

Join us in
BOURGOGNE-FRANCHE-COMTÉ!

A powerhouse of solutions
to rise to the challenges
of energy transition
and industrial change

BOURGOGNE-FRANCHE-COMTÉ is a certified "Hydrogen Territory" thanks to the ENRgHy dynamic



LEADERS AND BUSINESSES

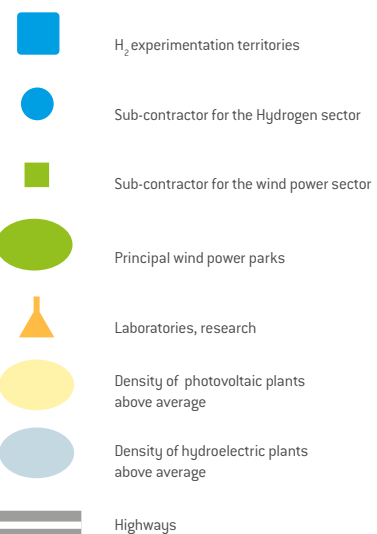
Alstom, Delfingen, Faurecia, Gaussin, H2Sys, Justy, Mahytec, Presse Étude, Schrader and more

PARTNERS IN DEVELOPMENT

- › Pôle Véhicule du Futur Cluster
- › The Wind for Future Cluster
- › The Mecateam Cluster
- › AER Bourgogne-Franche-Comté

RESEARCH LABORATORIES

- › FC Lab Research Federation, including such members as the ICB laboratory and the Femto-ST Institute
- › The Maison des Sciences de l'Homme, in Dijon



Sources : GT H₂ / Cluster "Wind for Future", INSEE SIRENE 2017
Mapping : AER Bourgogne-Franche-Comté - January 2018

50 km

THE ENRGHY DYNAMIC COMPRISES 7 PROJECTS, 3 REGIONS AND 0 CO₂ EMISSION!

> 5 EXPERIMENTAL PROJECTS

HyCAUNAI – the 1st project to pair up anaerobic digestion and methanation

A project for upcycling the by-product CO₂ present at the Saint-Florentin landfill site by way of methanation. The Hydrogen needed for this process is itself a product of wind power production.

VHycTor – a refuelling station for Hydrogen produced by Inovyn

A project involving the construction of a Hydrogen refuelling station, which will be supplied by an industrial by-product gas source and transported under high pressure.

EOLBUS – a French pilot project combining wind-power and transport

Creation of a Hydrogen production (through water electrolysis), storage and refuelling station supplied by renewable energy and, more specifically, the wind turbines surrounding the city. With European certification, the project will have 5 buses as well as light-duty vehicles on the roads by 2019. The goal is to convert the entire bus fleet by 2025.

NewMHyLL – Hydropower and Hydrogen

An economic viability test on autonomous solutions using low-pressure Hydrogen by developing “zero emission” tourist services with soft, urban and water mobility solutions being made available.

HyDATA – double-action stationary Hydrogen Energy for a data centre

A project for supplying a data centre with power via an autonomous system using Hydrogen produced by renewable energy to implement a backup application.

> 2 FACILITY DEVELOPMENT PROJECTS FOR THE NATIONAL SECTOR

ISTHY – the national platform for Hydrogen storage

A project involving the creation of a French certification and requalification centre for storage systems, as well as a training and R&D centre, making it possible to anticipate technological developments.

HYBAN – a high-power test bench

Launch of an industrial test bench for high-power (100 - 120 kWe) PEMFC and HT PEMFC Fuel Cells – essential for placing ‘full fuel cell power’ vehicles on the market – to supplement the Fuel Cell platform equipment in Belfort.

> 3 TERRITORIES

GRAND DOLE AGGLOMERATION

with **ISTHY**, **VHycTor** and **NewMHyLL**

YONNE

with **EOLBUS** in Auxerre and **HyCAUNAI** in Saint-Florentin

BELFORT-MONTBÉLIARD URBAN AREA

with **HYBAN** and **HyDATA**

INDUSTRIALISTS ahead of the curve

LEADERS AND BUSINESSES

Alstom, Delfingen, Dephis, EDF, ENGIE, Faurecia, Gaussin, Gest'Hydrogène, H2SYS, Justy, Mahytec, Presse Étude, Schrader, Valmétal and more

The local presence of an industrial network specialising in **metal and material processing** and expertise in **surface treatment** are valuable assets for ensuring the **comprehensive manufacturing of tomorrow's Hydrogen systems**.

Metal pipework, polymer membranes, valves, sensors, surface treatment and microtechnology are all areas of expertise found in the region, making it a future territory for Hydrogen and the manufactured Fuel Cell environment.



RESEARCH and INNOVATION, a trailblazing spirit

FC-LAB - CNRS FEDERATION

A unique research federation in Europe bringing research together with high-performance engineering on the topic of Hydrogen.

www.fclab.fr

FEMTO-ST INSTITUTE

Hybrid systems, energy management, static convertors, systemic optimisation, energy convertors, health status diagnostics, service life prognosis, fault-tolerant control, integration into transport and stationary applications, solid-state storage.

www.femto-st.fr

FUEL CELL FACILITY

One of Europe's largest public facilities intended for research, testing and industrial transfer focused on Fuel Cell Systems (900 m² of testing space for test powers of just a few watts up to nearly 200 kW).

www.utbm.fr

ICB LABORATORY

Developing advanced materials, studying their durability, processes and reactivity phenomena with solid/solid and solid/gas interfaces.

icb.u-bourgogne.fr



EDUCATION AND TRAINING to dream up and design the energy systems of tomorrow

A ONE-OF-A-KIND MASTER'S ENGINEERING COURSE (CMI) IN FRANCE

The **Hydrogen Energy and Energy Efficiency CMI** offered by the University of Franche-Comté is a 5-year programme in the **energy production and management** engineering trades for students who will become experts in the **fields of energy efficiency and clean energy, with specific expertise in Hydrogen Energy** [production, transport and stationary applications, etc.].

UNIVERSITY OF FRANCHE-COMTÉ

The university manages an educational platform on Hydrogen Energy.

From DUT (technical diploma) to Master's level, the UFC provides courses focusing on renewable energy and energy efficiency.

www.univ-fcomte.fr

UNIVERSITY OF BURGUNDY

From DUT (technical diploma) to Master's level, the UB provides courses in the physics of materials as well as civil and mechanical engineering.

www.u-bourgogne.fr

UNIVERSITY OF TECHNOLOGY OF BELFORT-MONTBÉLIARD

The Energy department teaches electrical (electrotechnical, electronic, industrial IT and automation), thermal and mechanical engineering.

www.utbm.fr

ENSMM BESANÇON

The Higher National General Engineering School with specialization in Mechanics and Microtechnology provides courses for generalist engineers specialising in mechanics and microtechnology.

www.ens2m.fr

ISAT NEVERS

The Institute for Automotive and Transportation Engineering educates engineers, who will provide their expertise in design and development of sustainable and multimodal transport.

www.isat.fr

ESIREM DIJON

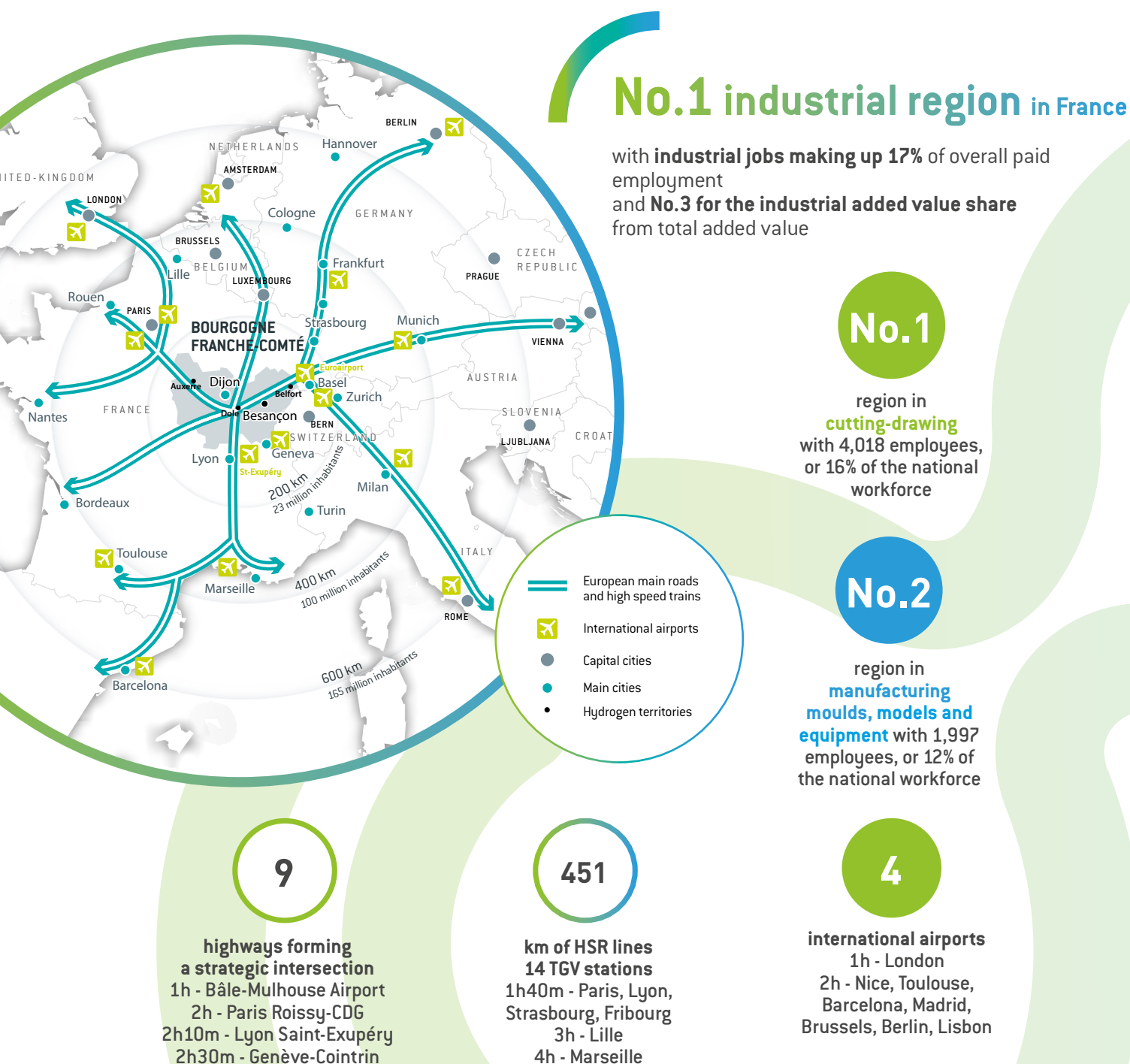
The University School of Materials, Computer Science & Electronics Engineering offers two specialisation options: Sustainable Development-Materials and IT-Electronics.

esirem.u-bourgogne.fr

HAVE A PROJECT? Bourgogne-Franche-Comté wants you!

The Bourgogne-Franche-Comté Regional Council wants to actively contribute to **overcoming the challenges of ecological and energy transition**. Through innovation, upheld as one of the 6 competitiveness strategies of the Innovation and International Expansion Regional Economic Development Plan (SRDEII), it also seeks to **lead businesses in its region towards new markets promising development and jobs**. As a result, the Hydrogen sector emerged as an opportunity to unite these two goals, relying on a favourable climate for stakeholders and the region's skill sets.

The Region has enshrined the launch of the Hydrogen sector as a strong point in its strategy. An annual budget has been specifically allocated for this in order to fund collective actions, innovation projects and demos. An annual meeting, chaired by the Region, is organised each year in order to coordinate all internal and external stakeholders.



MECATEAM CLUSTER

MecateamCluster is a National Centre specialized in the **design and maintenance of railway machinery equipment**. In the frame of its program "railway yard of the future" which objective is to create a safer and less polluting environment at the railway sites, MecateamCluster thoroughly studies **machinery and equipment electrification solutions from the technology of Hydrogen**.



MECATEAMCLUSTER®

103

members

€300

K in annual budget

www.mecateamcluster.org

WIND FOR FUTURE CLUSTER

The cluster's goal is to **develop synergies between businesses and the wind power sector** in Bourgogne-Franche-Comté. The cluster has taken an interest in Hydrogen as **a way of storing wind energy**.



90

members

110

businesses

www.windforfuture.com



Cluster Pôle Véhicule du Futur®
Solutions for future vehicles & mobility

POLE VÉHICULE DU FUTUR CLUSTER

Pôle Véhicule du Futur cluster is an **automotive and mobility cluster for vehicles, mobility solutions and related services**. It brings together and leads an ecosystem of 420 members in the Bourgogne-Franche-Comté and Grand Est regions. It unites companies, public research organisations, educational bodies and regions together around collaborative projects focusing on innovation, industrial performance improvement programmes as well as new training and skills, with a business objective.

Since its creation in 2005, the Cluster has spurred on the Fuel Cell and Hydrogen dynamic in Franche-Comté and Burgundy: at stake is the **structuring of an industrial Hydrogen sector**.

In partnership with national bodies devoted to the subject, the AFHYPAC and the Mobilité Hydrogène France coalition, the Cluster has participated in multiple studies and follows dedicated requests for proposals.

420

members

88,000

jobs

182

projects funded for €651M

www.vehiculedufutur.com

REGIONAL ECONOMIC AGENCY OF BOURGOGNE-FRANCHE-COMTÉ (AER)

- › SUPPORT the maintenance and development of economic activities and employment in the area
- › SUPPORT AND DEVELOP innovation and eco-innovation
- › SUPPORT the region's economic development strategies
- › PROMOTE the region's economic appeal

At each stage in a company's development: a single representative provides confidential professional guidance and personalised tracking.

› YOUR HYDROGEN CONTACT AT THE AER

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Tel. +33 (0)3 81 81 82 83

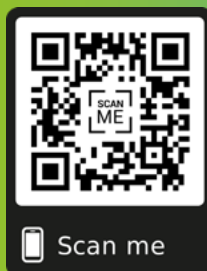


regional economic
agency of
bourgogne-franche-comté

energhyflash.blogspot.fr



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Hydrogen
in Bourgogne-Franche-Comté
video at

www.aer-bfc.com



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