NORD FRANCHE-COMTÉ
SO HYDROGÈNE

Nord Franche-Comté

A pioneer territory for Hydrogen Energy

Committed for 25 years to research for hydrogen and fuel cell systems, Nord Franche-Comté is home to hydrogen companies of all sizes, from start-ups to international groups, within a cutting-edge scientific setting

The hydrogen ecosystem
in Nord Franche-Comté

A network of complementary and interlinked organizations makes Nord Franche-Comté an efficient and agile business partner for companies. Nord Franche-Comté centralizes exceptional resources to support your projects.

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R&D resources, tests, and certifications

- **FEMTO-ST** – research institute associated with the CNRS (National Committee for Scientific Research), multidisciplinary fields of engineering, and applied physics
  - SHARPAC Team – the largest public research laboratory in France dedicated to hydrogen energy
  - THERMIE Team – fluidics, metrology, complex flows
- **FCLAB** – UAR CNRS
  Multi-test platform for the integration of fuel cell systems unique in Europe, oriented toward transfer to industry
- **HYBAN**
  Testbed for PEM and HT-PEM fuel cell systems up to 120 KW
- **ISTHY** – national Institute of STockage of HYdrogen
  Testing and certification platform for hydrogen storage components and solutions
- **Laboratoire ICB** – PMDM Department
  Advanced materials for fuel cells, high-temperature electrolyzers and for solid storage
- **Virtual FCS**
  Open-source platform for designing and optimizing PEM fuel cells and battery hybrid systems. European research consortium

Companies committed to a hydrogen strategy

- **ALSTOM :** high-power fuel cell locomotives for freight and shunting
- **APSIIS :** promoting engineering of complex H_2 and nuclear energy systems
- **AVIONS MAUBOUSSIN :** H_2 powered business aircrafts
- **COLIBRI ÉNERGIE :** engineering and general contractor for H_2 projects
- **DEPHIS :** high-performance coatings and materials engineering
- **DYG ENERGY :** renewable energy and H_2 engineering
- **FAURECIA CLEAN MOBILITY - Groupe FORVIA :** worldwide R&D center for H_2 storage and pilot plant for H_2
- **GAUSSIN :** zero emission and autonomous logistics solutions
- **GENERAL ELECTRIC :** turbines and electrical systems
- **GEN-HY :** gigafactory for electrolyzers and membranes
- **H2SYS :** H_2 electric generators and fuel cell systems
- **HYNAMICS :** H_2 production and distribution
- **McPHY :** gigafactory of alkaline electrolyzers
- **MINCATEC ENERGY :** low-pressure solid H_2 storage
- **OTEENGA :** renewable energy and H_2 engineering
- **SOLUTIONS HYDROGÈNE :** integration of stationary multi-energy systems
- **STELLANTIS :** automotive
- **XYDROGEN :** engineering and marketplace for renewable energy and H_2

Specific hydrogen training

Among an already highly diversified pool of scientific and technical courses dedicated to energy professions, from technicians to engineers, and doctorate level:

- **Specialized Master's Degree in Hydrogen Energy**
  Bac +6 accredited by the Conference of Higher Education, 1 year / UTBM
- **CMI H3E - Hydrogen Energy and Energy Efficiency**
  Bac +5, Master's degree in Engineering, 5 years / University of Franche-Comté
- **Professional degree in Energy Systems Maintenance, Hydrogen specialization**
  Bac +3, 1 year / CNAM - UIMM

Support for project development

- **Pôle Véhicule du Futur**
  Cluster dedicated to mobility with a hydrogen-strategic focus
- **Club H_2 Bourgogne Franche-Comté**
  A community of regional participants adding value together, from production to use
- **Vallée de l'Énergie**
  Cluster federating the regional actors of production, management, distribution, and storage of electrical energy
- **Territoires d'Innovation** – Transformation of an Industrial Territory – Consortium of public and private projects leaders, including focus on structuring the hydrogen industry, winner of the national call for projects
- **Grand Belfort**
- **Pays de Montbéliard Agglomération**
- **Région Bourgogne Franche-Comté**
  Labeled "Hydrogen Territory", regional roadmap "ENRgHy", and dedicated funding to the advancement of hydrogen technology

Structuring projects for the energy transition

- **Hydrogen Business For Climate Forum**
  Annual European meeting to accelerate the hydrogen transition
- **Territoires d'Innovation**
  4 winning projects (national call for projects):
  - **ISTHY**
    Testing and certification platform for hydrogen storage components and solutions
  - **H_2 Hynamics Danjoutin Station**
    Multimodal platform for the production and distribution of hydrogen from decarbonated electricity, 1 MW in 2023 with a forecast of 2 MW/800 kg
  - **Belfort Optymo H_2 bus**
    Launching in 2023, and by 2025, fully H2 city buses will constitute 50% of the Grand Belfort public transport network
  - **Territoire Habitat autonomous building**
    Promoter of 15 social housing units integrating photovoltaic hydrogen storage of the refunds and surpluses by fuel cell
- **Demonstrators of the Sustainable City**
  2 winning projects (national call)
  - **Belfort e-Start**
    Photovoltaic production of 3.3 MWp, coupled with battery and hydrogen storage, on Techn'hom, an industrial and university campus in the heart of Belfort, sprawling 35 acres and home to 8,500 employees and students
  - **Living Lab Badevel H_2-Bois**
    Autonomous energy project for a suburban village of 800 inhabitants combining photovoltaics, wood, and hydrogen
- **HyDATA**
  Demonstrator of 2 fuel cell systems for low- and high-intensity backup power supply of data center
- **SHYPAGE**
  Demonstrator of compact, low-pressure and modular hydrogen tanks, using metal hydrids and enhancing the thermal energy generated
- **Airfield of Courcelles-lès-Montbéliard**
  Multimodal hub project for the production and use of low-carbon energy

Nord Franche-Comté

The most industrialized region in France

More than 25% of the jobs in Nord Franche-Comté are in industry with a skilled workforce.
Surrounding Belfort and Montbéliard-Sochaux, prime contractors such as Stellantis, Faurecia, Alstom, General Electric, and Lisi, structure a dense ecosystem of subcontractors.

Expertise in industrialization solutions

Local subcontractors are well-versed in the performance and competitive requirements of large-scale production of complex products (automotive) and the integration of high-tech equipment (high-speed train engines and nuclear turbines).

An innovative ecosystem

Public and private R&D centers such as Faurecia, FCLAB, and Stellantis, and clusters like "Véhicule du Futur" and "Microtechniques," stimulate innovation. R&D accounts for 5% of local jobs compared to 2% at the national level.

A european hub

On the European Rhine-Rhone axis, Nord Franche-Comté enjoys a privileged position at the convergence of France, Switzerland, and Germany.

About to create your own business ?

Any development project for your company ?

ADN-FC (Nord Franche-Comté Economic Development Agency) can facilitate your success in Nord Franche-Comté, France

- Attracting investors and regional promotion
- Support for start-ups and innovative projects
- Support for local companies
- Real estate and properties solutions
- Support for the creation of industrial companies and industrial service companies
- Industrial, university, and laboratory networking

Free and confidential services

ADN-FC – Agence de Développement économique Nord Franche-Comté
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