econautik/?originalSubdomain=fr>

GRTGAZ RESEARCH & INNOVATION CENTRE FOR ENERGY (RICE)



Key words

Gas

Description of the visit to the technological showcase

RICE is a leading player in research and innovation within the fields of combustible gases, gas infrastructure, and their contributions to the energy transition. They focus on three key areas: industrial safety, operational performance, and renewable gases.

FenHYX, hydrogen research and testing platform in the gas network.

For further information

<https://researchbyrice.com/>

1 Rue du Commandant d'Estienne d'Orves, 92390 Villeneuve-la-Garenne

Île de France (Paris Region)

Stains



ENGIE LAB CRIGEN

Center for R&D and Expertise in New Energy Sources



Key words

New Energy

Description of the visit to the technological showcase

Engie Lab Crigen is part of the ENGIE Labs network and serves as ENGIE Group's corporate hub for R&D and high-level expertise in new energy resources, including hydrogen, biogas, and liquefied gases. They also explore new energy applications in urban settings, future-oriented buildings and industries, and emerging technologies such as computer sciences, AI, drones, robots, nanotechnologies, and sensors.

For further information

[https://www.engie.com/en/innovation-transition-energetique/centres-de-recherche/crigen#:~:text=CRIGEN%20is%20ENGIE%27s%20corporate%20R%26D,robots%2C%20nanotechnologies%20and%20sensors\).](https://www.engie.com/en/innovation-transition-energetique/centres-de-recherche/crigen#:~:text=CRIGEN%20is%20ENGIE%27s%20corporate%20R%26D,robots%2C%20nanotechnologies%20and%20sensors).)

4 Rue Joséphine Baker, 93240 Stains

Île de France (Paris Region)

Les Loges-en-Josas



AIRLIQUIDE: OFFICIAL HYDROGEN

Supporter of Paris 2024 that contribute to reduce the event's carbon emissions.



Key words

Gas

Description of the visit to the technological showcase

Air Liquide is a world leader in gases, technologies and services for Industry and Health. Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide's scientific territory and have been at the core of the company's activities since its creation in 1902.

In 2022, Air Liquide devoted 100 million euros of innovation spending to the energy transition, particularly for the development of low-carbon hydrogen and biomethane.

For further information

<https://www.airliquide.com/>

1, Chemin de la Porte des Loges 78350 Les Loges-en-Josas

Île de France (Paris Region)

Cergy



ABB

Global Competence Center for Hydrogen and Electric Vehicles.



Key words

Equipment

Description of the visit to the technological showcase

Among other things, it designs the engineering for the production of hydrogen vehicle components. ABB offers electrification and automation solutions for optimizing hydrogen resources, network connection equipment, as well as software and services for the entire value chain (production, use, storage, transport).

For further information

FABB Group. Leading digital technologies for industry — ABB Group (global.abb)
7 Boulevard d'Osny, 95800 Cergy

Île de France (Paris Region)

Moissy-Cramayel



SAFRAN AIRCRAFT ENGINES



Key words

Aviation

Description of the visit to the technological showcase

Safran Aircraft Engines is leading the Open Fan OFELIA demonstration program with European partners as part of Clean Aviation. The consortium will also ensure that this new architecture is 100% compatible with sustainable aviation fuels (SAF) and hydrogen.

The French engine manufacturer will work with 26 key European industrial partners, including Airbus, Avio Aero, GKN Aerospace, as well as research laboratories such as ONERA and universities in several European countries. The OFELIA consortium will benefit from €100 million in European funding from Clean Aviation.

For further information

Safran Aircraft Engines (safran-group.com)
Rond-point René Ravaud, 77550 Moissy-Cramayel

Île de France (Paris Region)

Villiers-Saint-Frédéric



● HYVIA

The joint venture between Renault Group and Plug Power dedicated to hydrogen mobility



○ Key words

Mobility

○ Description of the visit to the technological showcase

Hyvia inaugurates its plant at Refactory, Renault Group's circular economy facility in Flins, Ile-de-France. The site is organized around four business clusters, each with its own specialty: Re-trofit, Re-energy, Re-cycle and Re-start.

The Refactory is Europe's first circular economy factory dedicated to mobility. An industrial and commercial ecosystem created by Renault Group, open to start-ups and partnerships.

○ For further information

Discover Renault Group Green Hydrogen Company - HYVIA

42 Route de Beynes, 78640 Villiers-Saint-Frédéric

Île de France (Paris Region)

Écuellen



● THE ELECTROLYZER TEST PLATFORM

Located at the EDF Lab Les Renardières site



○ Key words

Electrolyzers

○ Description of the visit to the technological showcase

This platform is used to test and characterize electrolyzer systems and associated equipment, by placing them in real operating conditions within an electrical system in a perfectly secure environment.

The electrolyzer test platform means we can:

1/ Test and qualify mature electrolyzer technologies.

2/ Assess the impact of supplying electrolyzers with variable electricity from renewable sources (photovoltaic or wind power) or from the grid, on electrolyzer performance and on the quality of the produced hydrogen.

○ For further information

<https://www.edf.fr/en>

Avenue des Renardières, 77250 Écuellen

Île de France (Paris Region)

Tremblay-en-France



THE ADP GROUP



Key words

Aviation

Description of the visit to the technological showcase

At the Maison de l'Environnement Roissy, presentation of the hydrogen strategy for aviation and airports, implemented by the ADP Group.

The ADP Group aims to drive the airport's environmental transition with a view to achieving carbon neutrality in the aviation sector by 2050.

For further information

Discover the Maison de l'Environnement at Paris-Charles de Gaulle Airport (groupeadp.fr)

1 Rue de France, 93290 Tremblay-en-France

Île de France (Paris Region)

Montlhéry



UTAC



Key words

Mobility

Description of the visit to the technological showcase

UTAC - Leading group in vehicle testing, homologation and emerging technologies for autonomous, connected and electric vehicles.

H2 vehicle testing and certification

For further information

Home (utac.com)

Autodrome de Linas-Montlhéry, 91311 Montlhéry

Île de France (Paris Region)

Saint-Denis



SHOWROOM EDF PARIS 2024



Key words

Olympic Games

Description of the visit to the technological showcase

This location presents innovative energy solutions designed to reduce energy consumption and lower pollutant emissions.

These solutions are driven by EDF Group's expertise and are tailored to support the needs of the Paris 2024 Olympic Games.

For further information

<https://www.edf.fr/en>

93200 Saint-Denis

Île de France (Paris Region)

Paris



HYSETCO

Hydrogen production and distribution station

HYSETCO

Key words

Mobility

Description of the visit to the technological showcase

Currently Europe's largest hydrogen production and distribution station.

The new HysetCo station comprises a 2.5 MW electrolyzer capable of producing up to 1 tonne of hydrogen per day at low pressure («the equivalent of 200 to 400 full tanks»), several types of storage (medium pressure at 300-500 bar and high pressure at 1,000 bar) and hydrogen pumps to supply vehicles refueling there.

For further information

<https://www.hysetco.com/?lang=en>

22 Avenue Dode de la Brunerie, 75016 Paris

Provence-Alpes-Côte d'Azur

Aix-en-Provence



CLEANTECH INCUBATOR

Key words

Incubator, startups hydrogen

Description of the visit to the technological showcase

The Cleantech incubator is a support structure for innovative startups in the field of clean technologies. The incubator offers startups a set of services and resources to help them develop their business and contributes to the development of the circular economy and the energy transition in the region. It plays an important role in the emergence of new innovative solutions for a more sustainable world.

Brings together startups specializing in hydrogen solutions, such as Helion ALSTOM Hydrogen.

For further information

<https://www.arbois-med.com/votre-projet/de-creation-dentreprise/aide-a-linstallation/>

15 minutes by car from Aix-en-Provence railway station

Provence-Alpes-Côte d'Azur

Marseille



INNOVEX

Key words

Industrial innovation platform

Description of the visit to the technological showcase

The Innovex platform is a 12-hectare site located at the port of Marseille-Fos. It is dedicated to demonstrators and pre-industrial pilots linked to industrial innovation and the energy transition. The Innovex platform is an important player in the development of hydrogen in France. It hosts several innovative projects in the field of hydrogen, notably Jupiter 1000, the first large-scale Power-to-Gas project in France.

For further information

<https://www.marseille-port.fr/projets/innovex>

50 minutes' drive from Marseille Provence Airport



Provence-Alpes-Côte d'Azur

Marseille



HYAMMED

Key words

Hydrogen station, truck supply

Description of the visit to the technological showcase

The Hyammed project is a research and development project carried out by the Hynamics company, in partnership with the Innovex platform and the National Center for Scientific Research (CNRS). It aims to develop a hydrogen mobility solution for road transport of goods, with a fleet of 8 hydrogen trucks, fueled at a station in Fos-sur-Mer with hydrogen co-produced by Kem One.

For further information

<https://fr.airliquide.com/a-propos/actualites-publications/Air-Liquide-laureat-trophee-Hydrogenies>

One hour by car from Marseille Provence airport



Provence-Alpes-Côte d'Azur

Aix-en-Provence



PÔLE CAPENERGIE

Key words

Energy cluster, research and innovation, startups

Description of the visit to the technological showcase

The Capenergies cluster is an important player in the energy transition in France. It contributes to the development of new technologies and new industrial sectors in order to reduce greenhouse gas emissions and create new jobs. The cluster works in tandem with innovators to promote the emergence of private and public-private collaborative research projects focused on non-gas emitting energy. Major companies, such as Airliquide or ENGIE, collaborate with this cluster, which also highlights hydrogen solutions startups such as EURETEQ.

For further information

<https://www.capenergies.fr/>

12 minutes by car from Aix-en-Provence TGV station



Provence-Alpes-Côte d'Azur

Toulon



Provence-Alpes-Côte d'Azur

Toulon



SALON MEET4HYDROGEN



Key words

Regional Hydrogen Exhibition

Description of the visit to the technological showcase

Meet4Hydrogen is a series of trade shows dedicated to hydrogen applications. It is organized by the company Meet4Energy, in partnership with the Capentreprises center.

The Meet4Hydrogen exhibition focuses on industrial applications, mobility and energy. It brings together leading players in the hydrogen sector, such as companies, start-ups, research laboratories and local authorities. Its next edition will take place on March 27 and 28, 2024 in Toulon.

For further information

<https://meet4hydrogen.com/>

17 minutes on foot or 10 minutes by transport from Toulon train station.

HYNOVAR



Key words

Projects ecosystems

Description of the visit to the technological showcase

Hynovar is a hydrogen sector development project in Var (the South region). It is supported by the Var Chamber of Commerce and Industry, in partnership with the Capentreprises cluster, the South Region and the State. It is an ecosystem of several Var projects (seven projects), in production, distribution and uses of hydrogen. Collaborates in particular with the company Hy2gen.

For further information

<https://old.var.cci.fr/content/hynovar-l%E2%80%99hydrog%C3%A8ne-made-var>

40 minutes by car from Toulon train station

Provence-Alpes-Côte d'Azur

Aix-en-Provence



Corsica

HYGREEN PROVENCE



Key words

Hydrogen production and storage

Description of the visit to the technological showcase

HyGreen Provence is an ambitious project aimed at massively producing and storing green hydrogen in the South region. It is supported by ENGIE (with its subsidiary Storengy and its company dedicated to hydrogen), Air Liquide and DLVA (Durance Luberon Verdon Agglomération). The project is supported by the South Region, the State, the European Union and other local stakeholders. HyGreen Provence's objective is to produce 800 tonnes of green hydrogen per year from solar energy. This hydrogen will then be stored in underground salt caverns located in Châteauneuf-les-Martigues. It can be used to power transport, industries and buildings.

For further information

<https://www.capenergies.fr/projet/hygreen-provence/>
12 minutes by car from Aix-en-Provence TGV station

CORSTYRENE ENERGY

Key words

H₂, green hydrogen

Description of the visit to the technological showcase

Green hydrogen production station for mobility

For further information

<https://www.corstyrene.fr/la-premiere-station-hydrogene-de-corse-ouvrira-en-2021/>
Tel.: +33 4 95 57 03 87 / contact@corstyrene.fr / <https://www.capenergies.fr/annuaire-des-membres/>
Bastia Airport



Business France is the national agency supporting the international development of the French economy, responsible for fostering export growth by French businesses, as well as promoting and facilitating international investment in France.

It promotes France's companies, business image and nationwide attractiveness as an investment location, and also runs the VIE international internship program.

Business France has nearly 1,500 personnel, both in France and in 55 countries throughout the world, who work with a network of partners.

Since January 2019, as part of the reform of the state support system for exports, Business France has given private-sector partners responsibility for supporting French SMEs and mid-size companies in the following markets: Belgium, Hungary, Morocco, Norway, the Philippines and Singapore.

For further information, please visit:
www.businessfrance.fr @businessfrance

