



Leonardo da Vinci
Proyectos piloto

TRAINING and SENSITIZE

H2-Training Project



European Leonardo da Vinci Programme, (ES/06/B/F/PP-149461)

Curricula design and elaboration of **training contents** validated on an international scale focused on hydrogen-based technologies and fuel cells.

New emerging professional profile: "Installation and maintenance of hydrogen fuel cells"

10 partnerships from Five European Countries: plural participation of public and private entities:



San Valero Foundation, San Jorge University and Hydrogen Foundation from Aragón (Spain), Graz Energy Agency and Eco4ward (Austria), Kolping-Bildungswerk and Weiter Bildungszentrum (Germany), Wales University (England), Environment Park and Italian Hydrogen and Fuel Cell Association (Italy). October 2006-September 2008

Other actions



Publication of the book: Hydrogen and Fuel Cells, technical state and its possibilities in Aragón.

Summers Courses: National University of Distance Learning (UNED) and Teruel University.

Diploma in Hydrogen Technologies Specialization and Fuel Cells. Zaragoza University

Organization of the EHEC 2005, European Hydrogen Energy Conference.





Leonardo da Vinci
Proyectos piloto

H2-TRAINING PROJECT

H2-TRAINING



UNIVERSIDAD
SAN JORGE



H2-Training Project: (INN7/030625):
**Hydrogen Technologies Transfer
Project European Leonardo da Vinci
Programme**

Curricula design and elaboration of
training contents validated on an
international scale focused on hydrogen-
based technologies and fuel cells.

**10 partners from Five European
Countries:** plural participation of public
and private entities

Spain: San Valero Foundation (Promoter),
San Jorge University and Foundation for
the Development of New Hydrogen
Technologies in Aragón.

Austria: Graz Energy Agency and
Eco4ward.

Germany: Kolping-Bildungswerk and
Weiter Bildungszentrum

England: Wales University.

Italy: Environment Park and Italian
Hydrogen Association.

New emerging professional profile,
"technician for fuel cell installation and
maintenance"

Promote and reinforce the professional
training for improving the innovation
process and the competitiveness in order
to develop new job opportunities.

Start up: September 2006

Duration: 24 months

H2-TRAINING PROJECT

H2 TRAINING

1st Training Project: International Hydrogen Technologies Transfer Project European Leonardo da Vinci Programme

Curricula design and education of existing experts centered on an international scale focused on hydrogen based technologies and fuel cells

10 partners from five European countries: joint participation of public and private entities

Spain: San Valero Foundation (President), San José University and Fundación for the Development of New Hydrogen Technologies in Aragón

Austria: Innotric Energy Agency and Ecofys

Germany: Kitzinger Bildungsschule and Fraunhofer IPT

England: Vitesco University

Italy: Eni-Eurochem Park and Italian Hydrogen Association

New emerging professional profiles:
Technicians for cell and component and maintenance

Provide and reinforce the professional training for improving the innovation process and the development of ideas to develop new job opportunities.

Start up: September 2006
Duration: 48 months

H₂

GOBIERNO DE ARAGON
GOBIERNO DE CASTILLA Y LEON
GOBIERNO DE CATALUÑA
GOBIERNO DE LA COMUNIDAD VALENCIANA
GOBIERNO DE MADRID
GOBIERNO DE NAVARRA
GOBIERNO DE PAIS VASCO
GOBIERNO DE GALICIA
GOBIERNO DE EXTREMADURA
GOBIERNO DE CASTILLA LA MANCHA
GOBIERNO DE CANTABRIA
GOBIERNO DE BASCONIA
GOBIERNO DE LA RIOJA
GOBIERNO DE ARAGON
GOBIERNO DE CASTILLA Y LEON
GOBIERNO DE CATALUÑA
GOBIERNO DE LA COMUNIDAD VALENCIANA
GOBIERNO DE MADRID
GOBIERNO DE NAVARRA
GOBIERNO DE PAIS VASCO
GOBIERNO DE GALICIA
GOBIERNO DE EXTREMADURA
GOBIERNO DE CASTILLA LA MANCHA
GOBIERNO DE CANTABRIA
GOBIERNO DE BASCONIA
GOBIERNO DE LA RIOJA

OCIO Y TURISMO
Tourism and Leisure

INMOBILIARIO
Real Estate

Gamea Energía

ENERGIA
Energy

INDUSTRIA QUIMICA
Chemical Industry

TRANSPORTE
Transport

AUXILIAR DEL AUTOMOVIL
Automotive Suppliers

Gamea Energía

ENERGIA
Energy

INDUSTRIA QUIMICA
Chemical Industry

TRANSPORTE
Transport

AUXILIAR DEL AUTOMOVIL
Automotive Suppliers

THE FOUNDATION

OBJECTIVES

Private non profit organization to Council covers all the sectors of interest for the new hydrogen economy.

AIMS

Develop the renewable hydrogen pathway

Promote the settlement of the regional companies and SMEs in the hydrogen economy

Encourage research and technology development to enhance industrial competitiveness

Incorporate the renewable energies to new products and industrial processes

PRESENCE

Associated and being part in the Management Board of the Spanish Hydrogen Association (AHE) and the Spanish Fuel Cell Association (AFCE)

Participating in the International Technical Committee (IATC) CTB 131 and in its Workgroup

Founders of the Spanish Hydrogen and Fuel Cells Platform, being over 40 members of its Scientific and Technical Committee

Participation in the most Technology related Market, European Top Technology Programme and in Committees of the International Atomic Energy Agency

THE FOUNDATION

OBJECTIVES

Private non profit organization to Council covers all the sectors of interest for the new hydrogen economy.

AIMS

Develop the renewable hydrogen pathway

Promote the settlement of the regional companies and SMEs in the hydrogen economy

Encourage research and technology development to enhance industrial competitiveness

Incorporate the renewable energies to new products and industrial processes

PRESENCE

Associated and being part in the Management Board of the Spanish Hydrogen Association (AHE) and the Spanish Fuel Cell Association (AFCE)

Participating in the International Technical Committee (IATC) CTB 131 and in its Workgroup

Founders of the Spanish Hydrogen and Fuel Cells Platform, being over 40 members of its Scientific and Technical Committee

Participation in the most Technology related Market, European Top Technology Programme and in Committees of the International Atomic Energy Agency

RESEARCH AND DEVELOPMENT

Develop the new technologies related to hydrogen and renewable energy.
Contribute in the industrial modernization and competitiveness enhancement.



ITHER Project

Walqa Technology Park: Huesca (Spain)



ITHER: Technology Infrastructure for Hydrogen and Renewable Energy

High visibility facility for dissemination purposes. Real-scale test bench System and component development and optimization.

Photovoltaic facility (100 kW) and **R&D wind farm** (635 kW): electrolysis integration and grid simulation.

Green hydrogen generation for fleets.

Cornerstone: Hydrogen Technology Center.

Financed by the Education and Science Ministry and The Government of Aragón. PCT-A2266217-2005

October 2005-June 2007



Other actions



Hydrogen Generation from Renewable Energies Project

Financed by the Education and Science Ministry. CDT-120000-2005-37

Partners: CIEMAT, GAMESA Energy S.A., VESTAS Eólica S.A.U., Taim-Tig S.A.

Objective: Characterize the dynamic operation of a polymeric electrolyzer to integrate it with a wind turbine.

January 2006-June 2006

HOGA: Public Software for the optimization of hybrid systems by genetic algorithms.

Own financing

Collaboration with the Zaragoza University.



GOBIERNO DE ARAGON

H2-TRAINING PROJECT



H2-TRAINING



H2-Training Project: (2004/2005)
Hydrogen Technologies Transfer Project European Leonardo da Vinci Programme

Curricula design and elaboration of training contents validated on an international scale focused on hydrogen-based technologies and fuel cells.

10 partners from Five European Countries: plural participation of public and private entities

Spain: San Valero Foundation (Promoter), San Jorge University and Foundation for the Development of New Hydrogen Technologies in Aragón.

Austria: Graz Energy Agency and Eco4ward.

Germany: Kolping-Bildungswerk und Walter Bildungszentrum

England: Wales University.

Italy: Environment Park and Italian Hydrogen Association.

New emerging professional profile: "technician for fuel cell installation and maintenance"

Promote and reinforce the professional training for improving the innovation process and the competitiveness in order to develop new job opportunities.

Start up: September 2006

Duration: 24 months



FUNDACIÓN PARA EL
DESARROLLO DE LAS NUEVAS
TECNOLOGÍAS DEL HIDRÓGENO
EN ARAGÓN



THE FOUNDATION



OBJECTIVES



Private non profit organization: its Council covers all the sectors of interest for the new hydrogen economy.

AIMS

Develop the renewable hydrogen pathway.

Promote the settlement of the regional companies and SME's into the hydrogen economy.

Encourage research and technology development to enhance industrial competitiveness.

Incorporate the renewable energies to new products and industrial processes.



PRESENCE



Associated and taking part in the Management Board of the Spanish Hydrogen Association (AEH) and the Spanish Fuel Cell Association (APFICE).

Participating in the Standardization Technical Committee (AENOR CTN 181) and in its Workgroups.

Founders of the Spanish Hydrogen and Fuel Cells Platform, taking part in several of its Committees and participating in the European Platform.

Participation in the Joint Technology Initiative launch (European 7th Framework Programme) and in Committees of the International Energy Agency.

