



AeH₂
ASOCIACIÓN ESPAÑOLA
DEL HIDRÓGENO

OUR MEMBERS
SPANISH HYDROGEN ASSOCIATION

The AeH₂ Member Catalog provides information on most of the main companies, institutions, and organizations that are part of the hydrogen sector in Spain.

This catalog, which includes the majority of our AeH₂ members, has been compiled in order to facilitate cooperation amongst the hydrogen community.

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The AeH2

The Spanish Hydrogen Association (AeH2) is a non-profit organization whose main objective is to promote the development of hydrogen technology as an energy vector and its industrial and commercial use.

Amongst AeH2 members, you will find the most active Spanish companies, public and private institutions, and researchers in the sector. They all share a common interest: the development of hydrogen technologies that give place to an advanced hydrogen economy that is able to highlight all the social and environmental benefits of hydrogen. Furthermore, they all have developed strong technological developments related to hydrogen and fuel cells.

AeH2 has become a key player within the hydrogen community on a national and international level and will play an important role in the development of this emerging industry.

AeH₂
ASOCIACIÓN ESPAÑOLA
DEL HIDRÓGENO



Our Goals

The main goal of the AeH2 is to promote and encourage the development and growth of hydrogen technologies in Spain, with the aim of strengthening and enhancing its industrial and commercial use. Furthermore, the association aims to:



Meeting Point

To become a gathering place in the Hydrogen sector, bringing together Technology and research centers, public and private institutions, businesses, and Universities with an active interest in the sector of Hydrogen and fuel cells.



R&D&I

To promote research and innovation in the hydrogen and fuel cells sector, as well as promoting and facilitating the development of startups and technological knowledge.



Development

Provide support in the development of technologies related to the production, storage and distribution of Hydrogen and its application in fuel cells.



Education

Offer professional education through specific courses already consolidated in various Universities and training centers.



Legislation

Promote laws and legislation for the regulation of hydrogen as an energy vector.



Diffusion

Make hydrogen well known as an energy vector to society.

Partnerships

At a national level, the AeH2 maintains collaborative and cooperative relationships with different companies, public administrations, and ministries with the aim of being aware of all the latest development of hydrogen technologies in Spain.

Companies

bankinter

Sabadell

ceer

CEOE
Empresas Españolas

fegeca

gasnam

Redexis

sedigas

TECNIBERIA

TOYOTA

Public Administrations

IDAE
Instituto para la Diversificación y Ahorro Energético

CDTI
Comisión de Promoción de la Tecnología

ICEX
Agencia Española de Comercio Exterior

oecc
Organismo de Eficiencia Energética

ENERGÍA
ESTATAL DE INVESTIGACIÓN

ICo
Instituto de Crédito Oficial

Ministries

GOBIERNO DE ESPAÑA
MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO

GOBIERNO DE ESPAÑA
MINISTERIO DE INDUSTRIA, COMERCIO Y TURISMO

GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

GOBIERNO DE ESPAÑA
MINISTERIO DE TRANSPORTES, MOVILIDAD Y AGENDA URBANA

Partnerships

At an international level, the AeH2 maintains collaborative and cooperative relationships with its partners with the objective of being aware of the latest development of hydrogen technologies in different parts of the world, sharing “best practices” amongst partners and promoting the implementation of these technologies in Spain.

In addition, it seeks to enhance cooperation opportunities within the hydrogen sector with other countries. Currently, the AeH2 maintains collaboration and cooperation relationships with the following entities:



Initiatives

The **Spanish Hydrogen Technology Platform (PTe H2)** is an initiative promoted by the AeH2 and supported by the Ministry of Science and Innovation (MICINN). Since its launch in 2005, the AeH2 has assumed the role of the TPe H2's Technical Secretariat.

The PTe H2 is responsible for promoting innovation and technological development in the hydrogen industry in Spain. The Platform promotes the participation of Spanish entities in R&D&I projects (national and international) related to this sector with the aim of developing proprietary knowledge and technology that will place the Spanish industry in a competitive position at international level.



Initiatives

The Technical Committee for Standardization CTN-181 on Hydrogen Technologies

(Mirror Committee of the International Committee ISO TC 197) is the Committee responsible for the standardization of all aspects related to systems and devices for the production, storage, transport, distribution, measurement, and use of hydrogen. Everything related to hydrogen's technical specifications, facilities and associated devices, as well as the qualification of the personnel involved in the construction, operation, maintenance and inspection of these facilities.

The AeH2 has held the Technical Secretariat of CTN 181 since its launch in February 2005. Since its creation, the CTN 181 "Hydrogen Technologies" Committee has been managed and supported mainly, by the Spanish Hydrogen Association, carrying out translation activities and the adoption of ISO standards. At an international level, the CTN 181 works with CEN/TC 268/WG5 (Specific applications of hydrogen technologies), CEN/CLC/JTC6 (Hydrogen in energy systems) and ISO/TC 197 (Hydrogen technologies).



Initiatives

The **Hydrogen Industry Sectoral Policy Agenda** is a public-private collaboration program that seeks to promote a shared understanding of the hydrogen sector amongst all its stakeholders - the stage of development the sector is in, its competitive advantages, and the key measures and action plans that will serve to promote it.

This strategic document is in its final phase of preparation and is being reviewed by the AeH2.

Nevertheless, taking into consideration the speed in which the hydrogen sector continuously changes, it is expected that the Agenda Sectorial will be updated periodically in order to maintain the Agenda truthful and up to date, in line with the reality of this booming sector.



Initiatives

The Regulatory Working Group is an initiative promoted and financed by the Spanish Hydrogen Association (AeH2) and is managed by the Foundation for the Development of New Hydrogen Technologies of Aragon, together with SEDIGAS and BIP Consulting.

The objective of this group is to build a shared regulatory framework to be used in projects with hydrogen technologies. Equally, it will include the regulatory aspects that affect financing, tax treatment and even contracting authorities and contracting entities, in particular. public procurement relating to certain road transport vehicles.



Initiatives

The objective of the **Hydrogen Projects Census** is to compile, in a single document, projects related to hydrogen technologies that are being developed in Spain. The Census includes projects led by members of the AeH2 and also projects where AeH2 members collaborate. Partners, experts and interested parties can thus consult the Census whenever they need, having access to a report and an interactive map. These can be accessed through the AeH2 website.

The first draft of the Census achieved to collect data from 123 projects, covering the entire hydrogen value chain. The Census will continue to be updated monthly, meaning this number will increase over time as new projects are added.



Our Members

A
ABEI Energy
Abengoa Innovación
ABO Wind
AE, S.A. (AES)
AE Power Solutions Ibérica S.A.
AFRY Management Consulting
AGFRA
AHMUR
AIMEN Centro Tecnológico
Air Liquide España
ALENER
Alfa Laval Iberia
Alpiq
ALSTOM
Andersen Tax & Legal Iberia
Andritz AG
ANISOL
ANSASOL S.L.
Antuko
Aon
Applus+
ARCAMO GROUP®
ARENA
ARIEMA Energía y Medioambiente S.L.

A
Arizaga, Bastarrica y Cía, S.A. (ABC Compressors)
ARRAM CONSULTORES, S.L.
ARVENG Training & Engineering
Asea Brown Boveri S.A. (ABB)
Asistencia Técnica Industrial Asturiana, S.A. (ATEI)
ASMAIN
ATAWEY SAS
Atlantica Sustainable Infrastructure
Avalon Renovables
AVL IBERICA
AYESA Ingeniería y Arquitectura

B
Baltimore Aircoil Int nv
Base Sistemas
Baterías Solares España S.L. (BSE)
Bayware Projects España
Bembros Energy
Bilogistik S.A.
Bollfilter España S.L.U
Bp Energía España
Burotec Consultoría Técnica S.L.
Bureau Veritas
Burkert Ibérica S.A.U.

C

CADE Soluciones de Ingeniería S.L.

Capital Energy

CENER

CIIAE

Centro Nacional del Hidrógeno

Cepsa S.A.

CETIL Dispensing Technology S.L.

CETREN

CIEMAT

Circle Energy

CITES

Clan Tecnológica S.L. (CLANTECH)

CEES

CSIC

CO-AX Válvulas S.L.

COBRA IS

Copenhagen Infrastructure Partners P/S

Coolergy S.L.

Cummins Inc.

D

Dassault Systèmes

DEKRA

Dpto de Industria, Competitividad y
Desarrollo Empresarial. Gob. de Aragón

DEUTZ

DH2 Energy

D

DISTRON

Diverxia H2

DNV

Dräger Hispania S.A.U.

Duro Felguera Green Tech S.A.

E

ECOINTEGRAL - IDP

EDF Península Ibérica

Edificam Illes S.L.

EDP España

EHS Techniques

Elawan Energy S.L.

Elecnor Servicios y Proyectos

Electro Drives S.L.

Elogen

Elyse Energy Ibérica S.L.U.

Emerson

Empresarios Agrupados Internacional

Enagás Renovable

Endesa S.A.

Enerfin Sociedad de la Energía S.L

Energy Lab

EnerHi

Enertrag S.E.

Engie

Ente Vasco de la Energía

E

EPM

ERM Iberia

Esparity Solar

European Energy

Eurowind Energy

Evectra

Everoze S.P

EVO Group

Evos Algeciras S.A.U.

Exolum

EY

F

FBB Partners

Fondon Redes y Fluidos S.L.

Front Corporation Global Trade and Investment S.L.

Fotowatio Renewable Ventures (FRV)

Fundación CIDAUT

Fundación TENIKER

Fundación Hidrógeno Aragón

G

GAEVE Exp Imp S.L.

GEA Energía Crio S.L.

GEALIA

G

General Company H2 Green S.L.

Genesal Energy

Gesintia S.L.L.

GFM - Fotovoltaicas de la Mancha S.L.

GHENOVA

Gilbarco Veeder Root

Greenergy Renovables

Grupo DISA

Grupo Ibereólica Renovables

Gunvor

H

H2B2 Electrolysis Technologies S.L.

H2C - The Hydrogen Delivery Company

H2 Greem Global Solutions S.L.

H2 to Market

H2 Vector Energy Technologies S.L.

H - TEC Systems

Haffner Energy

HASKEL Sistemas de Fluidos España S.R.L

HEROSE Ibérica S.L.

Hidrógeno Circular S.L. (Green e w2 H2)

HIDRONA GEA S.L.U.

HINE Group

H

HIS Hydrogreen
HIPERBARIC S.A.
HYSPALYT
HOLTROP
Horizons Renewable Energy Systems S.L.
HVR Energy (Hidrógeno Verde Renovable S.L.)
Hydac Tecnología S.L.
Hydrogen Refueling Solutions (HRS)
Hydrogen Energy S.L. (H2E)
Hydros Power
HyFive
Hygreen Energy
HYPERION
HYREN
Hyundai

I

IBERDROLA
IBERFLUID INSTRUMENTS S.A.
Idea Energía S.L.
IDESA Industrial Plants S.L.U. (IDIP)
IDOM
ICNIS
INECO (Ingeniería y Economía del Transporte, SME MP S.A.)

I

IKAV Energy Spain S.L.U.
INAEL Electrical Systems S.A.
INECO Ingeniería, Tecnología y Consultoría S.A.
Indox Energy Systems
Ingenostrum S.L.
INGETEAM
Instituto CMT - Universitat Politècnica de València
Instituto IMDEA Energía
INTA - Instituto Nacional de Técnica Aeroespacial
ITM Testing Spain S.L.

J

JC Fábrica de Válvulas S.A.U.
Jumo Control S.A.

K

KING & WOOD MALLESONS
KITZ Corporation of Europe S.A.
KLINGER SPAIN
KPMG S.A.

L

Lhyfe

L

Linde Gas España

Logos Energía

M

Madrileña Red de Gas

Manufactura Moderna de Metales S.A.

MAPFRE

Matteco

McKinsey & Company S.L.

Messer Ibérica de Gases S.A.U.

Montrel

Mostos, Vinos y Alcoholes S.A.

MOTUSA

N

Naitec

Nano4Energy S.L.

Nara Solar

Naturgy

Nervion

Neuwalme S.L.U.

Nippon Gases España S.L.U.

Noksel España S.A.

Nordex Electrolyzers S.L.

N

Nortegas Green Energy Solutions

Norvento Enerxía

NTT DATA

Nuevas Técnicas de Automatización Industrial S.L.

O

OCA Global Consulting and Technical Advisory Services S.L.U.

ODENRA XXI S.L.

Ohmium Europe S.L.

OSMOFILTER

P

Pacifico Energy Partners

PASCH

PETRO ALACANT S.L.U.

PHYNIX Energy Iberia S.L.

PILZ

Planea Energía

PRF Gas Solutions

Productos de Instrumentación S.A.
(PISA)

PROTIO POWER S.L.

PSA INGENIEROS

Q

Q Energy GmbH

R

Recurrent Energy

REDEXIS

Reganosa

Renewco Power

REPSOL

RIC Energy

Robert Bosch España S.L.U.

Rosetta Technology Solutions S.L.

Roxtec S&P

RP Global Spain Operations

S

SailH₂ Ingeniería S.L.

Sarralle

Schaeffler Iberia S.L.U.

Schlaich Dauss S.L.P.

Schwer Fittings

SENER

SERTO GAL S.L.

SHiE, Servicios de Hidrógeno
Energéticos S.L.

Siemens Energy

S

Siemens S.A.

Sima Servicios Integrales Alonso S.L.

Sistema Ingeniería S.A.

Smartenergy Spain

Sociedad Española de Carburos
Metálicos S.A.

Solarig Global Services S.A.

Solartec

Southern Lights

Staubli Española

Sumitomo Corporation España S.A.

SUNCO Capital

Swagelok Ibérica

T

TaiichiO & Wolf Projects

TCA Técnicas de Control y Análisis

TCI GECOMP S.L.

Technip

TECNALIA

Tecnomot

Técnica de Fluidos S.L.U.

Técnicas Reunidas S.A.

TEIGA TMI S.L.

Telam Partners

T

Toyota España S.L.U
Trafag España S.L.
Trans-Grau S.L.
Tresca Ingeniería
TSK Electrónica y Electricidad S.A.
TÜV SÜD IBERIA
TYPSA, Técnica y Proyectos S.A.
TW Solar

U

Univergy Solar
Universal H2
Universidad de Burgos
Universidad Loyola
UNIVERSITAT ROVIRA I VIRGILI
Urbas Energy
URVA Fluidos Industriales S.L.

V

VAINDUSA
VALCAT Desarrollos Renovables
VÁLVULAS PHIVAL S.L.
VGPlanet
VINCI Energies España S.A.U.
VODIK Green Energy

E

Water2KW
Watson Farley & Williams
White Summit Capital
Witzenmann Española S.A.
Wolftank Iberia
Worley

X

X-ELIO

Y

Yokogawa Iberia

Z

ZwickRoell S.L.



Hydrogen vehicles

Hydrogen vehicles (include all transport vehicles that use hydrogen as their fuel. For example: cars, trucks, boats, trains, etc.)



Public sector

Belongs to the public sector



Financial sector

Entities belonging to the financial sector who are able to provide advice, or to finance projects related to the hydrogen sector



Training

Training



Consultancy

Consultancy



CHP systems

Hydrogen-based combined heat and power systems (CHPs which consume hydrogen or are based on fuel cells)



Energy companies

Energy companies(Oil & gas; electricity, renewables)



Equipment and systems integration services

Equipment and systems integration services



Engineering & EPC

Engineering and EPC



Research & Development

**Research and Development
(Entities who offer services of R&D&I)**



Industrial gases

Industrial gases



Hydrogen storage



**Hydrogen
compression**



**Hydrogen Refueling
Stations**



Hydrogen production



**Certification and
insurance**



Electrolyzers



Fuel cells



**Hydrogen transportation
and distribution**



Reformer unit



**Materials and
components**

**Hydrogen storage
(underground storage, salt caverns etc.)**

Hydrogen compression

**Hydrogen Refueling Stations (companies
marketing and/or operating HRS)**

Hydrogen Production

Hydrogen Certification and Insurance

**Electrolyzers
(production and/or marketing of electrolyzers)**

**Fuel cells
(production and/or marketing of fuel cells)**

Hydrogen transportation and distribution

**Production and/or merchandising of hydrogen
power plants by hydrocarbon reforming**

Materials and components

SPANISH HYDROGEN ASSOCIATION

ABEI ENERGY

Calle Monte Esquinza 24. 28010, Madrid



Website: www.abeienenergy.com

Email : ivanbarahona@abeienenergy.com

Phone: +34 655377923

ABEI Energy is an Independent Power Producer (IPP) that fully manages renewable electricity generation projects, being present throughout their cycle (Promotion-Construction-Asset Management), optimizing results in each phase.

It has +20 years of experience in the development of renewable plants in Europe, US and LATAM; betting on the energy transition towards zero-emission electricity generation, with the challenge of reducing costs and generating employment in the following geographies currently: Spain, Italy, France, UK, Poland and USA.

Due to this renewable generation capacity, ABEI works on the comprehensive development (production, transport and distribution) of renewable H2 projects, focusing on mobility, industry and natural gas blending as final uses, with the aim of decarbonizing these sectors at a fixed and competitive price. ABEI is willing to invest in all associated infrastructure for the generation, transport and distribution of green H2 up to the point of consumption, under different business models and collaborations.

ABEI is interested in establishing collaborations with entities that currently consume H2 as part of their commercial activities and/or that would be willing to consume renewable H2 to decarbonize their operations, taking advantage of ABEI's renewable plants for the generation of green H2, or by developing a project tailored for a specific consumer.

LINE OF BUSINESS

- 1 Renewable energy plants (mainly solar PV, wind, hydrogen and batteries)
- 2 EPC (Engineering, Procurement, Construction)
- 3 Operation and Maintenance
- 4 Asset Management

SPANISH HYDROGEN ASSOCIATION

ABEI ENERGY

Calle Monte Esquinza 24. 28010, Madrid

Website: www.abeienenergy.com

Email : ivanbarahona@abeienenergy.com

Phone: +34 655377923



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Engineering & EPC



Hydrogen production



**Hydrogen transportation
and distribution**

Calle Energía Solar, 1 - Campus Palmas Altas
41014, Sevilla

Website: www.abengoa.com

Email: abengoa@abengoa.com

Phone: +34 954937000

Abengoa is an international company that applies innovative technological solutions for sustainable development in the infrastructure, water and energy sectors. In this last field, it has become a world leader in the engineering and construction of both renewable and conventional energy generation projects (more than 13 GW installed), which currently incorporate the production and storage of green hydrogen and its derivatives in its hybrid solutions for decarbonization and energy transition.

Abengoa offers consulting and technological advice in addition to EPC and accompanies its clients from the beginning. Abengoa has more than 15 years of experience in hydrogen technologies, with a department dedicated to the execution of both national and international projects, ranging from the production of hydrogen, through electrolysis and reforming, to its uses for power production through fuel cells, industrial uses, mobility, renewable gas production, among others. This extensive experience allows Abengoa to offer highly innovative product solutions in specific sectors of the hydrogen value chain, through strategic alliances with leading manufacturers and technologists.

LINE OF BUSINESS

- 1 Production of hydrogen through the process of electrolysis and steam reforming
- 2 Power generation through fuel cells
- 3 H2 Vehicle Service Stations
- 4 Energy storage combining electrolysis, compression, storage and electrical generation
- 5 Production of renewable gas (Power to Gas)
- 6 Special defense projects in the maritime sector and aerospace

SPANISH HYDROGEN ASSOCIATION
ABENGOA INNOVACIÓN

ABENGOA

Soluciones tecnológicas innovadoras
para el desarrollo sostenible

Calle Energía Solar, 1 - Campus Palmas Altas.
41014, Sevilla

Website: www.abengoa.com
Email: abengoa@abengoa.com
Phone: +34 954937000

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



Engineering & EPC



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

ABO WIND



Calle Gran Vía Marqués del Turia 25, 1º
46005, Valencia, Spain

Website: www.abo-wind.com/es/

Email: global@abo-wind.es

Phone: +34 963531180

ABO Wind develops and builds wind and solar farms, as well as batteries and hydrogen projects around the world. Our presence in 16 countries and 25-year experience in the renewables sector (>5 GW developed) make us the right partner for renewable energy projects. Our more than 1,000 employees enthusiastically work together on re-newable energy projects for a more sustainable energy supply worldwide.

LINE OF BUSINESS

1

In addition to its traditional activity in wind and solar, ABO Wind has been working on green hydrogen for several years (20 GW of electrolysis under development in Spain, Canada, Argentina, South Africa, Tunisia, Germany and Finland). Our approach encompasses renewable energy supply, production and the complete development of the hydrogen infrastructure. We develop projects independently or jointly with partners and third parties

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

AESA

Aragó 383 4a Planta | 08013 Barcelona



Website: www.aesa.net/es

Email: rvila@aes a.net

Phone: +34 934449300

AESA is an energy consulting and engineering company specialized in energy efficiency and decarbonization for industry, which has more than 40 years of experience in the design, engineering, and construction of energy transformation facilities (cogeneration, pyrolysis, heat pumps, combustion of all types of fuels), thermal recovery (process optimization, effluents) and connection to networks (gas, electricity).

Its staff is made up exclusively of engineers, covering all disciplines: process, mechanical, electrical, civil and control, and covering all stages of the project: preliminary studies, feasibility, permits, basic engineering, detailed engineering, construction supervision, training of operators, supervision of tests and start-up, performance tests and support in the operation stage.

AESA's clients are both large energy companies and all kinds of industries with a significant energy consumption component. AESA is headquartered in Spain, has subsidiaries in Mexico and Colombia, and has carried out projects and studies in Latin America, Europe, and Africa.

LINE OF BUSINESS

1

Consulting/Advice: Feasibility analysis, Market Studies, PPA /PPH /PPH2, Comparison Technologies, Medium and long-term projections

2

Engineering/Construction: Basic, Detail, Constructive, PMC, Specifications, Plans, 3D, BIM, Legalizations, Supervision of works and commissioning, Training, Acceptance tests

3

Operation assistance: Operation and maintenance advice, Warranty claims, Adaptation to new environmental and legal requirements

SPANISH HYDROGEN ASSOCIATION

AESA

Aragó 383 4a Planta | 08013 Barcelona

Website: www.aesa.net/es

Email: rvila@aesane.net

Phone: +34 934449300



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION

AEG POWER SOLUTIONS IBÉRICA S.A.



POWER
SOLUTIONS

Calle Albert Einstein, 31. 01510, Vitoria-Gasteiz

Website: www.aegps.com

Email: e.ldearmentia@aegps.com

Phone: +34 609432373

AEG Power Solutions Ibérica S.A. provides its customers with security and reliability of electrical energy supply for industrial environments and critical infrastructures through uninterruptible power supply (UPS) products and solutions. Moreover, it offers the services required throughout the life cycle of the products. Our extensive experience and knowledge of energy conversion allows us to develop power electronics solutions for all types of applications such as the storage and conversion of energy associated with all types of industrial processes.

The AEG group was founded more than 100 years ago. It has a global presence and multiple clients in all geographical areas of the world. In the hydrogen sector, we manufacture robust power rectifiers - with high power factor and low and efficient harmonics - that take into account the particularities and requirements of both the electrical network and the electrolyzers. The hybrid design of our equipment helps the client minimize the Total Cost of Ownership (TCO).

LINE OF BUSINESS

- 1 Rectifiers
- 2 Bidirectional converter (BESS)
- 3 Power electronics
- 4 UPS
- 5 Battery chargers

SPANISH HYDROGEN ASSOCIATION

AEG POWER SOLUTIONS IBÉRICA S.A.



POWER
SOLUTIONS

Calle Albert Einstein, 31. 01510, Vitoria-Gasteiz

Website: www.aegps.com

Email: e.ldearmentia@aegps.com

Phone: +34 609432373

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**



**Equipment and
systems integration
services**



Engineering & EPC



Fuel cells



Electrolyzers



Hydrogen storage

SPANISH HYDROGEN ASSOCIATION

AFRY MANAGEMENT CONSULTING



Plaza Marqués de Salamanca 3-4 Planta 5, 28006, Madrid

Website: www.afry.com

Email: ana.castelao@afry.com

Phone: +34 672497053

We at AFRY Management Consulting are committed to accelerating change towards a sustainable world in the interest of future generations. We partner with our clients in energy, bioindustry, infrastructure, industrial and transport to develop expert advice that best support the growth of their businesses. With more than 700 consultants across over 20 offices on 5 continents, and supported by 19,000 experts at AFRY in design, engineering and digitalisation, we are driven by the idea of helping our clients find solutions to business-critical questions.

LINE OF BUSINESS

- 1 Energy consulting
- 2 Strategic advice
- 3 Forward looking market analysis
- 4 Organisational and digital transformation
- 5 M&A and transaction services
- 6 Sustainability consulting

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

Avenida de Beniparrell, 1 Silla 46460 (Valencia) España

Website: www.agfra.es

Email: agfrasl@agfra.com

Phone: +34 961255547

Agfra is an engineering company that develops machines and testing equipment for the hydrogen value chain. Additionally, it has a division dedicated to continuously maintaining and operating hydrogen production plants.

LINE OF BUSINESS

- 1 Testing equipment for leak testing
- 2 Material Analysis and other testing elements
- 3 Custom-made spare parts
- 4 Automation of production processes and quality controls
- 5 Complete flushing installations for purity analysis and leak testing in hydrogen tanks
- 6 Maintenance services in production plants

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Research &
Development**



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION

AHMUR - ASOCIACIÓN SECTORIAL DEL HIDRÓGENO VERDE DE LA REGIÓN DE MURCIA

Calle Gabriel Campillo s/n Polígono Industrial La Serreta
30500 Molina de Segura, Murcia



Website: www.ahmur.org

Email: secretaria.tecnica@ahmur.org

Phone: +34 968520361

THE SECTORAL ASSOCIATION OF GREEN HYDROGEN OF THE REGION OF MURCIA (AHMUR), is a private non-profit association of companies created to foster the transition of the Region of Murcia towards a decarbonized economy thanks to renewable energies and green hydrogen. AHMUR was founded in November 2020 with the mission of promoting investment projects and public-private partnerships in all stages of the green hydrogen value chain, including the production, storage, transportation, marketing, and end use of green hydrogen as a viable alternative to reduce emissions and fight climate change. To achieve its objectives, AHMUR promotes research and scientific studies to promote projects related to green hydrogen, as well as educational and public awareness activities to extend the use of clean energies and especially those based on green hydrogen.

LINE OF BUSINESS

- 1 Promoting green hydrogen projects. Training and dissemination activities.
- 2 Educational and public awareness activities.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



**Equipment and
systems integration
services**



Financial sector

SPANISH HYDROGEN ASSOCIATION

AIMEN CENTRO TECNOLÓGICO



Calle Relva, 27-A, Torneiros, E36410, O Porriño,
Pontevedra, Spain

Website: www.aimen.es

Email: jorge.menendez@aimen.es

Phone: +34 687448915

AIMEN Technological Center has more than 50 years of experience and has become a national and European benchmark in research, development and technological innovation in the areas of:

- Advanced manufacturing and laser manufacturing
- Digital technologies for manufacturing
- Smart materials
- Smart systems and recycling

Moreover, AIMEN provides differentiated technological services to the industry in the areas of:

- Manufacturing with advanced joining technologies
- Robotics and process digitalization
- Flexible transversal engineering service highly specialized in welding
- Corrosion
- Equipment calculation
- Product simulation
- Material testing

In the hydrogen sector, AIMEN supports utilities and engineering/EPC companies in the following areas:

- Engineering: Calculation of pressure equipment, foundations and civil works, explosion-proof calculations, HAZOP studies, CFD simulation, evaluation of P and T operating ranges to avoid risks, welding engineering and corrosion engineering
- Analysis, Testing and Materials Laboratory: Characterization of materials in different conditions in an H₂ environment, H₂ absorption, permeability and transport tests using electrochemical techniques, tightness tests, evaluation of hydrogen embrittlement

SPANISH HYDROGEN ASSOCIATION

AIMEN CENTRO TECNOLÓGICO



Calle Relva, 27-A, Torneiros, E36410, O Porriño,
Pontevedra, Spain

Website: www.aimen.es

Email: jorge.menendez@aimen.es

Phone: +34 687448915

LINE OF BUSINESS

1

R&D&I: High Performance Materials, Flexible Manufacturing Systems and Processes, Automation and Robotics, Laser Based Manufacturing, Micro and High Precision Manufacturing, Environment

2

Technological Services: Manufacturing Engineering, Welding and Corrosion Engineering, Calculation and Simulation, Mechatronics, Laboratories, Physical and Chemical Analysis, Mechanical Testing, Metallography, Non-Destructive Testing, Corrosion, Metrology, Polymers

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Consultancy



Engineering & EPC



Financial sector



Research & Development



Training

SPANISH HYDROGEN ASSOCIATION

AIR LIQUIDE ESPAÑA



Calle Agustín de Foxá 4 - 4 pl. 28036 Madrid - Spain

Website: www.es.airliquide.com

Email: pierre.cohen@airliquide.com

Phone: +34 915029436

In line with the 2015 Paris Agreements and to address the urgency of climate change, Air Liquide is committed to achieving carbon neutrality in its activities by 2050. As a pioneer in hydrogen, the Group is convinced that this molecule has an essential role to play to succeed in the energy transition.

Over the last 60 years, the Group has developed unique expertise in hydrogen, which positions it today as a leader in the production and distribution of low-carbon and renewable hydrogen and a world reference in liquid hydrogen. The Group currently initiates, pilots and develops some of the largest projects to decarbonize industry and road, air and sea transport.

Air Liquide has taken several commitments to accelerate the development of hydrogen for the energy transition: the Group plans to invest 8 billion euros in the low-carbon hydrogen value chain by 2035 and to develop a total electrolysis capacity of 3 GW by 2030.

LINE OF BUSINESS

- 1 Large Industrial Business Line supplies gas and power solutions to customers in the metallurgical, chemical, refining and energy industries, essential to their own core activities, to improve the efficiency and sustainability of their plants
- 2 The Industrial Clients business line serves industrial clients throughout Spain, from small companies to global enterprises, in diverse sectors such as food, steel, energy, chemicals, automotive and aerospace

SPANISH HYDROGEN ASSOCIATION

AIR LIQUIDE ESPAÑA



Calle Agustín de Foxá 4 - 4 pl. 28036 Madrid, Spain

Website: www.es.airliquide.com

Email: pierre.cohen@airliquide.com

Phone: +34 915029436

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Engineering & EPC



Research & Development



Industrial gases



Hydrogen storage



Hydrogen compression



Hydrogen production



Hydrogen Refueling Stations



Electrolyzers



Materials and components



Hydrogen transportation and distribution



Reformer unit

SPANISH HYDROGEN ASSOCIATION

ALENER

Ctra. de la Esclusa 11, Edificio Galia Puerto
1ª planta, 41011, Sevilla, Spain



Website: <https://www.alener.es>

Email: solar@alener.es

Phone: +34 954996100

ALENER is a company over 25 years of experience promoting Renewable Energies, Energy Efficiency Projects and Innovation. It began its activity in 2007, in the photovoltaic sector in Seville and has subsequently developed and put into operation more than 400MW in Spain, Portugal and the US. Currently, ALENER is committed to the production of H2 in cities, under its H2 Green City model through the project H2 PUERTO SEVILLE, as a model to export to other cities in Spain, Europe and the USA.

ALENER is present throughout the value chain: development, engineering, financing, construction and operation in its five business lines: Generation, Renewable Hydrogen Production, Engineering, Energy Efficiency, LED Technology and Sustainable Mobility. In addition, they develop products and services in collaboration with Technological Research Centers to make their projects more efficient and profitable.

LINE OF BUSINESS

- 1** GENERATION: Promotion, execution and operation of renewable plants, PPA Contracts and Self-consumption
- 2** Engineering: engineering, EPCM y EPC
- 3** ENERGY EFFICIENCY: Optimization of facilities, engineering and design, project execution and operation, project financing and LED technology
- 4** SUSTAINABLE MOBILITY: Vehicle fleet consulting, recharging electric vehicles, CNG and H2V service stations, transformation of vehicles to CNG and H2V
- 5** RENEWABLE HYDROGEN: Generation of renewable H2

SPANISH HYDROGEN ASSOCIATION

ALENER



Ctra. de la Esclusa 11, Edificio Galia Puerto 1ª planta, 41011,
Sevilla, Spain

Website: <https://www.alener.es>

Email: solar@alener.es

Phone: +34 954996100

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen transportation
and distribution**



Consultancy



Energy companies



**Hydrogen Refueling
Stations**



Engineering & EPC



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

ALFA LAVAL IBERIA

Calle Francisco Gervás 4, Planta 2^a - 28108
Alcobendas - Madrid

Website: www.alfalaval.es

Email: antonio.francisco@alfalaval.com

Phone: +34 628187270



Alfa Laval is a Swedish company, leading global provider of products and solutions within heat transfer, separation and fluid handling and help enhance the productivity and competitiveness of its customers in the areas of energy, marine, food and water. Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets. Alfa Laval offers the widest portfolio of cost-efficient heat exchangers for green hydrogen production, distribution, transportation, storage and use. Based on 90 years of development, our proven technologies support various applications across the hydrogen economy.

LINE OF BUSINESS

- 1 Products and solutions within heat transfer
- 2 Separation and fluid handling

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



**Hydrogen Refueling
Stations**



Fuel cells



Electrolysers



**Equipment and
systems integration
services**



Hydrogen production



Reformer unit



Calle Mornex 12, 1003, Lausanne, Switzerland

Website: www.alpiq.com/

Email: dolores.sanchezmunoz@alpiq.com

Phone: +41 783421404

Alpiq is a leading Swiss electricity producer and energy services provider that is active throughout Europe. Our power plant portfolio comprises of close to 3 GW of Swiss Hydro assets, shares in two Swiss nuclear power plants as well as flexible thermal power plants, wind farms and photovoltaic systems in Europe. Our business model is designed to manage our customers' market risks by leveraging our energy expertise and infrastructure to maximize the value of our own energy assets and those of our customers.

On hydrogen, we position ourselves in the production, commercialization and wholesale supply of green hydrogen. Our experience includes the first commercial hydrogen production plant of relevant size in Switzerland: we own a 45 percent stake in HydroSpider AG, a company that built a 2 MW electrolysis facility at the Gösgen run-of-river power plant to facilitate the decarbonization of commercial heavy vehicles. In Spain, we work on developing and invest in industrial scale green hydrogen production projects alone or with partners. We target the large industry and the heavy truck mobility sector. We want to leverage our experience in electricity markets, asset optimization and hydrogen engineering to develop competitive hydrogen supply for our clients.

LINE OF BUSINESS

1

Production and commercialization of electricity through own and third-party plants

2

Market access and risk management

3

Asset portfolio optimization in energy markets

4

Procurement of green electricity and origination of PPA agreements

5

Production, marketing and wholesale supply of green hydrogen

SPANISH HYDROGEN ASSOCIATION

ALPIQ

Calle Mornex 12, 1003, Lausanne, Switzerland



Website: www.alpiq.com/

Email: dolores.sanchezmunoz@alpiq.com

Phone: +41 783421404

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

ALSTOM



Calle Martínez Villergas 49 - Edificio V,
28027, Madrid, Spain

Website: www.alstom.com

Email: jaime.borrell@alstomgroup.com

Phone: +34 913345765

Leading the way towards a greener and smarter mobility, Alstom develops and markets integrated systems around the world that facilitate the transition to the future of sustainable transport. Alstom offers a full range of equipment and services, ranging from high-speed trains, metros, trams and e-buses to integrated systems, customized services, infrastructure, signaling and digital mobility solutions.

Alstom Spain has a long industrial and technological history in the country, with over 2,000 workers in 18 work centers. The company has developed an industrial plant dedicated to the manufacture of all types of rolling stock. It has also developed four technological innovation centers for the development of project programs related to railway safety, signaling, maintenance and digital mobility.

Alstom, a pioneer in the deployment of hydrogen in railways, developed the world's first passenger train - powered by fuel cells- into commercial service in 2018. The Coradia iLint, a silent train that only emits steam and condensed water, incorporated numerous innovations such as flexible energy storage in batteries and intelligent management of motive power and auxiliary loads. Currently, Alstom is developing railway projects with hydrogen fuel cells in countries such as Germany, the United Kingdom and France.

LINE OF BUSINESS

- 1 Rolling stock - High-speed, long-distance, suburban trains, subways, trams, electric buses
- 2 Components - For rolling stock, traction, bogies
- 3 Digital mobility - Automatic protection systems, security, video surveillance, automatic operation, multimodal coordination

SPANISH HYDROGEN ASSOCIATION

ALSTOM



Calle Martínez Villergas 49 - Edificio V,
28027, Madrid, Spain

Website: www.alstom.com

Email: jaime.borrell@alstomgroup.com

Phone: +34 913345765

LINE OF BUSINESS

4

Services - Maintenance, modernization, digital services, asset management

5

Infrastructure and Systems - Electrification, road, electric charging, turnkey projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Hydrogen transportation and distribution



Hydrogen vehicles



Research & Development

ANDERSEN TAX & LEGAL IBERIA

Calle Velázquez, 110, 28006 Madrid

Website: www.es.andersen.com

Email: marian.manresa@es.andersen.com

Phone: +34 917813300

Internationally, Andersen provides legal and tax services in more than 200 locations in 120 countries around the world through Andersen Global.

In Spain, it has offices in Madrid, Barcelona, Valencia and Seville, from where it advises its clients, accompanying them in both their national and international projects. The team is made up of more than 250 professionals and led by 40 partners responsible for designing, coordinating and managing the most appropriate equipment for each transaction.

LINE OF BUSINESS

- 1 Trade
- 2 M&A
- 3 Financial
- 4 Fiscal
- 5 Procedural and arbitration
- 6 Real State
- 7 Public
- 8 Competence
- 9 Restructurings

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Certification and insurance



Public sector

ANDRITZ AG



Stattegger Strasse 18, 8045 Graz, Austria

Website: <https://www.andritz.com/group-en>

Email: sara.rodriquezalonso@andritz.com

Phone: +34 618235457

Andritz is an international technology group offering a broad portfolio of innovative plants, equipment, systems, services and digital solutions for a wide range of industries. Sustainability is an integral part of the company's business strategy and corporate culture. With its extensive portfolio of sustainable products and solutions, ANDRITZ aims to make the greatest possible contribution to a sustainable future and help its customers achieve their sustainability goals. ANDRITZ is a global market leader in all four of its business areas – Pulp & Paper, Metals, Hydropower and Environment & Energy. Technological leadership and global presence are cornerstones of the group's strategy, which is focused on long-term profitable growth. The publicly listed group has around 30,000 employees and over 280 locations in more than 80 countries. In the green hydrogen and renewable fuels market, Andritz is a leading provider of end-to-end solutions, from consulting and engineering, through plant construction and EPC, to life cycle services including maintenance, supported by state-of-the-art digital solutions. In this area, it develops hydrogen plants based on alkaline electrolysis and PEM technologies, as well as supplying the associated equipment for the complete plant through optimised manufacturing and supply chain management.

LINE OF BUSINESS

- 1 Pulp&Paper, Metals, Hydropower and Environment & Energy
- 2 Mechanical and thermal solid/liquid separation
- 3 Grinding, pelletizing, pumping fluids
- 4 Emission reduction technologies, carbon capture
- 5 Green hydrogen and renewable fuel production

SPANISH HYDROGEN ASSOCIATION

ANDRITZ AG



Stattegger Strasse 18, 8045 Graz, Austria

Website: <https://www.andritz.com/group-en>

Email: sara.rodriguezalonso@andritz.com

Phone: +34 618235457

LINE OF BUSINESS

We cover from standalone machines to holistic process solutions including complete plants based on Engineering, Procurement and Supervision of Construction.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



Engineering & EPC



Electrolysers

SPANISH HYDROGEN ASSOCIATION

ANISOL

Rascafría, 3. - Pol. Ind. Ventorro del Cano
28925 Alcorcón, Madrid

Website: www.anisol.es

Email: anisol@anisol.es

Phone: +34 913528307



ANISOL is a company specialized in supplying on-line analysis solutions for the process industry, with its main attention to the energy, chemical, petrochemical, food and pharmaceutical industries, among others, in the Spanish and Portuguese industrial markets. We are focused in developing specific applications in the industrial on-line analysis field, using a selected and smart portfolio of measurement technologies from international top level manufacturers.

Among others, we supply analyzers, transmitters, sensors and detectors for hydrogen quality, purity, and safety. Main parameters we can typically measure online are Hydrogen, Oxygen and Moisture. Additionally, we supply analyzers sampling system for natural gas and biomethane both in transmission and storage as well as in generation. ANISOL's skilled team is ready to offer the dedication and flexibility of a professional and focused company for solving the challenging analysis requirements the hydrogen related industries may need.

LINE OF BUSINESS

- 1 Gas, liquids and solids analyzers for the process industry
- 2 Hydrogen, oxygen and moisture analyzers, transmitters, sensors and detectors for quality, purity and safety requirements
- 3 Engineering, design, integration and construction of analyzers systems with sample taking and conditioning
- 4 Supply, start-up, fine tuning, calibration, personnel training, maintenance and repair of analyzers and analysis systems

SPANISH HYDROGEN ASSOCIATION

ANISOL

Rascafría, 3. - Pol. Ind. Ventorro del Cano
28925 Alcorcón, Madrid



Website: www.anisol.es

Email: anisol@anisol.es

Phone: +34 913528307

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



Engineering & EPC



**Materials and
components**



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

ANSASOL S.L.



Paseo de Bolivia, 238, Elviria, (29604) Marbella

Página web: www.ansasol.com

E-mail de contacto: escudero@ansasol.com

Teléfono de contacto: +34 952765666

Ansasol S.L counts with sixteen years of experience in Spain and twenty in Germany. We carry out the analysis and development, processing, assembly, commissioning and maintenance of photovoltaic installations. We have our own department for planning, processing and developing the construction of technical projects. We carry out the acquisition, contracting and marketing.

We develop photovoltaic installation projects both on land and on the roofs of industrial warehouses. We offer a high-quality comprehensive service. From project planning and development to assembly and maintenance, together with our subsidiary company, Ansasol Service. Furthermore, we carry out the analysis, evaluation, development, installation and commissioning of Green Hydrogen generating plants through renewable energies. We contribute to the Hydrogen value chain through the generation and storage of renewable Hydrogen.

LINE OF BUSINESS

1 Photovoltaic plants

2 Renewable hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Consultancy



Engineering & EPC



Hydrogen production



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

ANTUKO



Calle Almagro 22, 5ta Planta, 28010, Madrid

Website: www.antuko.com

Email: oliver.potart@antuko.com

Phone: +34 615163232

Antuko is an energy consultancy firm with offices in Spain, Chile and Mexico, dedicated to development of green hydrogen and its derivatives, to power generation projects and to the generation, trade, commercialization and distribution of energy.

LINE OF BUSINESS

1 Development of green hydrogen and its derivatives

2 Development of greenfield energy projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production

Website: www.aon.com

Email: jose.angel.pagola@aon.es

Phone: +34 686697497

Aon is a global professional services firm that offers solutions and consultancy services for the management of risk and human resources. The ultimate goal of the firm's activity is to ensure that each Aon client is better informed, better advised to be able of making the best decisions. Aon is a multinational company listed on the New York Stock Exchange, its corporate headquarters are currently in London, and it has more than 50,000 professionals in 120 countries.

In Spain, Aon has the largest service network in the sector nationwide, made up of 22 offices and a team of more than 1,300 professionals who offer Aon advice and solutions to entities of all activity sectors, sizes and structures. Aon globally aims to achieve net zero greenhouse gas emissions by 2030. Aon will deliver on this commitment by reducing the environmental impact of its own operations and becoming a more resilient and sustainable organization.

Additionally, Aon is fully committed to helping our customers and vendors do the same. As a global professional services firm, Aon will continue to support the efforts of our clients and suppliers to mitigate their exposure to long-tail risks and help them achieve their own sustainability and resiliency goals.

LINE OF BUSINESS

1

Commercial Risk Solutions: We help clients identify, measure and manage their risk exposure

2

Reinsurance Solutions: Our experience and expertise help reinsurers navigate uncharted territory

3

Health Solutions: We help companies improve the health and well-being of their human capital

4

Wealth Solutions: We help executives, financial managers and investors optimize resources and provide a secure future for their stakeholders

SPANISH HYDROGEN ASSOCIATION

AON

Calle Velázquez, 86d - 28006 Madrid



Website: www.aon.com

Email: jose.angel.pagola@eon.es

Phone: +34 686697497

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen transportation
and distribution**



Financial sector



Public sector



Consultancy

SPANISH HYDROGEN ASSOCIATION

APPLUS+

Carretera Nacional VI, Km.582,
15168, Sada, A Coruña



Website: www.applus.com/global/es/

Email: info@applus.com

Phone: +34 912080800

Applus+ is a worldwide leader in the testing, inspection and certification sector. We are a trusted partner, enhancing the quality and safety of our clients' assets and infrastructures while safeguarding their operations and improving their environmental performance.

Our innovative approach, technical capabilities and highly-skilled and motivated workforce of over 25,000 employees assure operational excellence across multiple sectors in more than 70 countries. We offer a complete portfolio of solutions that address a range of needs, from asset integrity management to statutory compliance-based inspections. We place a strong emphasis on technological development, digitalisation and innovation, as well as having the latest knowledge of regulatory requirements.

LINE OF BUSINESS

- 1 Infrastructures and Buildings (buildings, civil infrastructure, industrial construction, mining)
- 2 Renewable Energy (wind, solar, energy storage, hydrogen)
- 3 Power (power grid T&D, nuclear, thermal power generation)
- 4 Oil & Gas (upstream, midstream, downstream)
- 5 Telecommunications
- 6 Government and Public Organisations

SPANISH HYDROGEN ASSOCIATION APPLUS

Carretera Nacional VI, Km.582,
15168, Sada, A Coruña



Website: www.applus.com/global/es/

Email: info@applus.com

Phone: +34 912080800

LINE OF BUSINESS

7 Aerospace NDT Services

8 Marine

9 Other Industries

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Financial sector



Consultancy



Energy companies



Engineering & EPC



**Research &
Development**



Public sector

SPANISH HYDROGEN ASSOCIATION

ARCAMO GROUP®

Calle Juan Espladiú 15, planta 12
28007, Madrid



Website: www.arcamo.com

Email: m.tosas@arcamo.com

Phone: +34 657863194

Arcamo Group® is a group of Spanish companies with headquarters in Madrid and sales offices in Tarragona and Portugal. With an international scope, Arcamo Group®, is dedicated to the distribution of material for industrial instrumentation, valves, service and technical support for installations. We also have the ability to manufacture and supply gas equipment, systems and cabinets.

Together, we treasure more than 30 years of experience. We are developers and providers of high-quality applications, including products and services for the chemical, research, oil, gas, power, alternative fuels, and semiconductor industries. We are expanding our collaborators in the sector, both customers and suppliers, adapting to new industrial movements around the world at all times.

We are committed to hydrogen as a strategic energy alternative for our country, which is why our product portfolio covers specific equipment to work with hydrogen energy sources, such as pressure regulators, pipes, accessories, valves and instruments for process control.

In addition, our group of companies includes H2Biotech, which is dedicated exclusively to the hydrogen sector, providing comprehensive technological, energy and economic solutions for green hydrogen and biogas projects. The range of projects ranges from small applications to turnkey projects.

LINE OF BUSINESS

- 1 Commercialization of industrial instrumentation and valves
- 2 Manufacture of equipment

SPANISH HYDROGEN ASSOCIATION

ARCAMO GROUP®

Calle Juan Espladiú 15, planta 12 28007 Madrid

Website: www.arcamo.com

Email: m.tosas@arcamo.com

Phone: +34 657863194



LINE OF BUSINESS

- 3 Systems and Gas Cabinet development of projects in the hydrogen sector
- 4 Installation and maintenance in the industrial sector
- 5 Supply of large components of hydrogen installations
- 6 Project financing through PPA
- 7 Retrofit of vehicles
- 8 Commercialization of fuel cell generator sets
- 9 Supply of hydrogen refueling stations

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Electrolysers



Energy companies



Hydrogen Refueling Stations



Equipment and systems integration services



Materials and components



Financial sector



Hydrogen vehicles

ARENA

Calle Alcalá, 128, 28009, Madrid

Website: www.arenapower.com

Email: pelayo.dominguez@arenapower.com

Phone: +34 611680672

ARENA is an independent company dedicated to the development of manageable renewable energy generation projects with new storage technologies as well as mobility projects that use renewable energy.

ARENA is a company created in 2019 and counts with a management team with extensive experience in the Renewable Energy Sector. Their team have worked in several countries and have tried many technologies of renewable energy generation and storage such as the generation and storage of green H₂. ARENA is incorporating these experiences into the current projects in development. They also have a portfolio of 3GW projects in Spain.

LINE OF BUSINESS

- 1 Development of turnkey projects
- 2 Renewable hybrid energy generation plants with different technologies: solar, PV, wind, BESS, and H₂

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Hydrogen Refueling Stations



Engineering & EPC



Consultancy

SPANISH HYDROGEN ASSOCIATION

ARIEMA ENERGÍA Y MEDIOAMBIENTE S.L



Calle Ronda de Poniente 15, 1º Izda,
28760 Tres Cantos, Madrid

Website: www.ariema.com

Email: info@ariema.com

Phone: +34 918045372 / +34 912419531

ARIEMA is a technology company founded in 2002. It is the oldest Spanish company in the sector and the only one with its own electrolysis technology. ARIEMA is positioned as a leader in its various lines of business.

Since its birth as INTA's technological Spin-Off, ARIEMA has been and is a leading player in R&D projects with Spanish and European public support. Throughout its history, ARIEMA has manufactured, installed, and started up fifteen electrolyser systems, as well as carrying out many hydrogen installations for various applications."

LINE OF BUSINESS

- 1 Electrolysis equipment and systems
- 2 Consulting and customer accompaniment
- 3 Institutional Management
- 4 Training
- 5 Technical advice on investments in the sector

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Electrolysers



Training



Fuel cells

SPANISH HYDROGEN ASSOCIATION
ARIZAGA, BASTARRICA Y CÍA, S.A.

Azitaingo Industrialdea, 6. 20600 Eibar



Página web: www.abc-compressors.com
E-mail de contacto: arico@abc-compressors.com
Teléfono de contacto: +34 943820400

Design, manufacturing and after-sales service of reciprocating compressors for air and industrial gases.

LINE OF BUSINESS

- 1 Air compressors (companies that offer R&D&I services)
- 2 Industrial gas compressors
- 3 Spare parts

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
storage**



**Hydrogen
compression**

SPANISH HYDROGEN ASSOCIATION

ARRAM CONSULTORES, S.L.



Paseo Fluvial nº15. Edificio Siglo XXI, planta 12 -
06011 Badajoz, Spain

Website: www.aram.net/es/

Email: aramconsultores@aram.com

Phone: +34 924207083

ARRAM group has carried out projects in different sectors, which has enabled it to position itself as a leader in design, management and the execution of industrial and architectural projects, reinforcing its presence as a specialized engineering firm on a national and international level.

The commitment made by the Arram Group is reflected on its customer requirement-focused methodology and on independence, ethics and economic and professional solvency that ensures trust and peace of mind in our management and services.

Since 1989 we have carried out comprehensive engineering and architectural projects, applying our excellent methodology to each and every one. Within the Renewable Gases business area, advisory and project development services related to this field are incorporated, being of increasing importance. Therefore, Arram Consultores is committed to Hydrogen as the cornerstone of the energy transition.

LINE OF BUSINESS

- 1 Energy projects development, specialized in renewable energy
- 2 Design, management, and execution of industrial and architectural projects
- 3 Permits and Licences
- 4 Legalizations
- 5 Supplier bidding

SPANISH HYDROGEN ASSOCIATION

ARRAM CONSULTORES, S.L.

Paseo Fluvial nº15. Edificio Siglo XXI, planta 12 -
06011 Badajoz, Spain



Website: www.aram.net/es/

Email: aramconsultores@aram.com

Phone: +34 924207083

LINE OF BUSINESS

- 6 Project management and technical assistance during execution
- 7 Commissioning
- 8 Grants and financing
- 9 Environmental department

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Engineering & EPC



**Equipment and
systems integration
services**



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION

ARVENG TRAINING & ENGINEERING.

Av. de Manoteras, 10. Edificio B, Oficina 111,
28050, Madrid, Spain



Website: www.arvengtraining.com

Email: info@arvenggroup.com

Phone: +34 913408851

Arveng Training & Engineering is a leading company providing Training and Engineering services based in Madrid, Spain, made up of motivated, highly qualified, and talented professionals, with more than twenty years of experience. Arveng has provided excellent engineering services for several large and international clients in the energy sector where the added value has always been the high technical capacity and the agility of its professional team. Arveng specializes in the development of advanced engineering studies (finite element analysis FEA, fatigue analysis, creep analysis, flexibility analysis), technical assistance (detailed studies, mechanical forensic engineering, fitness for service evaluations, asset integrity management, etc); as well as basic and detailed engineering. In recognition of Arveng's upward trajectory and commitment to quality, Arveng has been certified as the only ASME-authorized training provider in Spain. It offers specific and high-quality training courses in different engineering disciplines, and different formats. Since its beginning in 2010, Arveng has been committed to the environment, through sustainable solutions, it has always sought to contribute to the optimization of natural resources, reducing the environmental impact of industrial activity. A business line directly linked to hydrogen is currently being developed, making the company's engineering and training capabilities available to accelerate and facilitate the energy transition.

LINE OF BUSINESS

1

Specific and high-quality engineering training courses utilizing all three approaches. live, self-guided, and tailored training

2

Customized engineering solutions. Mainly in the Petrochemical, Energy Generation and Industrial sectors: basic and detailed Engineering, specialized studies, Technical assistance and procurement support.

SPANISH HYDROGEN ASSOCIATION

ARVENG TRAINING & ENGINEERING

Av. de Manoteras, 10. Edificio B, Oficina 111,
28050, Madrid, Spain



Website: www.arvengtraining.com

Email: info@arvenggroup.com

Phone: +34 913408851

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC



**Equipment and
systems integration
services**



Training



**Materials and
components**



ASEA BROWN BOVERI S.A.

Calle San Romualdo 13, 28037, Madrid, Spain

Website: www.new.abb.com/es

Email: jose-alfonso.almansa@es.abb.com

Phone.: +34 680291551

ABB is a technology leader in electrification and automation, enabling a more sustainable and resource-efficient future. The company's solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered and operated. Building on more than 130 years of excellence, ABB's ~105,000 employees are committed to driving innovations that accelerate industrial transformation. ABB brings a unique combination of experience, expertise and vision to the hydrogen industry.

LINE OF BUSINESS

- 1 Robotics
- 2 Process Automation
- 3 Electrification
- 4 Motion

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Industrial gases



Engineering & EPC



Equipment and systems integration services



Research & Development



Fuel cells



Hydrogen production



Reformer unit

SPANISH HYDROGEN ASSOCIATION

ASISTENCIA TECNICA INDUSTRIAL ASTURIANA S.A



Calle José Llama Fdez N°12 Pol. Somonte
33393, Gijón, Asturias

Website: www.atei-sa.com

Email: rocio.anes@atei-sa.com

Phone: +34 690603774

We have been offering all kinds of services to the industrial sector in Spain and abroad since 1987. From equipment maintenance, supply of materials, personnel training, or any kind of technical support that our customers need.

Competing with large companies, and collaborating with the best professionals in each sector, we have established ourselves as a reference company in an increasingly global and competitive market, gaining the loyalty of first class customers.

Our priority is customer satisfaction, and for this we look for specific solutions adapted to each situation. Whether it is organizing the work of a major shutdown or the provision of urgent services anywhere in the territory, for which we have all the necessary means, both human and material.

Our staff is formed by a large team of technicians and operators with great capacity and experience. We have two centers of workshops and offices, the headquarters in Gijón, equipped with specific high-end machinery for the main works that we develop, and a delegation in Seville that gives us the necessary support to meet the needs of our customers in southern Spain.

LINE OF BUSINESS

1 PSV Repair and Taring

2 Repair of control valves

SPANISH HYDROGEN ASSOCIATION

ASISTENCIA TECNICA INDUSTRIAL ASTURIANA S.A



Calle José Llama Fdez N°12 Pol. Somonte 33393, Gijón, Asturias

Website: www.atei-sa.com

Email: rocio.anes@atei-sa.com

Phone: +34 690603774

LINE OF BUSINESS

- 3 Supporting works
- 4 Sizing and selection of control valves and instrumentation equipment.
- 5 PSV sizing and selection
- 6 Digitization
- 7 Stops and starts
- 8 Portable workshops for shutdown work
- 9 Availability of emergency services
- 10 Engineering services
- 11 Topographical survey piping
- 12 Stress analysis
- 13 Distributors and official services of: Consolidated, Masoneilan, MEA, Uniontech and FLUCON.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**



**Equipment and
systems integration
services**



Engineering & EPC

ASMAIN

Calle de la Pinilla, 91
28023, Madrid

Website: www.asmain.com

Email: asmain@asmain.com

Phone: +34 670581994

Spanish company with a wide international presence headquartered in Madrid. It has two main business lines, both in the field of engineering and equipment supply. The first of them focused on the marine industry: ports, shipyards, etc. The second of them is related to renewable energies: the green hydrogen value chain. Their specialty is based on equipment supply and services focused on turnkey projects. They have been operating for more than 20 years, in which, they have established 3 offices with about 30 employees (the vast majority are engineers from classification societies BV, LRS, RINA, DNV-GL ...). Their secret is to offer high-quality products designed by them, manufactured by technological partners, inspected, and with control systems verifiable by their engineers and inspectors.

LINE OF BUSINESS

1 Turnkey projects for the entire renewable hydrogen value chain.

2 Engineering and equipment services:

- PEM and Alkaline electrolyzers
- Hydraulic and membrane compressors
- Storage
- HRS
- Green ammonia synthesis plant
- Nitrogen preparation unit
- Green methanol synthesis plant

SPANISH HYDROGEN ASSOCIATION

ASMAIN

Calle de la Pinilla, 91
28023, Madrid

Website: www.asmain.com
Email: asmain@asmain.com
Phone +34 670581994



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
storage**



**Hydrogen
compression**



**Materials and
components**



Fuell cells



**Hydrogen
production**



Reformer unit



**Hydrogen transportation
& distribution**

SPANISH HYDROGEN ASSOCIATION



ATAWEY SAS

Calle Serrano 110, 28006, Madrid

Website: www.atawey.com

Email: n.prieto@atawey.com

Phone: +34 636396239

ATAWEY designs, manufactures and sells turnkey green hydrogen refueling stations. With more than 10 years' experience in this field and 25 refueling stations in operation, Ataway is one of the French market leaders. They offer a full range of hydrogen refueling stations : compact, scalable and mobile to refuel all types of vehicles: trucks, buses, dumpsters, vans, forklifts...

LINE OF BUSINESS

1

Design, manufacture, supply, assembly, commissioning and technical operation and maintenance of hydrogen refuelling stations.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen Refuelling
stations**

SPANISH HYDROGEN ASSOCIATION

ATLANTICA SUSTAINABLE INFRASTRUCTURE



Calle Francisco Silvela 42, 28028 Madrid

Website: www.atlantica.com

Email: monica.insua@atlantica.com

Phone: +34 913300695

We are a sustainable infrastructure company with a majority of our business in renewable energy assets. We complement our portfolio of renewable assets with storage, efficient natural gas and transmission infrastructure assets, as enablers of the transition towards a clean energy mix. We are also present in water infrastructure assets, a sector at the core of sustainable development. Our purpose is to support the transition towards a more sustainable world by investing in and managing sustainable infrastructure, while creating long-term value for our investors and the rest of our stakeholders. Our position in the hydrogen value chain consists on promoting the development of projects, seeking investment opportunities and collaborating in their development.

LINE OF BUSINESS

- 1 Hydrogen production
- 2 Renewable energy production
- 3 Energy storage
- 4 Transmission linea
- 5 Water treatment

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Financial sector

SPANISH HYDROGEN ASSOCIATION
AVALON RENOVABLES

Calle Alfonso XII, nº 20, 28014, Madrid



Website: <https://www.avalonrenovables.com>

Email: activos@avalonrenovables.com

Phone: +34 915173570

AVALON develops renewable energy and green hydrogen projects, providing services in all the necessary phases to bring them to Commercial Operation, then participating in the management and maximizing, in this way, the return for their customers.

LINE OF BUSINESS

1

Development of renewable energy and green hydrogen projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Consultancy



Energy companies



Engineering & EPC



Equipment and systems integration services



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

AVL IBERICA

Paseo Arco de Ladrillo 68, Pl. 5,
47007, Valladolid



Website: www.avl.com

Email: gonzalo.diaz@avl.com

Phone: +34 630406349

AVL is one of the world's leading mobility technology companies for development, simulation, and testing in the automotive industry, and in other sectors. Drawing on its pioneering spirit, the company provides concepts, solutions, and methodologies for a greener, safer, and better world of mobility.

To achieve the vision of climate-neutral mobility, AVL drives innovative and affordable solutions for all applications - from traditional ICE and H2 ICE, to hybrid to battery and fuel cell electric technologies. AVL's passion is innovation.

Together with 10,700 employees at more than 90 locations and with 45 Tech and Engineering Centers worldwide, AVL is supporting customers in their mobility ambitions. In 2022, the company generated a turnover of 2 billion Euros, of which +10 % are invested in R&D activities to ensure continuous innovation.

From AVL, we strongly believe that hydrogen is the core pillar of a renewable energy system. From engineering, simulation, as well as testing we apply our systematic view in the whole value chain of hydrogen. With our cross-sectoral approach, covering the areas of hydrogen production from renewable electricity to the use of hydrogen in mobile and stationary applications, we are a reliable partner in many different stages of the hydrogen journey.



Website: www.avl.com

Email: gonzalo.diaz@avl.com

Phone: +34 630 406 349

LINE OF BUSINESS

- 1 Hydrogen testing benches and measurement equipment for PEM and SOFC systems
- 2 Electrolyzers and hydrogen combustion engines
- 3 Testing services for both fuel cells and combustion engines, inverters, batteries, electric motors, etc.
- 4 Development of PEM, SOEC, SOFC applications. Benchmarking. Simulation SW of thermal, electrochemical and flow processes at the cell level.
- 5 BoP design. Modelling on the degradation of fuel cells. SiL and HiL systems.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Training



Equipment and systems integration services



Research & Development



Public sector



CHP systems



Fuel cells



Hydrogen vehicles

AYESA INGENIERÍA Y ARQUITECTURA

Avda Marie Curie 2 edificio AYESA
41092. Sevilla

Website: www.ayesa.com
Email: jgarcia@ayesa.com
Phone: +34 954467046

AAYESA is a Spanish E.T.C. (engineering, technology & consulting) company with more than 57 years of experience, diversification and international expansion. AYESA is one of the largest engineering companies in Spain and a leader in Latin America, with a turnover of more than 650 M€ in professional ETC services, more than 11,500 employees located in 23 countries and with activities in 40 countries on five continents.

AYESA is present in large international critical infrastructure transformation projects, including energy projects (PV, WF, CSP, Biomass), T&D, OIL, gas, and associated industrial facilities. We are backed by more than 30 years of experience in industrial projects with our own technology in the process plant markets in the five continents.

Accompany us in the complete life cycle of projects: feasibility studies, conceptual, basic, detail, supervision and commissioning of power generation, transportation and storage plants. We cover the complete hydrogen cycle with experience since 2015 in h2 for European innovation projects. We are specialists in installations for the integral water cycle.

LINE OF BUSINESS

- 1 Industry
- 2 Oil & Gas
- 3 Energy and industrial systems

SPANISH HYDROGEN ASSOCIATION

AYESA INGENIERÍA Y ARQUITECTURA

Avda Marie Curie 2 edificio AYESA
41092. Sevilla



Website: www.ayesa.com
Email: jagarcia@ayesa.com
Phone: +34 954467046

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Industrial gases



Engineering & EPC



Public sector

BALTIMORE AIRCOIL INT NV

Carretera de Fuencarral, 44 CAMPUS TRIBECA
Edificio 1 Bajo izquierda

Website: www.baltimoreaircoil.eu/es

Email: jcastejonlopez@baltimoreaircoil.com

Phone: +34 651861565

Baltimore Aircoil is a global leader in developing, manufacturing and distributing evaporative or hybrid cooling and ice thermal storage products. We meet clients' specific cooling needs with high performance and environmental awareness with a product and solution for each market and need. This is thanks to the clear vision, its solid and reliable foundation and a team of experts with unrivaled experience in developing innovative cooling concepts.

LINE OF BUSINESS

- 1 Industrial refrigeration
- 2 HVAC
- 3 Industry

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

BASE SISTEMAS

Avenida. Diagonal Plaza, 14, Nave 16,
50197, Zaragoza



Website: www.BaseSistemas.com

Email: jacob.sobreviela@basesistemas.com

Phone: +34 629167622

Base Sistemas is an industrial automation and instrumentation engineering where our main activities are focused on: basic and detailed engineering, integration of Control Systems based on DCS and PLC+SCADA, design and configuration of industrial networks (Profinet, Modbus TCP/IP, OPC UA, IEC61850, etc.), design and manufacture of control cabinets, definition and supply of instruments and analyzer systems, comprehensive “turnkey” solution for automation projects.

Our main customers in the hydrogen sector:

- CLANTECH
- CALVERA HYDROGEN
- FUSION FUEL
- IBERDROLA
- INDUSTRIE HAUTE TECHNOLOGIE (IHT)
- SUNFIRE
- FUNDACIÓN HIDRÓGENO ARAGÓN
- CENTRO NACIONAL DE H2

Active member of the Spanish Hydrogen Association (AEH2), Andalusian Hydrogen Association (AAH2) and the Aragon Energy Cluster (CLENAR).

Base Sistemas defends a sustainable world and supports an energy transition towards environmentally friendly models. ISO14001:2015 In addition, and as a service quality credit, at Base Sistemas we have the ISO9001:2015 certification and we are integrating the ISO45001:2015 standard.

SPANISH HYDROGEN ASSOCIATION

BASE SISTEMAS

Avenida. Diagonal Plaza, 14, Nave 16,
50197, Zaragoza



Website: www.BaseSistemas.com

Email: jacob.sobreviela@basesistemas.com

Phone: +34 629167622

LINE OF BUSINESS

- 1 Basic and detailed engineering
- 2 Integration of control systems based on DCS and PLC+SCADA
- 3 Design and configuration of industrial networks (Profinet, Modbus TCP/IP, OPC UA, IEC61850, etc.)
- 4 Design and manufacture of control cabinets
- 5 Definition and supply of instruments and analyzer systems
- 6 Comprehensive turnkey solution for automation projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
Refueling
Stations**



Engineering & EPC



**Equipment and
systems integration
services**



**Research &
Development**

BATERÍAS SOLARES ESPAÑA S.L

Calle Juan Carlos I. 31. Local. 28660. Boadilla del Monte, Madrid

Website: www.bsspain.com

Email: info@bsspain.com

Phone: +34 635961079

BSE is an energy solutions company focused on providing global energy solutions to our customers in the segment of office buildings, industrial facilities and residential sector. These solutions lead us to look for synergies between renewable energies and new storage environments and their control and management systems.

LINE OF BUSINESS

- 1 Photovoltaic Solar Energy Solutions with and without storage. Air conditioning solutions. Energy Efficiency Solutions for buildings
- 2 Maintenance of electrical and thermal installations
- 3 Other installations

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Engineering & EPC



Materials and components



Fuel cells

BAYWA R.E. PROJECTS ESPAÑA

Calle de Sagasta, 31, planta 4, 28004 Madrid

Website: www.baywa-re.es/en/

Email: info@baywa-re.com

Phone: +34 936033110

BayWa r.e. Projects España is a renewable energy engineering, project development and service company. It offers a wide range of products and services, from engineering, manufacturing and installation of renewable energy systems to marketing and project management. BayWa r.e. Projects España's projects focus on renewable energy production, such as solar, wind and biomass. The company also offers technical, financial and legal advisory services to its clients, as well as maintenance and repair services for renewable energy systems. It provides efficient, reliable and cost-effective solutions for the development of renewable energy projects.

LINE OF BUSINESS

- 1 Development of renewable energy projects
- 2 Consulting and engineering services for renewable energy projects
- 3 Construction and maintenance services for renewable energy projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION
BENBROS ENERGY

BENBROS

Calle Gustavo Fernández Balbuena, 11
28002 Madrid

Website: www.benbros.es
Email: francisco.ruiz@benbros.es
Phone: +34 670310878

Benbros Energy was born with the vocation of being a leader in the renewable energy sector, helping to create a more sustainable planet, contributing to its decarbonization through the generation of renewable energy in an innovative and efficient way.

Our priority is to ensure the highest level of excellence during the development of our projects, with our values driving all our activities, including the highest standards of transparency and ethics.

Benbros Energy is managed by a team of experienced professionals and renewable energy specialists. Each member has more than 15 years on average in the analysis, development and sale of renewable assets.

Supported by CPPIB (Canadian Pension Plan Investment Board) through its European investment arm, Renewable Power Capital.

LINE OF BUSINESS

- 1 Solar development
- 2 Hydrogen
- 3 Batteries

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

BIOLOGISTIK, S.A.



Avenida Iparragirre (ADIF), 58 - PISO 1, SANTURTZI, BIZKAIA
railway terminal

Website: www.bilogistik.com

Email: ibon@bilogistik.com

Phone: +34 660960337

Integral logistic service, with which we take care of the merchandise from the reception at origin to the delivery at destination. We have extensive experience in air, sea, rail, road and multimodal transport. In addition, we offer warehousing, freight forwarding, ocean freight forwarder and customs brokerage services for all types of cargo. We facilitate access to any international market through our experience and our network of agents in the 5 continents.

LINE OF BUSINESS

1

Feedstock logistics

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles

SPANISH HYDROGEN ASSOCIATION

BOLLFILTER ESPAÑA SLU



Paseo Ferrocarril 339 3^o 1^a 08860
Castelldefels, Barcelona

Website: www.bollfilter.com
Email: tamara.lodetti@bollfilter.com
Phone: +34 936342680

As a worldwide company, founded in 1950, BOLL & KIRCH is the specialist in the filtration of liquids and gases. With an international presence, we have sales offices in Europe, America, Africa, Asia and the Middle East. For more than 70 years, we have been manufacturing customized and sustainable filtration solutions worldwide. We are a manufacturer of industrial filters certified according to DIN ISO 9001 + ISO 14001 + ISO 45001 and recognized by the most important classification societies. The fields of application of BOLLFILTER equipment are very varied and cover the most diverse branches of industry. We provide our customers with customized and efficient filtration solutions that meet the highest quality and environmental standards. With our own R&D department, we optimize filter applications in close cooperation with our customers and ensure our technological leadership through patents and utility models.

LINE OF BUSINESS

1 Manufacturer and filtration specialist for liquids and gases

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Consultancy



Equipment and systems integration services



Hydrogen transportation and distribution



Materials and components



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

BP ENERGÍA ESPAÑA

Calle Gomera, N°9, 28703
San Sebastián de los Reyes, Madrid



Website: www.bp.com/es

Email: sagrari.miguel_montalva@bp.com

Phone: +34 664370011

bp has been present in Spain since 1954 and is today one of the country's leading energy companies. bp ranks third in the Spanish oil market and also holds a leading position in the industrial natural gas market.

bp's ambition is to be a net zero emissions company by 2050 and, within the framework of its transformation into an integrated energy company, to convert the Castellón refinery into an integrated energy centre by boosting the generation of renewable hydrogen and biofuels, including sustainable aviation fuel (SAF).

The company is meeting this challenge by reducing emissions in operations, improving the carbon footprint of its own products and developing new business models around renewable energies.

By 2030, bp expects to have increased its low-carbon investments tenfold through an integrated portfolio of low-carbon technologies, including renewables, bioenergy and hydrogen. A key part of bp's long-term strategy is to partner with countries, cities and corporations to provide innovative energy, mobility and decarbonisation solutions as they chart their path to net zero emissions.

LINE OF BUSINESS

1 Integrated energy solutions

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

BUROTEC CONSULTORÍA TÉCNICA S.L.



Avenida Cardenal Herrera Oria 326 A-B, 28035, Madrid

Website: www.burotec.es

Email: info@burotec.es

Phone: +34 913768950

BUROTEC CONSULTORÍA TÉCNICA S.L., is a company with more than 35 years of experience in the Energy Sector. Specialist in providing H2 and Energy solutions at the Engineering, Safety, Permitting/Licenses, Integral Project Management and Certification/Inspection of equipment/materials. We provide technical solutions in H2 at a national level (Peninsula and Islands) as well as our international presence (USA, Colombia, Mexico, Peru, Qatar, Kuwait, Saudi Arabia and China)

LINE OF BUSINESS

- 1 Engineering
- 2 Safety
- 3 Auditing
- 4 Permitting
- 5 Licensing
- 6 Inspection
- 7 Certification and technical consulting

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Hydrogen Refueling
Stations



Engineering & EPC



Materials and
components



Certification and
insurance

SPANISH HYDROGEN ASSOCIATION

BUREAU VERITAS

Calle Valportillo Primera, 22-24, Caoba Building,
Pol. Ind. La Granja, 28108 Alcobendas, Madrid



Website: www.bureauveritas.es

Email: luis.conesa@bureauveritas.com

Phone: +34 912702200

At Bureau Veritas, as a "Business to Business to Society" services company, our mission is to build trust between organizations, public authorities and consumers. As a world leader in inspection, certification and testing services, we support more than 400,000 clients worldwide.

We provide targeted assistance to meet the growing challenges of safety, environment, social responsibility and quality throughout the supply chain, from raw material sourcing to final product use. At Bureau Veritas, we strive to accompany our clients in the execution of their sustainability strategy and meet expectations.

Bureau Veritas has extensive and proven experience in alternative energy projects, at different stages of the value chain, accompanying its partners in the innovation and development stages. And in most cases, creating together with the industry and authorities the necessary standards to address the ideal development for each sector and industry.

Aware of the current scenario and its transcendence, we propose to the different stakeholders to collaborate along the hydrogen value chain, with the premise of innovating and with the fundamental objective of helping to ensure a safe and efficient production, building a world of trust through the highest standards of quality and protection for society and the environment.

SPANISH HYDROGEN ASSOCIATION

BUREAU VERITAS

Calle Valportillo Primera, 22-24, Caoba Building,
Pol. Ind. La Granja, 28108 Alcobendas, Madrid



Website: www.bureauveritas.es

Email: luis.conesa@bureauveritas.com

Phone: +34 912702200

LINE OF BUSINESS

- 1 Design and construction: risk analysis, design review, equipment certification, identification of applicable regulations, inspection during fabrication and installation, QA/QC during construction.
- 2 H2 production: technical assistance, regulatory inspections and asset management
- 3 Compression/storage: risk analysis, explosion modeling. corrosion assessment, european directives.
- 4 Transportation/distribution: ON DEP and DEPT, transportation equipment certification

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Engineering & EPC



**Certification and
insurance**

BURKERT IBÉRICA S.A.U.

Avda. Barcelona 40A, 08970 Sant Joan Despí

Website: www.burkert.es

Email: info.spain@burkert.com

Phone: +34 934777980

Bürkert Fluid Control Systems was founded in 1946 in Baden-Württemberg (Germany), since then we have been committed to industrial gases through our valves, solenoid valves, regulating valves and integrated control systems.

With a presence in more than 35 countries, Bürkert is recognized worldwide for its high quality standards, the durability of its products and the competence of its technicians in finding engineering solutions to control problems of gaseous fluids.

Burkert Ibérica, a subsidiary of Bürkert Fluid Control Systems, has been operating in Spain since 1977, with headquarters in Sant Joan Despí (Barcelona) and offices in Levante/South, Central, North and Portugal.

LINE OF BUSINESS

- 1 On-off and proportional solenoid valves
- 2 On-off, pneumatic and electric process valves
- 3 Mass flow meters and controllers
- 4 Pneumatic and electric control valves
- 5 Pneumatic maneuvering and pneumatic control cabinets
- 6 Field instrumentation
- 7 Customized control systems

SPANISH HYDROGEN ASSOCIATION

BURKERT IBÉRICA S.A.U.

Avda. Barcelona 40A, 08970 Sant Joan Despí



Website: www.burkert.es

Email: info.spain@burkert.com

Phone +34 934777980

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

CADE SOLUCIONES DE INGENIERÍA, S.L.



Parque Científico y Tecnológico, Paseo de la Innovación,
3, 02006 Albacete

Website: www.cadeengineering.com
Email: magarcia@cadesoluciones.com
Phone: +34 605982513

CADE is an engineering, consulting and technology company founded in 2003, with offices in Albacete and Madrid. The company develops its activities in the energy (conventional and renewable) and industrial fields, mainly at international level.

In relation to H₂, CADE develops the following activities: Engineering and Consulting applied to the production, separation and high pressure storage of Hydrogen as an energy storage vector, its integration with renewable generation and industrial processes.

Technology and Know-How: Production, separation and high pressure storage of renewable gases -hydrogen, methane and carbon dioxide-, based on gasification in supercritical water, with application to residual or cultivated aqueous biomasses (algae), and integrable as energy storage for renewable generation (power to gas).

LINE OF BUSINESS

- 1 Multidisciplinary engineering for industrial and process plant design
- 2 Thermal, hydraulic and mechanical design of process equipment
- 3 FEM/CFD analysis and simulation
- 4 Structural consultancy
- 5 Mechanical design

SPANISH HYDROGEN ASSOCIATION

CADE SOLUCIONES DE INGENIERÍA, S.L.



Parque Científico y Tecnológico, Paseo de la Innovación,
3, 02006 Albacete

Website: www.cadeengineering.com
Email: magarcia@cadesoluciones.com
Phone: +34 605982513

LINE OF BUSINESS

- 6 Asset integrity consulting (industrial facilities and equipment)
Technical expertise; technology and R&D (industrial solar heat, supercritical water gasification of wet biomasses, thermal storage in concrete)
- 7

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Industrial gases



Engineering & EPC



Equipment and systems integration services



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

CAPITAL ENERGY



Paseo del Club Deportivo 1, edificio 13, planta 2ª, 28223
Pozuelo de Alarcón, Madrid

Website: www.capitalenergy.com
Email: p.vazquez@capitalenergy.com
Phone: +34 910054499

Founded in 2002 with the purpose of promoting the emerging renewable energy sector, convinced, with a pioneering vision, of its enormous potential to transform the energy model.

We are a company with almost 20 years of history that has become the first vertically integrated 100% renewable energy company in the Iberian Peninsula. We cover from the promotion and development business to the generation, storage and commercialization of clean electricity.

The company is committed to disruptive and innovative projects in technologies that will be key in the coming years. We are currently developing several initiatives that will bring manageability, flexibility and diversification to our portfolio. These include the production of renewable hydrogen and its derivatives (such as ammonia and methanol).

LINE OF BUSINESS

- 1 Development: leader in renewable energy promotion. Largest platform of renewable projects under development in the Iberian Peninsula.
- 2 Construction management: we have an expert team to manage and supervise the construction of all your assets.
- 3 Energy operation and management: we integrate various services for the operation of assets
- 4 Renewables and innovative technologies (storage, green hydrogen, offshore). We develop green hydrogen projects at scale, anticipating market challenges in the early stages, with optimal green hydrogen generation conditions to achieve the lowest LCOH

SPANISH HYDROGEN ASSOCIATION

CAPITAL ENERGY

Paseo del Club Deportivo 1, edificio 13, planta 2ª, 28223
Pozuelo de Alarcón, Madrid

Website: www.capitalenergy.com

Email: p.vazquez@capitalenergy.com

Phone: +34 910054499



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



**Hydrogen
production**

Website: www.cener.com
Email: igarbayo@cener.com
Phone: +34 948252800

The National Renewable Energy Centre of Spain (CENER) develops applied research in renewable energies, and provides technological support to companies and energy institutions in five areas: wind, solar thermal and photovoltaic solar energy, biomass, energy transition in cities, and grid integration of energy. CENER is a technology centre with worldwide recognised prestige, activity and experience. The Board of Trustees is comprised of the Spanish Ministry of Science and Innovation, Ciemat, the Ministry for the Ecological Transition and Demographic Challenge, and the Government of Navarre.

LINE OF BUSINESS

- 1 Development of R&D&I projects for industrial application
- 2 Highly skilled testing services and certification for components
- 3 Technical assistance and feasibility studies for renewable energy technologies

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Electrolyzers



**Equipment and
systems integration
services**



**Materials and
components**



Fuel cells



**Hydrogen
production**



CHP systems

CENTRO IBÉRICO DE INVESTIGACIÓN EN ALMACENAMIENTO ENERGÉTICO

Avda. de la Investigación, s/n Ed. PCTEX. 06006, Badajoz



Website: www.ciae.org/

Email: dparra.ciae@fundecyt-pctex.es

Phone: +34 618040515

The Iberian Energy Storage Research Center (CIAE) is a center of excellence in the research, development and application of energy and hydrogen storage technologies to facilitate the integration of renewable energies and reduce greenhouse gas emissions. Research encompasses laboratory and modeling work at different scales and technology readiness levels (TRLs), as well as innovative pilot plants. CIAE offers a stimulating research environment to work on some of today's most pressing energy, environmental and societal challenges. CIAE benefits from a wide network that includes research centers and companies from the Iberian Peninsula and abroad.

LINES OF BUSINESS

- 1 Basic research, applied research and on-demand research
- 2 Pilot plants
- 3 Public-private laboratories
- 4 Ad-hoc consortium
- 5 Technology incubator for start-ups
- 6 Collaboration in competitive projects
- 7 Consultancy

SPANISH HYDROGEN ASSOCIATION

CENTRO IBÉRICO DE INVESTIGACIÓN EN ALMACENAMIENTO ENERGÉTICO

Avda. de la Investigación, s/n Ed. PCTEX. 06006, Badajoz



Website: www.ciaie.org/

Email: dparra.ciaie@fundecyt-pctex.es

Phone: +34 618040515

LINE OF BUSINESS

- 8 Contracting of services provided by pilot plant and scientific installations
- 9 Technology transfer
- 10 Specific training and education programs

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



**Research &
Development**



Hydrogen storage



**Hydrogen
compression**



Electrolysers



**Certification and
insurance**

SPANISH HYDROGEN ASSOCIATION

CENTRO NACIONAL DEL HIDRÓGENO



Prolongación Fernando el Santo, s/n 13500
Puertollano, Ciudad Real

Website: www.cnh2.es

Email: carlos.funez@cnh2.es

Phone: +34 926420682

The Spanish National Hydrogen Centre (CNH2) is a National Research Centre devoted into research and development of hydrogen technologies covering the whole value chain: hydrogen production, hydrogen storage and purification, hydrogen conversion into energy using fuel cells, and integration in different application both stationary and mobility scope. It was created in 2007 and currently has 62 people who cover the entire hydrogen and fuel cell value chain. The CNH2 is also devoted to testing processes, characterization, standardization, certification or validation of technological developments achieved by the productive sector to improve the competitiveness of enterprises and to promote the implementation of hydrogen and fuel cell technologies. For carrying out the daily activities, the CNH2 has 14 laboratories and 4 auxiliary facilities focused in all areas related to H₂ and fuel cells, allowing to develop and scale up processes, prototypes and equipment. Since 2008, the CNH2 has been involved in more than 40 R&D projects related to hydrogen and fuel cells funded by international, European, national and regional programs taking part as partner and/or project coordinator. On the other hand, the CNH2 carries out other type of projects intended to develop new technologies or processes, and/or to transfer technology to the industry.

LINE OF BUSINESS

- 1 Consultancy
- 2 Engineering
- 3 H₂ production by alkaline electrolysis
- 4 PEM & SOEC

Prolongación Fernando el Santo, s/n 13500
Puertollano, Ciudad Real

Website: www.cnh2.es
Email: carlos.funez@cnh2.es
Phone: +34 926420682

LINE OF BUSINESS

- 5 Storage
- 6 Power electronics
- 7 Development and testing of hybrid microgrid and smart grid systems
- 8 Modelling and simulation
- 9 PEM/SOEC fuel cell and electrolyzer manufacturing
- 10 Characterization of materials and components
- 11 H₂ transformation PEM/SOEC fuel cells
- 12 H₂ integration in mobility and home applications in a real environment
- 13 Manufacture of test benches and components

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**



Electrolysers



Fuel cells



Consultancy



**Research &
Development**



Training

SPANISH HYDROGEN ASSOCIATION

CEPSA S.A

Paseo de la Castellana 259A, Madrid



Website: www.cepsa.com

Email: joaquin.rodriguez.j@cepsa.com

Phone: +34 900100269

Cepsa is a leading international company committed to sustainable mobility and energy with a strong technical expertise from more than 90 years of activity. The company also has a world-leading chemicals business with an increasingly sustainable activity.

Cepsa presented its new strategic plan for 2030, Positive Motion, in 2022, which projects its ambition to be a leader in sustainable mobility, biofuels and green hydrogen in Spain and Portugal, and to become a benchmark in the energy transition. The company places customers at the center of its activity and will work with them to help them advance their decarbonization goals.

LINE OF BUSINESS

1 Energy

2 Green H2

3 Renewable energy

4 Biofuels

5 Mobility

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

CETIL DISPENSING TECHNOLOGY S.L.



Pº Marqués de Zafra nº5 28028 – Madrid

Website: www.grupoibereolica.com/

Email: gac@grupoibereolica.com

Phone: +34 915570566

First Spanish manufacturer of a certified hydrogen dispenser Cetil bring to the rapidly growing hydrogen market, our 70 years of experience in all areas related to measurement and delivery of liquid and liquefied fuels. The equipment we design and manufacture meets the most stringent requirements, from both national and international authorities, and from our customers, who have put their trust in our range of products for new energies for more than 15 years. - We are experts in metrology applied to fuel delivery systems and equipment for potentially explosive atmospheres.

We offer expert advice, online delivery data analysis and after sales service thanks to our in-house experts' team. - We can analyse, explore, and develop any requirements from our customers in order to fulfil their needs. Our E30 H2 hydrogen dispenser is OIML R139 certified by NMi and has national certifications for Germany and the Netherlands. It is built around our own EAS2 electronic calculator specifically tailored for the hydrogen delivery and measurement. We offer H35 and H70 (standard or HF) to fill any kind of vehicle. The dispenser is user friendly, thanks to the option to install multimedia systems to help with the delivery process. Cetil also provides solutions for tube trailer and MEGC.

LINE OF BUSINESS

1

Hydrogen equipment manufacturer: certified hydrogen dispensers, truck loading and hydrogen distribution systems

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

CETREN



Paseo de la Castellana, 91. Planta 10 28046, Madrid

Website: www.cetren.es

Email: malazaro@cetren.es

Phone: +34 686676224

Main activities:

Conformity assessment: product and system certification, Notified Body (NoBo), Directive (EU) 2016/797, All subsystems, ENAC accreditation, Designated Body (DeBo). Verification procedure of national notified standards under Directive (EU) 2016/797, ENAC accredited, Independent Safety Assessor (ISA and ASBO) (ENAC accredited).

Risk assessment and evaluation: Regulation (EU) 402/2013, Independent safety assessment of railway application projects (UNE-EN 50126:2005, UNE-EN 50128:2012 and UNE-EN 50129:2005).

Testing Laboratory: required tests ETI PMR: Contrast, Reflectance of pavement, Lighting, STI-PA, Acoustics.

Training: License and driving certificates (machinists). Qualifications of: Driving, Circulation manager, Circulation assistant, Work foreman, Circulation safety pilot, Infrastructure machinery operator, Train operations assistant, Loading operations manager, Shunting vehicle operator, Railway rolling stock maintenance control manager, Cab assistant, Authorizations in: Responsible of circulation in ports, Responsible of circulation in sidings and particular derivations, Auxiliary of circulation in ports.

Website: www.cetren.es

Email: malazaro@cetren.es

Phone: +34 686676224

LINE OF BUSINESS

1

Conformity assessment:

- Certification of products and systems
- Notified Body (NoBo)
- Directive 2016/797
- Designated Body (DeBo)
- Verification of national notified standards Directive 2016/797
- Independent Safety Assessor (ISA and ASBO)
- Testing Laboratory
- Contrast
- Pavement Reflectance
- Lighting, STI-PA, Acoustics

2

Training: Rail Vehicle Driving Certificates and Qualifications Order FOM/2872/2010

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Certification and insurance



Training

SPANISH HYDROGEN ASSOCIATION

CIEMAT



Avda. Complutense, 40, Ed.20, Madrid

Website: www.ciemat.es

Email: josemaria.sanchez@ciemat.es

Phone: +34 913466099

The CIEMAT is a public research center focusing on energy and environment and the technologies related to them. The Gas Separation and Clean-up Group, of the Unit for Energy Valorization of Fuels and Wastes (VALER) (<http://rdgroups.ciemat.es/web/valer>), focuses on sorbent & catalytic technologies for gaseous emission minimization from combustion & gasification of coal, biomass and waste. Activities related to hydrogen production comprise removal of syngas pollutants, syngas upgrading by steam reforming and water-gas-shift, hot gas separation with inorganic membranes, CO₂ capture using solid sorbents and novel catalytic and electro catalytic technologies for CO₂ conversion to fuels using renewable H₂.

The objective of the Fuel Cell and Systems Integration Unit (UPCIS) (<http://rdgroups.ciemat.es/web/pilascomb>), is the development and demonstration of fuel cells (PEMFC and SOFC) and electrolyzers (AEMEL, PEMEL, AEL) as efficient energy converters for stationary, mobile and portable applications. Facilities are available for material synthesis and component development, including advanced techniques (as electrospray), electrochemical studies, component manufacturing, fuel cells and electrolyzers assembly, test benches for operation of these equipments, and integrated system demonstrators.

LINE OF BUSINESS

- 1 Research, development and innovation in energy-related technologies. Research, development and innovation in absorbent and catalytic technologies for the minimization of gaseous emissions from combustion and gasification of coal, biomass and waste. Research, development and innovation in fuel cell technologies (PEMFC and SOFC), electrolyzers (AEMEL, PEMEL, AEL) and systems that integrate them.

SPANISH HYDROGEN ASSOCIATION

CIEMAT

Avda. Complutense, 40, Ed.2o, Madrid

Website: www.ciemat.es

Email: josemaria.sanchez@ciemat.es

Phone: +34 913466099

Ciemat
Centro de Investigaciones
Energéticas, Medioambientales
y Tecnológicas

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



Consultancy



CHP systems



**Equipment and
systems integration
services**



**Research &
Development**



Electrolysers



Fuel cells



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

CIRCLE ENERGY

Avda. Alberto Alcocer 24 , Floor 7 , 28036 - Madrid



Website: www.circle.energy

Email: aurieta@circle.energy

Phone: +34 911091102

Circle Energy is a company specialized in the development of utility-scale projects. It has extensive experience in the sector, having developed more than 2,500 MW nationally and internationally.

LINE OF BUSINESS

1

Project development

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

CENTRO DE INVESTIGACIÓN EN TECNOLOGÍA, ENERGÍA Y SOSTENIBILIDAD (CITES) DE LA UNIVERSIDAD DE HUELVA



ETSI, Campus «El Carmen»
Avda. de las Fuerzas Armadas, s/n. 21007 Huelva

Website: www.citesuhu.com

Email: andujar@uhu.es

Phone: +34 619175693

The mission of the Center for Research in Technology, Energy, and Sustainability (CITES) of the University of Huelva, is the promotion of knowledge and research of excellence in science and technology, as well as informing, training, innovating and transferring results to companies and society alike. Moreover, they do research, closely linked to the field of energy, mainly renewable energy mixed with hydrogen technologies. The Center has a strong vocation in the search for sustainability in its broadest sense (environmental and social without giving up economic development).

CITES has full facilities. Specifically, in wind and photovoltaic fields, as well as renewable hydrogen production (alkaline and PEM technologies), storage (pressurized gas and metal hydrides) and consumption for direct electricity generation (fuel cells) or thermal utilization (turbines and engines).

CITES Strengths:

- Experience in H2 technologies for more than 20 years
- Prototyping capabilities
- Dozens of R&D&i projects carried out, including European, national, regional and technology transfer to companies
- Dozens of doctoral theses supervised with numerous awards
- Hundreds of publications in magazines, books and conferences
- Dozens of patents, most of them PCT

SPANISH HYDROGEN ASSOCIATION

CENTRO DE INVESTIGACIÓN EN TECNOLOGÍA, ENERGÍA Y SOSTENIBILIDAD (CITES) DE LA UNIVERSIDAD DE HUELVA



ETSI, Campus «El Carmen»
Avda. de las Fuerzas Armadas, s/n. 21007 Huelva

Website: www.citesuhu.com

Email: andujar@uhu.es

Phone: +34 619175693

LINE OF BUSINESS

- 1 Production of H2 by electrolysis using non-conventional currents to improve efficiency
- 2 Application of H2 technologies for energy supply in residential applications
- 3 Generation, cogeneration and trigeneration with green H2
- 4 Refrigerated food delivery van hybridized with H2 technologies
- 5 Renewable smart grid hybridized with H2 technologies
- 6 Power electronics, instrumentation and control for H2 systems. Digital twins

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Fuel Cells



Consultancy



**Research and
Development**



Energy companies



Training

SPANISH HYDROGEN ASSOCIATION
CLAN TECNOLÓGICA S.L.
(CLANTECH)



Calle Industria 5, Planta 1, Módulo 15; 41927
Mairena del Aljarafe, Sevilla

Website: www.clantech.es
Email: INFO@CLANTECH.ES
Phone: +34 955338110

Clan Tecnológica S.L. (Clantech) is an engineering company founded in 2006 in the city of Seville, specialised in the design, installation and maintenance of on-site oxygen, nitrogen, hydrogen and synthetic air generation equipment. It is certified ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 for this specific activity by the European Quality Assurance (EQA). For the last 17 years, CLANTECH has specialised in the design, construction and commissioning of hydrogen production and refuelling stations, the most relevant being the Hydrogenator for Buses of the Barcelona Metropolitan Transport Company (TMB).

LINE OF BUSINESS

- 1 Basic and detailed engineering of H2 projects
- 2 Specialist in green H2 equipment and installations
- 3 Deployment of green H2 projects, both industrial and mobility with fuel cells

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Hydrogen Refueling
Stations**



Engineering & EPC



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION



CONFEDERACIÓN ESPAÑOLA DE EMPRESARIOS DE ESTACIONES DE SERVICIO (CEEES)

Calle Núñez de Balboa, 116, 3rd floor, office 22

Website: www.ceees.com

Email: nacho.rabadan@ceees.com

Phone: +34 657270626

The Spanish Confederation of Service Station Entrepreneurs (CEEES) is a national non-profit entity established more than forty years ago with the aim of becoming the meeting place for all Spanish service station entrepreneurs. CEEES defends the interests of thousands of independent service station entrepreneurs. It focuses its activity on representing its associates in the different national, regional and local institutions and organizations, defending their professional activity to obtain improvements for the sector and for Spanish society as a whole.

CEEES is a signatory of the United Nations Global Compact and subscribes to the Sustainable Development Goals of this entity, among which are 'Affordable and non-polluting energy'; 'Sustainable cities and communities'; 'Responsible production and consumption'; or 'Climate Action'. Hydrogen, and in particular 100% renewable green hydrogen, is called to play a fundamental role in achieving any of these objectives.

LINE OF BUSINESS

1

As a non-profit organisation that defends the interests of service station entrepreneurs, CEEES does not have lines of business as such, but instead tries to help its members to function in a changing and increasingly hostile environment.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Hydrogen Refueling Stations

SPANISH HYDROGEN ASSOCIATION

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS (CSIC)



Calle Serrano, 117. 28006 Madrid

Website: www.csic.es

Email: mapena@icp.csic.es

Phone: +34 915854863

The Higher Council for Scientific Research (CSIC) is the largest public institution in Spain dedicated to scientific and technical research and one of the most prominent in the European Research Area. It is attached to the Ministry of Science and Innovation through the General Secretariat of Research. It has the power to carry out activities aimed at the transfer of research results, with special attention to the promotion and creation of technology-based companies, and provides expert advice to public administrations and private institutions. CSIC has 36 Research Groups work in the area of Hydrogen Technologies, distributed in 14 different Institutes and Centers located in 6 cities (Madrid, Barcelona, Zaragoza, Seville, Oviedo and Valencia). Research lines include: PEM, alkaline and solid oxide fuel cells and electrolyzers; Photo(electro)-catalytic breakdown of water and thermochemical cycles; Reforming of fossil fuels without CO₂ emissions; Biomass gasification, reforming of products derived from biomass and biogas; Materials for hydrogen storage. Applied research of high TRLs in mobility technologies is coordinated within the Interdisciplinary Thematic Platform “Mobility 2030”, which includes research groups related to hydrogen technologies (<https://pti-mobility2030.csic.es/>)

LINE OF BUSINESS

1

R&D&i

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials & Components



Equipment and systems integration services



Research and Development



Consultancy



Training



Public sector

SPANISH HYDROGEN ASSOCIATION
CO-AX VÁLVULAS S.L.

Pol. Ind. Sur, Calle Cancheras, 2. Nave E3-06,
28750, San Agustín de Guadalix, Madrid



Website: www.coaxvalvulas.es

Email: info@co-ax.es

Phone: +34 918448596

Welcome to the inventor of the coaxial valve technique.

It all began in 1960 with a world premiere: the invention of the coaxial valve. This pioneering spirit remains alive in our company to this day: a marked inventive mentality and an innovative spirit that always emerge in individual solutions developed, tailored to the needs of our customers and collaborators. These results often anticipate issues that our client had not even considered yet. We always work according to the motto: Pioneers forever!

LINE OF BUSINESS

- 1 Müller-coax: coaxial valves for all types of high-pressure fluids in extreme conditions
- 2 M-tech: high pressure valves, cryogenic valves and complete filling systems for industrial, medical and specialty gases
- 3 Quadax: butterfly valves developed with the innovative quadruple (4 offset) design principle
- 4 Co-ax Rail – Custom designs of electro-pneumatic and vacuum systems primarily for the railway industry

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production



Cardenal Marcelo Spinola 6- Madrid

Website: www.grupocobra.com

Email: ander.maestro@grupocobra.com

Phone: +34 +646401006

COBRA is a Group that has historically been a benchmark in the development of industrial infrastructures and the provision of services, and one of the major players in the renewable energy sector in Spain and Latin America. The company promotes its own and efficient business model, thanks to the extensive network of offices that operate, contributing to enriching the comprehensive service capacity. The success of its business is the result of the combination of decentralisation, geographical diversification and the technical specialisation of its more than 23,000 professionals who provide value to all its clients in more than 45 countries. Endorsed by eight decades of history and thorough knowledge of the markets where it operates, the Group has been adapting to the needs of each client and to the demand for projects with a greater impact on society and the environment. Its extensive business activity is performed in line with the values of commitment to its clients and employees, the vocation for innovation and the desire for excellence in environmental management in all the countries where it is present.!

LINE OF BUSINESS

- 1 Green Hydrogen Plants
- 2 Energy Storage
- 3 Power to Gas
- 4 Ammonia, Methanol, E-SAF
- 5 Mobility and Infrastructures

SPANISH HYDROGEN ASSOCIATION

COBRA IS

Cardenal Marcelo Spinola 6- Madrid

Website: www.grupocobra.com

Email: ander.maestro@grupocobra.com

Phone: +34 +646401006



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Public Sector



Energy Companies



Equipment and Systems Integration Services



Engineering & EPC



Hydrogen Storage



Hydrogen Production



Hydrogen Refueling Stations



Hydrogen Compression



Hydrogen Transportation and Distribution

SPANISH HYDROGEN ASSOCIATION

COPENHAGEN INFRASTRUCTURE PARTNERS P/S



Paseo de la Castellana 40 bis, Planta 2 28046 Madrid, Spain

Website: www.cippartners.dk

Email: jab@cisc.dk

Phone: +34 674687506

Founded in 2012, Copenhagen Infrastructure Partners P/S (CIP) today is the world's largest dedicated fund manager within greenfield renewable energy investments and a global leader in offshore wind. The funds managed by CIP focus on investments in offshore and onshore wind, solar PV, biomass and energy-from-waste, transmission and distribution infrastructure, reserve capacity, energy storage, advanced bioenergy and Power-to-X. CIP manages ten funds and has to date raised approximately EUR 19 billion for investments in energy and associated infrastructure.

CIP will accelerate its role in the global energy transition and aim to have EUR 100 billion under management in 2030. CIP closed in 2022 the CI Energy Transition Fund I (CI ETF I), the largest dedicated clean hydrogen fund globally with EUR 3 billion which will be invested in next generation renewable energy infrastructure including industrial scale Power-to-X (PtX) projects. The fund will primarily focus on greenfield projects in the OECD and aims to contribute to the decarbonization of industries such as agriculture, aviation, shipping, chemical manufacturing, and steel production. CI ETF I took FID on one investment in 2022 and has ownership on several attractive industrial scale development stage PtX projects. The projects among others are in Western Europe (Denmark, Norway, Spain, Portugal), South America (Chile), and Australia.

LINE OF BUSINESS

- 1 Renewable Energy: offshore wind, onshore wind, solar PV, transmission lines, energy storage, biomass and waste-to-energy
- 2 Power to X: green hydrogen and ammonia
- 3 Advanced Bioenergy Fund: biofuels and biogas- renewable natural gas (RNG), liquified natural gas (bio-LNG), and 2nd generation bioethanol
- 4 Green Credit Fund: private project finance debt

SPANISH HYDROGEN ASSOCIATION

COPENHAGEN INFRASTRUCTURE PARTNERS P/S



Paseo de la Castellana 40 bis, Planta 2 28046 Madrid, Spain

Website: www.cippartners.dk

Email: jab@cisc.dk

Phone: +34 674687506

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Electrolysers



Energy companies



Hydrogen production



Financial sector



Hydrogen transportation
and distribution

COOLERGY S.L

Av. de los Artesanos 16, oficina 47. 28760
Tres Cantos Madrid



Website: www.coolergy.eu

Email: natalia.naumova@coolergy.eu

Phone: +34 667610018

COOLERGY is committed to building a safer world and increasing energy resource independence from suppliers and political factors. Our team of specialists in cryogenics, gas chemistry, and energy engineering is focused on creating and deploying groundbreaking solutions throughout the entire liquid hydrogen cycle, covering production, storage, transportation, and utilization. The COOLERGY team possesses unparalleled expertise in developing cryogenic gas equipment, including the production of liquid hydrogen and liquid helium. We have a proven track record in establishing stationary cryogenic gas storage facilities and designing mobile cryogenic gas stations and transportation solutions, such as locomotives, buses, trucks, and aircraft, all powered by cryogenic fuel.

LINE OF BUSINESS

- 1 Design and manufacturing of cryogenic tanks (containers, fuel and storage tanks) for liquid hydrogen with capacity from 10kg to 10t
- 2 Design and manufacturing of hydrogen liquefiers and liquid hydrogen refueling stations
- 3 Electrolyzer and Fuel Cells configuration and arrangement (Packaging)
- 4 EPC of integrated units based on hydrogen liquefaction and storage facilities

SPANISH HYDROGEN ASSOCIATION

COOLERGY S.L

Av. de los Artesanos 16, oficina 47. 28760
Tres Cantos Madrid



Website: www.coolergy.eu
Email: natalia.naumova@coolergy.eu
Phone: +34 667610018

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



CHP Systems



**Equipment and
systems integration
services**



Engineering & EPC



**Research and
Development**



Industrial Gases



**Hydrogen
Compression**



**Hydrogen
Refueling
Stations**



**Hydrogen
production**



Electrolysers



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION
CUMMINS INC.



Nijverheidsstraat 48c B-2260 Oevel, Belgium

Website: www.cummins.com
Email: denis.thomas@cummins.com
Phone: +32 4799009129

Cummins Inc. is a corporation of complementary business units that designs, manufactures and distributes a broad range of diesel, natural gas, hybrid, electric and fuel cell products. Headquartered in Columbus, Indiana (U.S.A.), since its founding in 1919, Cummins serves customers in more than 190 countries and territories.

LINE OF BUSINESS

- 1 Fuel cells and hydrogen generation; electric battery systems

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Fuel Cells

SPANISH HYDROGEN ASSOCIATION
DASSAULT SYSTÈMES



Calle Estébanez Calderón 3-5, Planta 3.
Madrid 28020

Página web: www.3ds.com
E-mail de contacto: jlz3@3ds.com
Teléfono de contacto: +32 915467149

Dassault Systèmes, the 3DEXPERIENCE® Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating virtual twin experiences of the real world with our 3DEXPERIENCE platform and applications, our customers can redefine the creation, production and life-cycle-management processes of their offer and thus have a meaningful impact to make the world more sustainable. The beauty of the Experience Economy is that it is a human-centered economy for the benefit of all –consumers, patients and citizens. Dassault Systèmes brings value to more than 300,000 customers of all sizes, in all industries, in more than 150 countries. For more information, visit www.3ds.com

LINE OF BUSINESS

- 1 Virtual twin software solutions for 12 Industries including CAD, CAE, CAM, PLM. Among our solutions, all of them including in the 3DEXPERIENCE Platform, are CATIA, SOLIDWORKS, ENOVIA, DELMIA, SIMULIA...

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



CHP systems



Engineering & EPC



Training



Energy companies



Research & Development



Consultancy



Equipment and systems integration services



Hydrogen storage

SPANISH HYDROGEN ASSOCIATION
DASSAULT SYSTEMES

Calle Estébanez Calderón 3-5, Planta 3.
Madrid 28020



Página web: www.3ds.com
E-mail de contacto: jlz3@3ds.com
Teléfono de contacto: +32 915467149

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



Hydrogen production



**Hydrogen transportation
and distribution**



**Hydrogen Refueling
Stations**



Electrolysers



Reformer unit



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

DEKRA



Calle Calabozos, 12 28108 Alcobendas, Madrid

Website: www.dekra.es

Email: gabriel.rojas@dekra.com

Phone: +34 619 737193

DEKRA is your comprehensive ally in all phases of the energy transition, ensuring safety and sustainability at every step. Whether with H₂, biogas, or other renewable energies, we offer services covering process safety consulting, environmental sustainability, training, laboratory testing, inspection, certification, and advisory for the safe and sustainable management of assets, procedures, and people. With a global team of over 48,000 professionals strategically distributed in 60 countries, DEKRA is your partner for a safe and sustainable world.

LINE OF BUSINESS

- 1 Process Safety Consulting
- 2 Laboratory Testing
- 3 Training Programs
- 4 Sustainability Consulting
- 5 Environmental Consulting (Permitting)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



Consultancy

SPANISH HYDROGEN ASSOCIATION

DEPARTAMENTO DE INDUSTRIA, COMPETITIVIDAD Y DESARROLLO EMPRESARIAL. GOBIERNO DE ARAGÓN



Edificio Pignatelli, Pº María Agustín, 36, 50004, Zaragoza

Website: www.aragon.es

Email: dgipyme@aragon.es

Phone: +34 976714733

The Department of Industry, Competitiveness and Business Development is responsible for the organization, management and advancement of industrial developments, and the support for small and medium-sized businesses, industrial safety and energy. Since 2003, the development of hydrogen technologies has been a fundamental strategic line of the successive Governments of our Autonomous Community.

LINE OF BUSINESS

- 1 Planning, management and promotion in terms of industrial promotion and support for small and medium-sized businesses
- 2 Industrial security
- 3 Energy

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Public Sector



**Certification and
insurance**

SPANISH HYDROGEN ASSOCIATION

DEUTZ SPAIN S.A

Carretera Badajoz Granada, KM 74,6,
Zafra, 06300 , Badajoz



Website: www.deutz.es

Email: info@deutz.com

Phone: +49 02218220

DEUTZ SPAIN, a company dedicated to the machining and assembly of engine components.

LINE OF BUSINESS

- 1 Equipment and systems integration services
- 2 Materials and components
- 3 Hydrogen compression

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



**Equipment and
systems integration
services**



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

DH2 ENERGY

Calle Almagro 31, 3º - 28010, Madrid



Website: www.dh2energy.com

Email: info@dh2energy.com

Phone: +34 919993754

DH2 Energy has been a pioneering company in the renewable hydrogen sector since 2018. We have become a first-class developer of renewable hydrogen projects, with a very significant pipeline of projects in Spain and Portugal as well as in other core markets including Mexico, Uruguay and France. Many of our projects are at an advanced stage of development and we will begin construction of our first project in 2023 in Spain. In parallel, we keep growing our project pipeline and developing new segments for our renewable hydrogen. DH2 Energy is also a founding and leading company in the Hydeal España project. Strategically important for Spain and the project sponsors, this project brings together companies across the entire renewable hydrogen value chain: from project development and upstream hydrogen production facilities, harnessing integrating midstream transportation and distribution, and extending through to big-volume industrial offtake with our large industrial offtake partners notably Arcelor and Fertiberia.

LINE OF BUSINESS

1

DH2 Energy is specialized in renewable hydrogen and is fully dedicated to developing the renewable hydrogen markets in the Iberian Peninsula and internationally with a prime focus on its core geographies. DH2 Energy integrates the whole value chain (upstream, midstream, downstream and financing) to supply green hydrogen at large scale to end users in the industrial and transportation sectors.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION
DISTRON SL



Calle Coeters 7, 46980 Paterna, Valencia

Website: www.distron.es
Email: contacto@distron.es
Phone: +34 963568720

Distron is a company with a solid track record of more than 40 years of dedication to test and measurement, process and industrial safety instrumentation, such as the supply of hydrogen leak detection equipment and solutions. The company has grown to become a recognized and respected supplier in the industry, with a wide range of products and solutions to help its customers improve efficiency and safety in their hydrogen generation, storage and distribution operations. The company offers exceptional service to its customers, providing a wide range of high quality products at competitive prices. Distron engineers and experts work closely with customers to understand their specific needs and provide customized and effective solutions.

LINE OF BUSINESS

- 1 Test and measurement instruments
- 2 Processes
- 3 Safety instruments

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Engineering
& EPC**



**Equipment and
systems integration
services**



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

DIVERXIA H₂

Calle Botiguers, 3 - 2C
46182, Paterna, Spain



Website: www.grupo-alonso.com/empresas/diverxia-h2/

Email: info@diverxiah2.com

Phone: +34 902565274

We are developing a 5 MW hydrogen plant with a hydrolyzer that will supply about 90 kgh₂/ H for 30 of the group's own tractor units, initially to be expanded to 60 within 3 years. In parallel, the possibility of blending with the natural gas network is being explored.

LINE OF BUSINESS

1

Development and construction of hydrogenators for the Alonso Group and blending in the Natural Gas Network

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



**Hydrogen Refueling
Stations**



**Engineering
& EPC**



**Hydrogen
production**



Hydrogen vehicles

Calle Santa Maria Magdalena 14,
28016 Madrid, Spain

Website: www.dnv.com

Email: yerun.fernandez@dnv.com

Phone: +34 606309371

DNV In the energy industry. We provide assurance to the entire energy value chain through our advisory, monitoring, verification, and certification services. As the world's leading resource of independent energy experts and technical advisors, we help industries and governments to navigate the many complex, interrelated transitions taking place globally and regionally, in the energy industry. We are committed to realizing the goals of the Paris Agreement, and support our customers to transition faster to a deeply decarbonized energy system.

LINE OF BUSINESS

- 1 Consultancy
- 2 Monitoring
- 3 Verification
- 4 Certification services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



**Hydrogen Refueling
Stations**



Engineering & EPC



**Hydrogen
production**



**Hydrogen
vehicles**



Consultancy



**Energy
companies**



**Hydrogen
production**



**Certification and
insurance**

SPANISH HYDROGEN ASSOCIATION
DRÄGER HISPANIA S.A.U

Calle Xaudaró, 5. 28034, Madrid

Website: www.draeger.com/es_es/Home

Email: victor.gimeno@draeger.com

Phone: +34 669479426



Turning technology into “Technology for Life” Dräger manufactures medical and safety technology products. In so doing, we protect, support, and save people's lives around the world in hospitals, with fire departments, emergency services, authorities, and in mining as well as industry.

Founded in Lübeck in 1889, Dräger has grown into a worldwide, listed enterprise in its fifth generation as a family-run business. Dräger has more than 15,000 employees worldwide and is present in over 190 countries around the globe. In 2021, the company generated net sales of around EUR 3.3 billion. Dräger technology is used all over the world. We operate in around 50 countries with our own sales and service companies directly on location where our customers are.

LINE OF BUSINESS

1 Safety division

2 Medical division

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



Consultancy



Equipment and systems integration



Engineering & EPC



Research and development



Industrial gases

SPANISH HYDROGEN ASSOCIATION



Powered by experience

DURO FELGUERA GREEN TECH S.A.

Calle Ada Byron, 90, 33203 Gijón, Asturias

Website: www.durofelguera.com

Email: comercial.dfgreentech@durofelguera.com

Phone: +34 985199000

Duro Felguera (DF) is a company specialized in carrying out turnkey projects in the Energy, Mining & Handling and Oil&Gas sectors. It is also a renowned provider of specialized services in the industry and expert manufacturer of Capital Goods.

With more than 150 years of experience in industrial activities, Duro Felguera executes all the processes necessary to achieve projects: Engineering, supplies, assembly, commissioning and its operation and maintenance.

Duro Felguera is an Asturian company but it develops its projects all over the world. throughout the years, it has carried out very important industrial and energy projects in a long list of countries in Latin America, Europe, Asia and Africa.

Following the current trend of energy transformation, DF has established a new business line called "Duro Felguera Green Tech, S.A.", which includes activities such as the development of Renewable Energies (Photovoltaic and Wind), as well as actions in the field of the Energy Transition and decarbonization (Green Hydrogen and derivatives, Energy Storage, Biofuels, etc.)

Their experience makes them ideal as Integrators in H2 Projects, such as the manufacturing of H2 storage solutions, both compressed (Bullets) and liquid (Spheres). Duro Felguera, in turn, is developing, as a promoter (along with other partners), several Green Hydrogen generation projects in Asturias.



Powered by experience

SPANISH HYDROGEN ASSOCIATION

DURO FELGUERA GREEN TECH S.A.

Calle Ada Byron, 90, 33203 Gijón, Asturias

Website: www.durofelguera.com

Email: comercial.dfgreentech@durofelguera.com

Phone: +34 985199000

LINE OF BUSINESS

- 1 Turnkey EPC Projects (Energy; Mining & Handling; Oil&Gas)
- 2 Classic Renewables Turnkey Projects (FV, Wind)
- 3 Integrator of Green Hydrogen Projects, Green Ammonia, Alternative Renewable Energies, Biofuels
- 4 Project BoP/BoS Execution
- 5 Operation and Maintenance of Power and Industrial Plants
- 6 Manufacturing and installation of Large Pressure Equipment and Storage
- 7 Manufacture and installation of Spheres

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Energy companies



Engineering & EPC



Equipment and systems integration services

SPANISH HYDROGEN ASSOCIATION ECOINTEGRAL-IDP

Calle Imprenta la Alborada, parcela 124 D, Centro de Negocios Alborada, Local 2- Edificio B, Parque Empresarial Las Quemadas



Website: www.ecointegral.com

Email: info@ecointegral.com

Phone: +34 900921929

ECOINTEGRAL-IDP is the leading engineering company in Spain in the development of projects using BIM (Building Information Modeling). It has been applying this methodology over the last 10 years throughout the entire life cycle of a project, from conceptual design, basic projection, and detailed engineering, continuing with site supervision and the corresponding management and operation of the asset through its digital twin.

On the energy side, ECOINTEGRAL-IDP counts on 25 years of experience in the renewable energy sector. Throughout this time, it has designed, built, and commissioned more than 200 photovoltaic plants and 250 wind farms throughout Spain, as well as more than 3,000 electricity transmission and distribution projects, in addition to several charging projects for electric vehicles.

Since 2020, it has also been developing its activity in the green hydrogen sector for the use of renewable surpluses and its application in the decarbonization of sectors that are difficult to electrify, such as the heat-intensive industry, heavy transport, and waste management.

Committed to providing the best service to its customers, ECOINTEGRAL-IDP also offers energy efficiency improvements incorporating hydrogen-based solutions to contribute to the decarbonization of various processes. At R&D level, hydrogen applications are evaluated in technological sectors such as data centers, where it is possible to offer decarbonization solutions.

LINE OF BUSINESS

1

Energy (photovoltaic, wind, hydrogen, thermosolar, bioenergy, energy recovery from waste)

2

Electricity transmission and distribution

SPANISH HYDROGEN ASSOCIATION ECOINTEGRAL-IDP

Calle Imprenta la Alborada, parcela 124 D, Centro de Negocios Alborada, Local 2- Edificio B, Parque Empresarial Las Quemadas



Website: www.ecointegral.com

Email: info@ecointegral.com

Phone: +34 900921929

LINE OF BUSINESS

- 3 Telecommunications
- 4 Industry (oil & gas, chemical, automotive, etc)
- 5 Logistics and retail
- 6 Building and construction
- 7 Data centers
- 8 Waste management and treatment
- 9 Integrated water cycle
- 10 Transport infrastructure
- 11 Urban development

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



**Engineering
& EPC**



**Research &
Development**



**Hydrogen
production**

SPANISH HYDROGEN ASSOCIATION
EDF PENÍNSULA IBÉRICA

Calle Velázquez 50, piso 3
28002, Madrid, Spain



Website: www.edf.fr
Email: marc.verney@edf-iberica.es
Phone: +34 659453547

A major player in the energy transition, the EDF group is an integrated energy company, present in all business lines: production, transport, distribution, trading, energy sales and energy services. Leader in low-carbon energies in the world, the Group has developed a diversified production mix based on nuclear energy, hydropower, new renewable energies and thermal energy. The Group participates in the supply of energy and services to approximately 37.9 million customers (1), including 28.1 million in France. In 2021, it achieved consolidated revenue of 84.0 billion euros. EDF is a company listed on the Paris Stock Exchange.

LINE OF BUSINESS

- 1 Green hydrogen
- 2 Hydroelectricity
- 3 Smart Offers
- 4 Storage and flexibility

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



Energy companies



Hydrogen
production

SPANISH HYDROGEN ASSOCIATION

EDF PENÍNSULA IBÉRICA

Calle Velázquez 50, piso 3
28002, Madrid, Spain

Website: www.edf.fr

Email: marc.verney@edf-iberica.es

Phone: +34 659453547



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Financial sector



Consultancy



Equipment and systems integration services



Hydrogen Refueling Stations



Fuel cells

SPANISH HYDROGEN ASSOCIATION EDIFICAM ILLES S.L.

Carrer de la Mar Mediterrània, 16, 07180
Santa Ponça, Islas Baleares



Website: www.edificam.com
Email: marcosm@edificam.com
Phone: +34 971690680

In Edificam “We build to create life”. Since its foundation in 2005 we have specialized ourselves in the construction of premium homes, therefore, we know very well the individual needs of this kind of our clients, whether it is a promotor or an owner. We support our clients from the project idea to development until the turnkey handover of the completed home. We are conscious that our clients have higher quality expectations as the average standard, We commit ourselves to always safeguard their privacy, and to assist them at any time in their language. Therefore we count on our team of more than hundred employees, which is without any doubt our best asset and which allows us optimized completion of construction and attention to the smallest detail. We guarantee our utmost commitment for the handover of the completed home right through our offering of services for maintenance and servicing during the first months. Also in Edificam we rely on innovation. Just recently we built one of the first houses in Mallorca with geothermal energy and an energy certificate with qualification ‘A’ – we are committed to the environment and sustainability.

LINE OF BUSINESS

1

Company specialized in the construction of premium homes

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION
EDP ESPAÑA

Plaza del Fresno, 2. 33007 Oviedo, Asturias



Website: www.espana.edp.com

Email: lsantos@edp.com

Phone: +34 902830100

EDP is a vertically integrated international energy group and a leader in innovation and sustainability, with a culture of commitment to its customers, people, and the environment.

Throughout their more than 40 years of history, they have consolidated a strong and relevant presence in the global energy sector, with a presence in 19 countries, on 4 continents.

They have been part of Euronext Lisbon since 1997. EDP Brasil and EDP Renováveis are also listed on the stock exchange. Sustainability is part of their DNA . As such, they are also members of the Dow Jones Sustainability Index.

LINE OF BUSINESS

- 1** With more than 11,700 employees, EDP are present throughout the entire electricity value chain and in the gas marketing activity. They are the fourth largest producer of wind energy in the world and 66% of the energy they produce is renewable. They provide electricity and gas to nearly 11 million customers

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen Refueling Stations



Energy companies



Hydrogen production



Research & Development

SPANISH HYDROGEN ASSOCIATION EHS TECHNIQUES



Calle de Sebastián Elcano, 32
28012, Madrid

Website: www.ehstechniques.com

Email: info@ehstechniques.com

Phone +34 918526696

Elawan Energy is a global operator in the renewable energy industry that offers integrated solutions throughout the entire life cycle of clean energy, from the development and construction of wind farms, photovoltaic plants and hydroelectric plants to their operation, maintenance and sale of the clean energy generated. Elawan Energy is part of ORIX Group Elawan Energy creates an H2 division in order to contribute to the decarbonization of the economy. With our positioning and experience in the renewable sector, we want to further our sustainable energy offer, also offering H2 – the energy vector of the future.

LINE OF BUSINESS

- 1 Ensuring legal compliance and permits
- 2 Certified on-site inspection and testing on fugitive emissions and soil and groundwater contamination
- 3 Environmental Responsibility and Risk Analysis
- 4 Life Cycle Analysis and Sustainability

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Certification and
insurance**



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION
ELAWAN ENERGY SL

Calle Ombú, 3, piso 6, 28045, Madrid, Spain



Website: www.elawan.com

Email: javier.cangas@elawan.com

Phone: +34 916361994

Elawan Energy is a global operator in renewable energy industry which offers integrated solutions along the green energy life circle, from the promotion, development and construction of wind farms, photovoltaic plants and hydropower plants until their operation, maintenance and the sell of this green energy produced. Elawan Energy is part of ORIX Group. Elawan Energy creates an H2 division in order to contribute to the decarbonization of the economy. With our positioning and expertise in the renewable sector, we want to complement our sustainable energy offer by also offering H2 - the energy vector of the future.

LINE OF BUSINESS

- 1 Promotion, financing and construction of renewable energy projects (IPP)
- 2 Independent power producer of electrical energy from renewable energy sources
- 3 New business: promotion, financing and construction of H2 and/or PtX projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

Integrated project and service manager within the activities of electricity, power generation, telecommunications and systems, installations, gas, construction, maintenance, environment and water, railways, and space.

LINE OF BUSINESS

- 1 Electricity
- 2 Power generation
- 3 Telecommunications and systems
- 4 Installations
- 5 Gas
- 6 Construction
- 7 Maintenance
- 8 Environment and water
- 9 Railways and space

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Engineering
& EPC**



Energy companies



**Hydrogen
production**



**Hydrogen
storage**



**Hydrogen
compression**

SPANISH HYDROGEN ASSOCIATION

ELECTRO DRIVES S.L.

Calle Iniciativa, 2 28906 Getafe, Madrid



Website: www.electrodrives.es

Email: mario@electrodrives.es

Phone: +34 914388332

Electrodrives is dedicated to the design, manufacture, supply and after-sales service of electrical equipment for power electronics in medium voltage and low voltage. The company leads the world market in slip energy recovery systems for slip ring motors. Regarding renewable energies, Electrodrives is manufacturer of power converters for 800kW wind turbines.

In the hydrogen sector, we manufacture AC/DC rectifiers and DC/DC converters to regulate voltage and current in hydrogen electrolyzers (both PEM and alkaline). It also provides comprehensive solutions of energy conversion and automation, focusing on systems with alternative topologies of greater energy efficiency. Electrodrives is headquartered in Getafe, just 15 km from the center of Madrid (Spain). At its headquarters, it carries out R+D+I activities, design, manufacturing and testing of electrical equipment from 100kW to 16 MW.

LINE OF BUSINESS

1

Manufacturing of AC/DC rectifiers, DC/DC converters, slip energy recovery systems, motor starters, variable speed drives for motors, harmonic filtering systems, reactive power compensation systems, research, development and innovation (I+D+i) in energy conversion systems.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Research & Development



Electrolyzers



Materials and components

Website: www.electrodrives.es

Email: pierre.gonsolin@elogenh2.com

Phone: +33 7 65163975

Elogen is a leader in PEM (proton exchange membrane) electrolysis. For more than 15 years, our know-how covers the design and assembly of the stacks, as well as the electrolyser balance of plant. Relying on our factory in France and our network of local partners, we provide solutions for mobility projects, light and heavy industries, energy storage. We are the only French company manufacturing electrolysers in France. Elogen's PEM electrolysers are equipped with stacks of our own design, assembled by us and have in common these different functionalities:

- Low power consumption
- Minimum/maximum load flexibility
- Reactivity
- Reliability

Elogen is a subsidiary of the Gaztransport & Technigaz Group (GTT), a company dedicated to the development of energy transition technologies. The Group GTT operates globally in the following markets:

- Large-scale transport and storage of cryogenic gases (LNG)
- Digitalisation and energy performance of ships
- Maintenance and Training

LINE OF BUSINESS

1 Electrolyzer PEM

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers

SPANISH HYDROGEN ASSOCIATION
ELYSE ENERGY IBÉRICA, S.L.U



Calle Orense, 70 planta 11 28020, Madrid

Website: www.elyse.energy/es/

Email: cprestamo@elyse.energy

Phone: +34 677927727

Developer of e-methanol and SAF plants.

LINE OF BUSINESS

1 E-fuels production

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

EMERSON

Francisco Gervás 1. 28108, Alcobendas
Madrid, Spain



Website: www.emerson.com/es-es/automation/home

Email: joaquin.fernandez@emerson.com

Phone: +34 661562134

Industry leaders consider Emerson a trusted partner that continually innovates to help them face the next big challenge. Our Automation Solutions platform enables us to collaborate across all our automation businesses to develop more comprehensive solutions for our customers based on our deep industry expertise. Additionally, we use our global presence, sector specialization, and industrial software to achieve key sustainability and operational objectives.

Our company embraces the needs and demands of modern businesses. We lead our industry to create a healthier, safer, smarter, and more sustainable world while building a fair and representative workforce to make this possible.

LINE OF BUSINESS

- 1 Operations management software, automation, control, security, and asset management software
- 2 Measurement Instruments
- 3 Valves, actuators and regulators
- 4 Fluid control and pneumatics
- 5 Componentes eléctricos e iluminación
- 6 Welding, assembly and cleaning

SPANISH HYDROGEN ASSOCIATION

EMERSON

Francisco Gervás 1. 28108, Alcobendas
Madrid, Spain



Website: www.emerson.com/es-es/automation/home

Email: joaquin.fernandez@emerson.com

Phone: +34 661562134

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Electrolyzers



Energy companies



**Equipment and
systems integration
services**



**Materials &
components**



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

EMPRESARIOS AGRUPADOS INTERNACIONAL

Calle de Magallanes, 3, 28015 Madrid

Website: www.empresariosagrupados.es/

Email: jlayuso@empre.es

Phone: +34 91 3098000



Empresarios Agrupados is a renowned Spanish engineering company. We work internationally, with more than 50 years of experience and more than 1,100 employees, 70% of whom are university graduates. We are committed to quality and the environment. Our main objectives are a firm commitment to customer satisfaction, leadership, value creation and innovation. Ranked as one of the top 20 international firms in engineering and construction management of Power Generation projects (+50 years of experience and +60 GWe). Expertise in all generation technologies: Nuclear (Fusion and Fission), Fossil Fuels and Renewables. Leaders in key projects for major international clients in more than 40 countries. Empresarios Agrupados is part of the CPE (China Energy Engineering Group Planning and Engineering Co. Ltd) business group, which belongs to the SASAC (State Owned Assets Supervision and Administration Commission) business group, possibly the largest business conglomerate in the world.

LINE OF BUSINESS

1 Nuclear

2 Conventional generation

3 Energy transition (Hydrogen, Co2 capture, biogas, energy storage, emission reduction in industry, LNG/gas storage projects and marine energies))

4 Engineering and EPC

5 Consultancy/ Due Diligence

SPANISH HYDROGEN ASSOCIATION

EMPRESARIOS AGRUPADOS INTERNACIONAL



Calle de Magallanes, 3, 28015 Madrid

Website: www.empresariosagrupados.es/

Email: jlayuso@empre.es

Phone: +34 91 3098000

LINE OF BUSINESS

- 6 Digitalization and simulation
- 7 Construction and services
- 8 Renewables
- 9 Infrastructure and water & art

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Training



**Engineering
& EPC**



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION ENAGÁS RENOVABLE



Calle Titán 8, Planta 7 – 28045 Madrid

Website: www.enagasrenovable.es (En construcción)

Email: info@enagasrenovable.es

Phone: +34 628376186

Enagás Renovable has a portfolio of more than 50 specific projects in Spain in the field of renewable gases and decarbonisation, which represents one of the largest European platforms for renewable gas projects. Currently, its shareholding structure is made up of Enagás (60%), Hy24 —a joint venture formed by Ardian and FiveT Hydrogen— (30%), Pontegadea (5%) and Navantia —SEPI— (5%). The activity of Enagás Renovable is focused on: - Green hydrogen projects: different types of projects depending on their main final applications (industry, mobility and blending). - Biomethane projects: upgrading of existing biogas plants and development of integrated solutions. Enagás Renovable already has several pioneering projects, including the commissioning of the first green hydrogen industrial plant in Spain, located in Lloseta (Mallorca), and the commissioning of the "UNUE" biomethane production plant, in Villalonquéjar (Burgos), the latter being the first large-scale project in the field of biomethane carried out in Spain by a private initiative.

LINE OF BUSINESS

- 1 Green hydrogen projects: different types of projects depending on the main final application (industry, mobility and blending)
- 2 Biomethane projects: upgrading existing biogas plants and development of integrated solutions

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



**Hydrogen
production**

SPANISH HYDROGEN ASSOCIATION

ENDESA, S.A.



Calle Ribera del Loira 60, 28042 Madrid

Website: www.endesa.com

Email: prensa@endesa.es

Phone: +34 912131000

We are the leading company in the Spanish electrical sector and the second operator in the electricity market in Portugal. With around 10 thousand employees, we serve over 10 million customers who trust us. We aim to contribute to creating a new energy model based on clean energies, respect for the natural environment, and sustainable development. We strive to provide better service to our customers and base our business strategy on a commitment to local communities whilst contributing to the UN's Sustainable Development Goals.

We mainly operate in the markets of Spain and Portugal. To a lesser extent, we trade electricity and gas in other European markets, as well as other value-added products and services (PSVA) related to our core business. We work to lead the technological transformation in our sector, using our strong industrial position and by being part of a large multinational group, the Enel Group, which we joined in the first quarter of 2009.

LINE OF BUSINESS

- 1 Generation, distribution and sale of electricity
- 2 Significant player in the natural gas sector
- 3 We develop innovative solutions to customize our energy-related services, focusing on digitalization and the circular economy

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

ENERFIN SOCIEDAD DE LA ENERGÍA S.L



Cuzco IV, Pº de la Castellana 141, 28046, Madrid

Website: www.enerfin.es

Email: ediaz.enerfin@elecnor.es

Phone: +34 664543676

Enerfin is a renewable energy subsidiary fully owned by the Elecnor Group which has been active in the wind sector since 1997. Currently, it promotes, develops, constructs, and operates investment projects in both wind and solar energy, both domestically and internationally. Enerfin is involved in 1,226 MW of wind projects in operation and under construction, with a production exceeding 2,300 GWh per year.

At present, the company is engaged in various projects related to the generation, storage, and supply of green hydrogen using renewable energy generated in its parks. Multiple research lines are involved in these initiatives.

LINE OF BUSINESS

- 1 Promotion, construction, operation, and comprehensive management of wind and photovoltaic energy generation projects
- 2 Energy management: energy sales strategies, data analysis and improvement in market processes
- 3 Implementation of energy storage systems alongside renewable energy generation for integration into grids
- 4 Promotion, operation, and management of electrolysis plants for the generation, storage, and supply of renewable hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Engineering & EPC



Hydrogen production

ENERGYLAB

R/ Fonte das Abelleiras, s/n, Campus Universitario de
Vigo, 36310, Vigo, Pontevedra

Website: <https://energylab.es/>

Email: energylab@energylab.es

Phone: +34 986 120 450

ENERGYLAB is a private non-for-profit R&D centre specialised in the development of R+D+i activities aimed at the generation, storage, distribution and use of green hydrogen, from renewable energies and waste recovery through bio-based and thermochemical processes. The centre works actively in all the links of the H2 value chain giving support to the industrial sector, to optimize and promote these technologies.

To achieve these objectives, ENERGYLAB offers several highly specialized laboratories and facilities which enable to support and cover the different R&D&I activities in this area. Additionally, the centre has a multidisciplinary work team with extensive experience in different activities related to innovation projects, technological development and management of public-private collaboration activities to promote joint research and technological development.

LINE OF BUSINESS

- 1 Development of R&D&i projects
- 2 Physicochemical characterization, gas analysis, determination of potentials and process optimization
- 3 Specialized consultancy and training
- 4 Feasibility studies
- 5 Modelling and simulation
- 6 H2 integration in mobility applications

SPANISH HYDROGEN ASSOCIATION

ENERGYLAB

R/ Fonte das Abelleiras, s/n, Campus Universitario de Vigo, 36310, Vigo, Pontevedra



Website: <https://energylab.es/>
Email: energylab@energylab.es
Phone: +34 986 120 450

LINE OF BUSINESS

7

Generation, purification, storage, distribution and uses of green hydrogen

8

Test and validation of prototypes and equipment

9

Design and development of test benches

10

Develop and scaling-up processes LCA

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Consultancy



Energy companies



Research & Development



Materials and components



Hydrogen transportation and distribution



Hydrogen production

SPANISH HYDROGEN ASSOCIATION
ENERHI HYDROGEN



Calle de Alcalá 96 2D. 28009. Madrid

Website: www.enerhi.com
Email: l.monsalve@enerhi.com
Phone: +34 673891018

EnerHi is a global renewable energy management group. Our mission is to enhance people's lives by generating clean, sustainable, and accessible energy. EnerHi Hydrogen is a subsidiary of EnerHi created to promote research and production projects related to green hydrogen

LINE OF BUSINESS

- 1 Project development
- 2 Engineering
- 3 Production
- 4 Renewable energy: wind, photovoltaic, green hydrogen
- 5 Hybridization
- 6 Self-consumption

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Research &
Development**



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

ENERTRAG S.E.

Calle Fracisco Silvela 42, 28028, Madrid



Website: www.enertrag.com

Email: matthias.schmidt@enertrag.com

Phone: +49 15209336621

ENERTRAG SE is a company of German origin with about 900 employees. We have been developing, realizing, and operating renewable energy projects for 30 years - in total about 2 GW of capacity of which 1 GW has remained in our portfolio. We have also been investing in green hydrogen projects for 15 years. We installed one of the first electrolyzers powered exclusively by renewables back in 2011. We are currently developing a portfolio of >2 GW of electrolyzers in 9 countries. These are projects for various end uses including industrial use, mobility, injection into the gas grid, re-electrification and the derivatives ammonia, methanol and kerosene.

LINE OF BUSINESS

- 1 Development, implementation and operation of wind, photovoltaic, hybrid and green hydrogen projects
- 2 Maintenance of the same plants
- 3 Control center
- 4 Development and operation of power grids and substations

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Financial sector



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

ENGIE SL

Calle de la Ribera del Loira, 28, 28042 Madrid



Website: www.engie.es

Email: contactspain@gdfsuez.com

Phone: +34 913106270

ENGIE's strategy in Spain, in line with the Group's vision and Purpose, is to accompany customers on their journey towards carbon neutrality by achieving more sustainable territories, more competitive infrastructures and more efficient industries. In this regard, ENGIE in Spain is currently deploying a clearly sustainable decarbonisation strategy based on two levers: action on its own energy production, through the development of renewable energies, and the offer of solutions to reduce costs, energy consumption and CO2 emissions.

LINE OF BUSINESS

1 Power distribution

2 Electricity generation and trading

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION ENTE VASCO DE LA ENERGÍA



Alameda de Urquijo, 36, 48011 Bilbao

Website: www.eve.eus

Email : jmfernandez@eve.eus

Phone: +34 608010138

The Ente Vasco de la Energía (EVE) is the Basque Government's energy agency, and its mission is to propose the Basque Country's Energy Strategies and actively participate in their development and contribute to achieving their objectives.

Its vision is to be the benchmark organisation in the Basque Country in the field of energy, for its contribution to energy efficiency, the development of renewable energies, the availability of natural gas, and for its leadership in positioning the Basque Country as a benchmark for knowledge and industrial development in the field of energy, with public-private collaboration being one of its main tools.

It is currently leading the Basque Country's Energy Transition process based on the decarbonisation of the energy sector by promoting the production of green electricity through the use of renewable energies and green gases, such as biomethane and hydrogen.

LINE OF BUSINESS

- 1 As a public entity, EVE has no business lines as such.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Public sector

SPANISH HYDROGEN ASSOCIATION

EPM

Calle de la Mora, 52, Badalona



Website: www.epmgastech.com

Email: info@epmgastech.com

Phone: +34 934245356

EPM Gas Technology is a group of companies working globally in the gas sector.

LINE OF BUSINESS

1 Engineering & Construction

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

ERM IBERIA

Paseo de la Castellana, 257. 28046 Madrid



Website: www.erm.com

Email: juan.garcia-faure@erm.com

Phone: +34 914111440

ERM is a leading global provider of sustainability, environmental, renewable energy, health, safety, risk, social consulting services and sustainability related services. We work with the world's leading organizations, delivering innovative solutions and helping them to understand and manage their sustainability challenges. The ERM Group employs more than 7,000 professionals worldwide in a network of 170 offices in more than 40 countries, with offices in Spain in Madrid and Barcelona.

For more than 50 years, we have been working with clients around the world and in diverse industry sectors include Oil & Gas, Mining & Metals, Power & Renewable Energy, Chemical, Manufacturing & Pharmaceutical, and Technology, Media & Telecommunications to help them understand and manage their environmental, health, safety, risk and social impacts and face critical sustainability challenges.

ERM's long-standing experience supporting hydrogen projects in the world is combined with 3 specialist energy strategy consultancies, increasing ERM focus on hydrogen. The Renewables Consulting Group, E4Tech and Element Energy are ERM Group companies that with the whole ERM Group combine an unrivalled experience and world-leading expertise in the hydrogen space: 50+ authoritative analyses of the hydrogen sector; 60+ in-house hydrogen sector experts; 300+ Renewable energy capital projects delivered since 2021; 200+ hydrogen projects undertaken over the past 20+ years.

LINE OF BUSINESS

1

ERM provides integrated market intelligence, management consulting, and technical advisory services to support our customers across the whole lifecycle of their hydrogen projects.

2

ERM assess the different route-to-market scenarios based on different techno-economic pathways for green hydrogen production, storage and distribution under current and future policy and regulatory conditions, globally.

SPANISH HYDROGEN ASSOCIATION

ERM IBERIA

Paseo de la Castellana, 257. 28046 Madrid



Website: www.erm.com

Email: juan.garcia-faure@erm.com

Phone: +34 914111440

LINE OF BUSINESS

3

ERM has LCoE and LCoH models to determine the IRR for hydrogen integration with renewables.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Financial sector

SPANISH HYDROGEN ASSOCIATION

ESPARITY SOLAR

Pl. América 2. Ed. América,
planta 8. 46004 Valencia.



Página Web: www.esparitysolar.com
Email: eugenia@esparitysolar.com
Teléfono de contacto: +34 663220325

Esparity Solar develops sustainable and bankable solar photovoltaic projects that produce clean, renewable and affordable energy for Spanish energy consumers. Our team enjoys a track record in the development, construction and financing of more than 4GW of solar projects worldwide. We strive to effectively implement measures that meet our environmental, social and corporate governance commitments.

LINE OF BUSINESS

1 Development of solar photovoltaic projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

EUROPEAN ENERGY

Plaza Oculista Buigues 3,
03700, Denia, Alicante



Website: <http://es.europeanenergy.com/>

E-mail: eng@europeanenergy.dk

Phone: +34 651810244

We develop, build, operate and sell onshore solar farms, as well as onshore (onshore) and offshore (near shore and offshore) wind farms. In addition, we are pioneers worldwide in providing Power-to-X (P2X) solutions.

At this moment we have projects in 22 countries, specifically in Europe, the United States, Australia and Brazil, as well as 15 offices around the world. In 2004, Knud Erik Andersen and Mikael D. Pedersen founded European Energy with the vision that Europe would achieve energy independence, -hence its name- Currently we have expanded our objective worldwide, making possible the generation of clean and sustainable energy for everyone.

LINE OF BUSINESS

- 1 PV and solar energy
- 2 Onshore wind power
- 3 Offshore wind power
- 4 Power-to-X (e-fuels &H2)
- 5 Heating

SPANISH HYDROGEN ASSOCIATION

EUROPEAN ENERGY

Plaza Oculista Buigues 3,
03700, Denia, Alicante

Website: <http://es.europeanenergy.com/>

E-mail: eng@europeanenergy.dk

Phone: +34 651810244



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



**Equipment and
systems integration
services**



Engineering & EPC



**Research &
Development**



**Hydrogen
production**



**Hydrogen transportation
and distribution**

EUROWIND ENERGY

Av. Eduardo Dato, 69, 5º planta, 41005, Sevilla



Website: <https://eurowindenergy.com/es>

Email: mdl@eurowindenergy.com

Phone: +34 638409974

Eurowind Energy is a Danish company, which has recently established itself in Spain for the development of renewable plants (PV, Wind, Hydrogen and biogas). We are involved from the initial phase of project development to their operation as our own assets. Recently, a 1,25MW renewable hydrogen production project has been acquired in Denmark (Hybalance), which is in operation providing daily supply to local industries. In addition, a 5 MW hydrogen production plant is being built in Portugal (Castelo Branco), completely isolated from the grid.

LINE OF BUSINESS

- 1 Renewable energy projects
- 2 Development, comissioning, operation and energy sale

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production



**Hydrogen transportation
and distribution**

EVECTRA



Passatge de Masoliver, 32, 08005 Barcelona

Website: www.evectra.com

Email: info@evectra.com

Phone: +34 931122576

EVECTRA MOBILITY SERVICES S.L. is an engineering company specialised in electric mobility with offices distributed in multiple locations in Spain.

We are a leading and benchmark company in the development of vehicle charging infrastructures, collaborating in the promotion of sustainable mobility and respect for the environment. We respond to the paradigm shift in mobility, developing reports and projects to define the infrastructure that best suits the needs of our customers.

In addition, our expert engineers, located in multiple offices in Spain, provide the client with great flexibility and agility in all the tasks carried out in all phases of the project. Our team is made up of highly qualified engineers with extensive experience in civil work and installations of all types.

We work with high levels of demand and seriousness, always striving for the highest quality and rigour. Our client portfolio and the projects we have developed are our best guarantee. We are flexible and ambitious, which always leads us to choose the optimum solution for each project. For us, every project is a challenge.

LINE OF BUSINESS

- 1 Electric mobility consulting.
- 2 Project engineering
- 3 Permitting
- 4 On-site engineering
- 5 Legalisation
- 6 Operational Control

SPANISH HYDROGEN ASSOCIATION



EVECTRA

Passatge de Masoliver, 32, 08005 Barcelona

Website: www.evecetra.com

Email: info@evecetra.com

Phone: +34 931122576

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC



Training

EVEROZE SP

Spain Impact Hub Picasso, Plaza Pablo Ruiz Picasso, 1.
28020, Madrid



Website: www.everoze.com
Email: contact@everoze.com
Phone: +44 7809417139

Everoze is an employee-owned consultancy, specialising in renewables, storage and wider energy flexibility. Our unique strength is bridging the gap between the technical and the commercial. We exist to help our clients accelerate the transition to a decarbonised energy system. We're a team of 80 consultants who are flexible, experienced and interdisciplinary. We have offices in the UK, France, Spain, Italy, Portugal and Germany, and we're active in energy markets across the world. We are a trusted advisor to some of the biggest brands in the sector and work closely with our clients to make projects, companies and technologies futureproof and financeable.

LINE OF BUSINESS

1

On-demand Due Diligence: Working smarter to quickly assess risks and opportunities

2

Project support: Applying experienced eyes to improve asset performance and add value to project development.

3

Strategic support: Deploy effective staff with the right sectoral expertise to address technical, commercial and strategic challenges.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

EVO GROUP

Avenida De La Ingeniería,9 Bloque 8 E-41015
Sevilla



Website: www.evo-mobility.com

Email: s.onate@evo-syn.com

Phone: +34 954914228

EVO Group is a company specialising in zero-emission mobility and the adaptation and conversion of fossil-fuelled vehicles to green hydrogen fuel cell systems.

For European manufacturers and suppliers, EVO Group is a first-class technical partner in the development of electric mobility vehicle concepts for series products. EVO Group was formed by integrating the previous experience and professional background of more than 20 years of its main partners and bringing together all previously incorporated companies under the same legal framework.

EVO is based in Seville and currently consists of different companies in Spain, Germany and France. EVO is a first class technological partner for transport companies that need to incorporate solutions for the integrated management of zero polluting fleets, increasing their profitability, customer satisfaction and offering a brand image aligned with the values of respect for the environment.

We currently have a highly qualified professional team of 60 people, mostly engineers specialised in the development of electric propulsion systems, as well as in the integration and validation of the main original equipment manufacturers, which has allowed us to reach a turnover of 4 million euros in 2020 and to work in the main European cities.

LINE OF BUSINESS

1

Electric powertrain system integration and validation

2

Software development (AUTOSAR, ASIL-D)

3

Customer solutions (direct or via Tier1)

4

Development and integration of energy sources (batteries and fuel cell systems)

5

Design, development and manufacture of industrial vehicles and buses. Digitalisation and connectivity

SPANISH HYDROGEN ASSOCIATION

EVO GROUP

Avenida De La Ingeniería,9 Bloque 8 E-41015
Sevilla



Website: www.evo-mobility.com

Email: s.onate@evo-syn.com

Phone: +34 954914228

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



**Equipment and
systems integration
services**



**Research &
Development**



**Hydrogen
vehicles**

EVOS ALGECIRAS SAU

Explanada Isla Verde Exterior, S/N. 11207
Algeciras, Cádiz

Website: www.evos.eu

Email: juan.reyes@evos.eu

Phone: +34 663266119

EVOS is an international, independent energy storage company. We operate a network of premium tank terminals with a combined storage capacity of 2.5 million m3 in Europe.

Evos is involved in research projects to assess the technical and commercial viability of hydrogen storage and distribution on an industrial scale.

EVOS ALGECIRAS is a modern, state-of-the-art terminal located in the strategic Strait of Gibraltar, connecting Europe and Africa, dedicated to hydrocarbon storage.

LINE OF BUSINESS

1 Energy storage and distribution

2 Liquid bulk

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



**Hydrogen
compression**



Energy companies



**Hydrogen transportation
and distribution**

EXOLUM

Calle Titán 13, 28045, Madrid

Website: www.exolum.com

Email: info@exolum.com // innovación@exolum.com

Phone: +34 917746000

Exolum, whose corporate name is Exolum Corporation, S. A., is a Spanish company, based in Madrid, dedicated to the transport and storage of petroleum products. It was originally established in 1993 under the name Compañía Logística de Hidrocarburos CLH, S.A. The company has its origins in the former Campsa (Compañía Arrendataria del Monopolio de Petróleos), which was extinguished after the liberalisation of the oil sector. CLH was the result of the spin-off of Campsa's commercial assets that took place in 1993, as the culmination of the liberalisation process that had been undertaken following the approval of new European Community laws that put an end to the state oil monopoly. In 2014 it began its international expansion and in this time it has achieved a broad international presence. Within its diversification and innovation strategy, one of the main pillars is the identification and development of new business opportunities, with the aim of contributing to the progress of society and the sustainability of the planet, with hydrogen as one of the clear axes of growth.

LINE OF BUSINESS

1 Liquid bulk transport and storage

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Energy companies



Hydrogen Refueling Stations



Industrial gases



Hydrogen production



Certification and insurance



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

EY TRANSFORMA SERVICIOS DE CONSULTORÍA, S.L.

Calle de Raimundo Fernández Villaverde, 65, 28003, Madrid



Website: www.ey.com

Email:

Phone:

Multinational company and one of the world's leading professional services firms, including audit, tax, finance, accounting, legal, actuarial and management consulting services.

LINE OF BUSINESS

1

Consultancy

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

FBB PARTNERS

Felipe Campos 19 - 1 izquierda 28002 Madrid

Website: www.fbbpartners.com

Email: borja.lopez@fbbpartners.com

Phone: +34 630855387

FBB Partners, es una boutique legal especializada en energía e infraestructuras, creada por Borja López en el año 2019, abogado con más de 14 años de experiencia en grandes desarrolladoras y despachos internacionales, habiendo liderado operaciones de desarrollo, financiación, construcción y puesta en marcha de proyectos fotovoltaicos, eólicos, cogeneración, hidroeléctricos y waste to energy (entre otros) así como todo tipo de operaciopnes de M&A. Abarcando toda la cadena de valor del proyecto y sumando más de 4000MWs en 15 países.

LINE OF BUSINESS

1

Legal advice on all aspects that the hydrogen industry may require (M&A, Regulatory, Contractual and Financial)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



Public sector



Certification and insurance

FONDON REDES Y FLUIDOS, SL

Polígono Bankunion II, Avda Gijón-Veriña 5 - CP 33211 - Gijón (Asturias)

Website: www.fondonglobal.com

Email: hidrogeno@fondon.org

Phone: +34 985310351

Fondon Redes y Fluidos, founded more than 40 years ago, develops its activity in the field of fluid networks, instrumentation, automation and process control. The main value that our company brings is the optimisation of the processes from the advice to our customers. The experience acquired in the energy field over all these years has helped us to direct efficiency towards technologies that are committed to the future, as in the case of hydrogen, where the proposals we handle allow hydrogen to be stored and conducted at very high pressures with certifications such as EC-79.

LINE OF BUSINESS

- 1 Valves
- 2 Sampling Systems
- 3 Instrumentation
- 4 Automation
- 5 Process engineer
- 6 Fluid networks

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Equipment and systems integration services

SPANISH HYDROGEN ASSOCIATION

FONT CORPORATION GLOBAL TRADE AND INVESTMENT S.L

World Trade Centre Zaragoza (WTCZ), María Zambrano
31, West Tower, 15th Floor, 50018 Zaragoza, Spain



Website: www.fontcorporation.com/

Email: carmenfont@fontcorporation.com

Phone: +34 976011419

Font Corporation represents key international players in the hydrogen sector leading their expansions, investments, funding, partnerships and scaling up process in Europe. Font Corporation is part of the Team of experts selected at European Level to assist Clean Hydrogen Partnership, European Hydrogen Valleys and the European Commission defining the EU Roadmap for Hydrogen Valleys. Our strength is to identify suitable partners and off-takers for hydrogen producers in Europe. We connect hydrogen producers with reliable and long term off-takers who are corporately committed to sustainability and clean energy solutions.

Font Corporation fosters the growth and early adoption of hydrogen as a clean and versatile energy source across industries. Through our extensive network and expertise as a hydrogen broker, we ensure a seamless and efficient supply chain, benefitting both producers and off-takers alike. Font Corporation identifies new technologies with high potential and support their expansions in Europe increasing their market share in the European sustainable energy sector and contributing to the acceleration of European Hydrogen Valleys.

LINE OF BUSINESS

1

We implement and scale up "waste to hydrogen" production sites in Europe that convert waste into a rich syngas with already 60% hydrogen into it.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Producción de
hidrógeno**



FOTOWATIO RENEWABLE VENTURES (FRV)

Calle María de Molina 40. 5ª planta. 28006 Madrid

Website: www.frv.com

Email: estela.corbacho@frv.com

Phone: +34 913191290

FRV (Fotowatio Renewable Ventures) is a leading global renewable energy solutions company. In its ambition to continue leading the global transition towards a more sustainable energy future, this company founded in 2006 has accelerated its growth strategy in recent years, moving from a developer to an independent power producer (IPP). FRV stands out as one of the leaders in solar energy, naturally positioning itself at the center of the transformation of the energy industry. Through its Technology Innovation Platform (FRV-X), it explores and develops the most cutting-edge technological solutions to reshape the energy future.

LINE OF BUSINESS

- 1 Renewable Energies: solar photovoltaic, wind, green hydrogen.
- 2 Energy storage with batteries.
- 3 Virtual Power Plants
- 4 New business models investors

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Research &
Development



Financial sector



Parque Tecnológico de Boecillo, Plaza
Vicente Aleixandre Campos nº 2. 47151, Boecillo

Website: www.cidaut.es

Email: info@cidaut.es

Phone: +34 983548035

CIDAUT Foundation is a private non-profit foundation, declared of public interest, located in the Technology Park of Boecillo (Valladolid). It was founded on 2 February 1993 with the aim of covering the needs of companies and boosting their competitiveness and industrial development. As a Technology Centre focused on research and development in transport and energy, our work in the field of R&D is aimed at positioning and acquiring scientific and technical excellence, as well as the capacity to transfer this knowledge to companies and society.

The development of the projects is coordinated between a multidisciplinary team of researchers, whose synergies allow us to respond to very ambitious objectives in short periods of time, framing them within different operational areas or trends that evolve according to market needs. CIDAUT Foundation develops Hydrogen Technology projects through a multidisciplinary work team that includes researchers of processes for the generation, storage and use of H₂, mechanical designers, developers of specific test facilities and developers of control strategies. Our experience of more than 20 years in H₂ R&D projects covers the entire hydrogen value chain.

LINE OF BUSINESS

1

R&D&I: Energy, Mobility and Connectivity, Circular Economy and Sustainability, Information and Communication Technologies

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Consultancy



Training

SPANISH HYDROGEN ASSOCIATION

FUNDACIÓN CIDAUT

Parque Tecnológico de Boecillo, Plaza
Vicente Aleixandre Campos nº 2. 47151, Boecillo

Website: www.cidaut.es

Email: info@cidaut.es

Phone: +34 983548035



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



CHP systems



**Hydrogen
compression**



Hydrogen production



**Equipment and
systems integration
services**



**Materials and
components**



Electrolyzers



Engineering & EPC



Reformer unit



Fuel cells



Hydrogen Vehicles

Website: www.tekniker.es/es

Email: lucia.mendizabal@tekniker.es

Phone: +34 682725055

TEKNIKER is a research center for applied technology, whose mission is to contribute to increasing the innovation capacity of the Spanish companies, through the generation and application of new technology and knowledge. TEKNIKER is divided in four areas of specialization: advanced manufacturing, product engineering, surface engineering and ICTs, incorporating cutting-edge technologies to offer comprehensive technological solutions to the industrial partners.

Tekniker's global strategy in relation to hydrogen is the acquisition of new knowledge in developments identified as key and the transfer of the knowledge acquired to the industrial sector with the aim of boosting the deployment of hydrogen technologies. Tekniker develop solutions for green hydrogen value chain with special emphasis on the production of hydrogen through electrolysis, evaluation of the properties of materials exposed to gas and liquid hydrogen, and uses of hydrogen in the energy, industry and transport sectors.

LINE OF BUSINESS

- 1 Development and characterization of components for alkaline, PEM, anion exchange membrane electrolysis.
- 2 BoP design of electrolyzers.
- 3 Development of Energy Management Systems for electrolyzers integration into renewable energy plants
- 4 Development of DC/DC and AC/DC converters
- 5 Evaluation of the properties of materials in the presence of hydrogen: embrittlement, permeability, leaks.
- 6 Research in organic hydrogen carrier liquids (LOHC)

SPANISH HYDROGEN ASSOCIATION

FUNDACION TEKNIKER

Iñaki Goenaga, 5 (20600) Eibar - Guipuzcoa



Website: www.tekniker.es/es

Email: lucia.mendizabal@tekniker.es

Phone: +34 682725055

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Research &
Development**



Hydrogen production



Electrolyzers



**Hydrogen transportation
and distribution**



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

FUNDACIÓN HIDRÓGENO ARAGÓN



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

Parque Tecnológico Walqa, N-330 Km 566, 22197, Cuarte

Website: www.hidrogenoaragon.org

Email: fundacion@hidrogenoaragon.org

Phone: +34 974215258

For 20 years we have been dedicated to supporting the development of short, medium and long-term strategic projects in the field of hydrogen and fuel cell technologies, in order to create employment, generate wealth and improve the competitiveness of the industrial fabric in the Autonomous Community of Aragón. We are developing a strategic agenda containing guidelines for the steps to be taken and a time horizon for these steps, integrating the activities of the scientific community, the current state of technology and the projects of the companies. Furthermore, we promote the network of companies where the Aragón Hydrogen Foundation will be the main nucleus linking the applied scientific research produced in our R&D centres with industrial technological development.

LINE OF BUSINESS

- 1 Market development
- 2 Communication
- 3 Training
- 4 Production
- 5 Storage, transport and distribution
- 6 Applications

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



CHP systems



Energy companies

SPANISH HYDROGEN ASSOCIATION

FUNDACIÓN HIDRÓGENO ARAGÓN



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

Parque Tecnológico Walqa, N-330 Km 566, 22197, Cuarte

Website: www.hidrogenoaragon.org

Email: fundacion@hidrogenoaragon.org

Phone: +34 974215258

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Research &
Development**



Industrial gases



Hydrogen storage



**Hydrogen
compression**



**Hydrogen Refueling
Stations**



Hydrogen production



Electrolysers



Fuel Cells



Public sector



Financial sector



Training



**Hydrogen transportation
and distribution**

GAEVE EXP IMP SL

Avenida Corts Catalanes 5-7.
08173, Sant Cugat del Vallés

Website: www.gaeve.com

Email: info@gaeve.com

Phone: +34 609757553

GAEVE is an exclusive distributor and agent of equipment and components for key sectors of the Spanish industry such as energy, petrochemical, chemical, gas and nuclear among others. We also work with engineering and construction companies, valve manufacturers and valve repairers.

In the field of innovation, we collaborate with conceptual entities in product development and R&D. Since 2006, GAEVE has been providing European solutions to these sectors with their challenges and high demand for quality products and GAEVE is recognised in these sectors for the same. The products we market are special valves for critical classification areas, custom-made skids for solid, liquid and gaseous combustible fluids according to EN161, mixtures and injection. Fiscal measurement trains, gas ramps, gas conditioners, etc. Equipment for testing and maintenance of valves of all types. Expansion compensation, for solid, liquid and gaseous fluids.

LINE OF BUSINESS

- 1 Equipment and valves
- 2 PSA Pressure swing absorption for hydrogen obtention
- 3 Hydrogen injection skids in existing grids
- 4 Hydrogen safe shut off valves and system protection
- 5 Inertisation and venting systems, demand-responsive taxation and P&ID trains
- 6 We comply with DIN 3394-part 1, DIN EN ISO 23553-1 and EN 161.

SPANISH HYDROGEN ASSOCIATION

GAEVE EXP IMP SL



Avenida Corts Catalanes 5-7.
08173, Sant Cugat del Vallés

Website: www.gaeve.com

Email: info@gaeve.com

Phone: +34 609757553

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



Electrolysers



Hydrogen storage



**Hydrogen
compression**



**Hydrogen
production**



Industrial gases

Website: www.gecrio.com

Email: info@gecrio.com

Phone: +34 973450712

Gecrio is a company whose mission is to find solutions in cryogenic applications, especially LNG (Liquefied Natural Gas), BIOGAS, H₂, CO₂, covering all aspects of its implementation: design, operation, control, and maintenance.

LINE OF BUSINESS

- 1 Regasification Satellite Plants
- 2 GNL, GNC-L y GNC service stations
- 3 Biogas plants
- 4 Cryogenic vacuum insulated tanks
- 5 Vacuum piping
- 6 Process control
- 7 Special projects
- 8 Special electrogens sets
- 9 Hydrogen production and supply plants

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



Engineering & EPC



**Research &
Development**



**Hydrogen Refueling
Stations**



Electrolyzers

GEALIA

Calle Varsovia, 24-26. 14014, Córdoba

Website www.gecoh2green.com

Email: mlopez@loalnet.com

Phone: +34 626486082



GEA Quality S.L.U. (GEALIA) is an EPC engineering company specialising in H2 leak detection, monitoring and control systems in all infrastructures and processes involving this gas (production, logistics, storage). For this purpose, we have the best available technologies in H2 detection, from conventional single-point detection detectors to selective and long-range detectors such as open-path detectors that can detect a leak of 0.01 kg/s of H2 at 28 metres, at the speed of sound; Observer-i: ultrasonic leak detection|MSA Safety|Spain.

In addition, we use computational mapping systems such as the MSA Flame and Gas Mapping System, a solution that assists in the assessment of flame and gas risks and the reduction of these risks towards an acceptable risk profile. Flame and gas mapping involves placing detectors in the right locations to achieve the best possible detection coverage. Through design iterations, the effects of different detector arrangements or detection technology on detection coverage are quantified and evaluated, stopping when the target performance is as desired. We are a partner of MSA SAFETY Fire & Gas detection;

LINE OF BUSINESS

- 1 Detection, Monitoring and Control of Toxic, Flammable and Refrigerant Gases
- 2 EPC Engineering, Fire Detection and Extinction Systems
- 3 Monitoring of Electromagnetic Fields, Noise and Process Control Parameters
- 4 Detection equipment rental for bus stops
- 5 Breathing Protection
- 6 Dust and Particulate Detection and Monitoring

SPANISH HYDROGEN ASSOCIATION

GEALIA

Calle Varsovia, 24-26. 14014, Córdoba

Website www.gecoh2green.com

Email: mlopez@loalnet.com

Phone: +34 626486082



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC

GENERAL COMPANY H2 GREEN S.L.

Calle Corredera, 76. 41710, Utrera

Website: www.h2green.es

Email: info@h2green.es

Phone: +34 911870026

The logo for H2GREEN, featuring the text "H2GREEN" in a bold, black, sans-serif font. The "H2" is slightly larger and more prominent than the "GREEN". The logo is set against a light green rectangular background.

Our activity is focused on the promotion of H2 production plants as well as on the commercialisation, storage and distribution of H2, for which we work in the fields of process engineering for obtaining H2 from different elements, studies of hybridisation of alternative primary energy sources.

LINE OF BUSINESS

- 1 Engineering, design, promotion and construction of H2 plants
- 2 Electrolyzers
- 3 Storage, distribution and marketing of H2
- 4 Research into new H2 production technologies

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Energy companies



**Hydrogen Refueling
Stations**



**Materials and
components**



Fuel cells



Hydrogen production

GENESAL ENERGY

Calle Parroquia de Rois Parcela B28. 15165 Bergondo

Website: www.genesalenergy.com

Email: consultas@genesal.com

Phone: +34 981 674 158

Genesal Energy is a Galician business group dedicated to the distributed energy sector and with a strong international presence in more than 30 countries with offices in Mexico and Peru. Its activities include the design, manufacture, supply and maintenance of generator sets. With more than 28 years of experience and a highly specialised workforce of almost 100 employees, it focuses its strategy on innovation. It has its own R&D&I unit and a distributed energy technology centre that is unique in the sector (CETED), which enables it to offer customised solutions in permanent contact with the customer. Its commitment to renewable energies and energy transition translates into participation in projects that respect the planet. As a socially committed company, it is specifically committed to the 2030 Agenda, in a first phase, with eleven Sustainable Development Goals (SDGs) and, as a reflection of its contribution to SDG 13, Climate Action, it has just obtained certification for calculating its Carbon Footprint.

LINE OF BUSINESS

1

Diesel, gas and hybrid gensets / Engineering and project customisation service

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Public sector



Consultancy



CHP systems



Equipment and systems integration services



Engineering & EPC



Research & Development



Hydrogen production



Materials and components

GESINTIA S.L.

Calle Aiguaders, nº 15. Polígono Industrial Cotes.
46680 Algemesí, Valencia

Website: www.gesintia.com
Email: inma.gomez@gesintia.com
Phone: +34 655 851 342

We offer technical support and R&D managing services as engineering and consulting experts, involving projects related with decarbonization, green hydrogen and new renewable fuels, and much more. We create strategic partnerships, linking companies, research centers, universities and other agencies, with the aim to successfully execute the projects. Furthermore, we have the experience and formation to provide technical support, as well as a personalized tracking to our partners, while defining a medium and long-term strategy to optimize the available incentives. Our aim is to achieve excellent financing and market conditions for the results of the R&D projects executed.

LINE OF BUSINESS

- 1 R&D plus innovation consulting
- 2 Investment consulting
- 3 R&D engineering

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Research & Development



Materials and components



Hydrogen vehicles



GENERACIONES FOTOVOLTAICAS DE LA MANCHA, S.L.

Calle las Cabezas, 16. C.P. 45860, Villacañas

Website: www.gmfotovoltaica.com

Email: llopez@gfm.es

Phone: +34 925195784

GFM Fotovoltaica is a pioneer company involved in the renewable power sector since 2002, which offers several solutions from C&I solar self-consumption, portable off-grid systems to R&D consulting projects. During the last years, GFM has expanded to Ethiopia, Jordan, Chile, Dominic Republic, Senegal, or Romania, providing comprehensive tailormade services in terms of engineering, commissioning, and maintenance. As part of GFM, Ydrogenix is born as a company linked to green hydrogen sector, whose objective is to contribute to decarbonisation and environmental conservation.

Ydrogenix is involved in the promotion and development of green hydrogen projects. Considering the different business lines, it is focused on hydrogen injection into gas grid, allowing a efficient hydrogen distribution for the community (blending). Ydrogenix contributes to decarbonisation of transport sector through the promotion of hydrogen stations, which allow the development of mobility road sector in a sustainable way. In addition, this energy vector could employ in multiple industrial processes, reducing the use of fossil fuels and contributing to the environmental conservation.

LINE OF BUSINESS

- 1 C&I self-consumption systems
- 2 Promotion of green hydrogen projects
- 3 Energy and Innovation (R&D)
- 4 Assessment and energy consultancy
- 5 Operation and maintenance for utility-scale PV plants (O&M)

SPANISH HYDROGEN ASSOCIATION



GENERACIONES FOTOVOLTAICAS DE LA MANCHA, S.L.

Calle las Cabezas, 16. C.P. 45860, Villacañas

Website: www.gmfotovoltaica.com

Email: llopez@gfm.es

Phone: +34 925195784

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Hydrogen
compression**



Energy companies



Training



Engineering & EPC



**Equipment and
systems integration
services**



**Research &
Development**



Hydrogen production



**Hydrogen transportation
and distribution**

GHENOVA

Avenida San Francisco Javier 20, Edificio Catalana Occidente
2ª Planta, 41018 Sevilla

Website: www ghenova.com

Email: info@ ghenova.com

Phone: +34 954990200

GHENOVA is an international company offering multidisciplinary engineering and consulting services. Our commitment to innovation places us as one of the most important private engineering companies in Spain and at the forefront in Europe. Time, results and the trust of our clients have contributed to the fact that we continue to operate in the most demanding sectors of activity.

With more than 800 employees, where 80% of whom are engineers, GHENOVA develops projects in a wide variety of sectors: marine, offshore, thermal energy plants (thermal power plants and combined-cycle plants), clean energy manageable (biomass plants, WtE and concentrated solar power), renewables energy plants (photovoltaic solar plants, wind energy plants, offshore wind plants), substation and transmission lines, H2 and infrastructures.

In GHENOVA, we strongly think that Hydrogen will be an important vector in the energy transition given its versatility and characteristics. On the one hand, it will play a key role in the storage of renewable energy.

On the other hand, it will contribute to the elimination of fossil energy in all economic sectors. GHENOVA is committed to the energy transition through green hydrogen projects with a team who have developed strong capabilities in hydrogen and fuel cell technologies.

LINE OF BUSINESS

- 1 Development of renewable energy plant engineering projects
- 2 Production of green hydrogen and its derivative carriers such as ammonia and methanol

GHENOVA

Avenida San Francisco Javier 20, Edificio Catalana Occidente
2ª Planta, 41018 Sevilla

Website: www ghenova.com

Email: info@ ghenova.com

Phone: +34 954990200

LINE OF BUSINESS

- 3 Decarbonisation solutions for industry
- 4 Consultancy, feasibility studies and basic engineering
- 5 Development of projects in naval engineering, infrastructure and the digital sector.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



**Equipment and
systems integration
services**



Engineering & EPC

GILBARCO VEEDER-ROOT

Ferdinand-Henze-Straße 9, 33154 Salzkotten, Germany

Website: www ghenova.com

Email: www.gilbarco.com/eu/

Phone: +44 (0) 7977 293768

Our mission is to build a cleaner, more sustainable mobility of the future. Our commitment is to provide the world with the infrastructure needed to accelerate the transition to a carbon-free future. Founded more than 150 years ago, we have considerable experience in the design, manufacture, installation and maintenance of refueling infrastructure around the world. Our dedicated compressed gas division, ANGI Energy Systems, brings 30 years of experience in the design and manufacture of complete solutions for compressed gases, including CNG, RNG and hydrogen. Our hydrogen dispensing systems are part of our turnkey hydrogen refueling station (HRS) solution and build on our legacy of industry-leading dispensing solutions for commercial and retail applications. A product of our signature quality engineering and trusted by thousands of customers worldwide, our hydrogen dispensing systems are designed to provide a "comfortably new" hydrogen refueling experience by combining familiar design with the latest modern technology for the best end-user experience.

LINE OF BUSINESS

- 1 Hydrogen dispenser
- 2 Hydrogen compression
- 3 Hydrogen refueling stations

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



**Hydrogen Refueling
Stations**

GREENERGY RENOVABLES

Calle de Rafael Botí 26, 28023 Madrid

Website: www.greenergy.eu

Email: jespelta@greenergy.eu

Phone: +34 690179968

Greenergy Renovables is a Spanish company created in 2007, an independent producer of energy from renewable sources, mainly photovoltaic, wind and storage, which has been listed on the Spanish stock exchange since 2015. Its business model covers all phases of the project, from development, through construction and financial structuring to operation and maintenance of the plants. The company has a global pipeline in various stages of development in the ten countries where it operates in the European market (Spain, Italy, Poland and the United Kingdom), North America (United States) and Latin America (Chile, Peru, Mexico, Argentina and Colombia).

LINE OF BUSINESS

- 1 Development and Construction (solar plants, wind plants and storage)
- 2 Energy management and O&M

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production



Energy companies

GRUPO DISA

Calle Fomento 7, 1ª planta, oficina nº 1.
38003, Santa Cruz de Tenerife



Website www.disagrupo.es

Email: eva.delgado@disagrupo.es

Phone: +34 922238756

The DISA Group is the largest independent service station operator in Spain and leader in the Canary Islands market. With more than 86 years of experience in the energy sector, acting with the commitment, quality of service and proximity that characterises it.

In the last decade, it has diversified its activities in the energy sector. DISA has become a comprehensive supplier of energy products and services. Its offer includes traditional fuels, the commercialisation of 100% renewable electricity and other alternative fuels, such as LPG and Natural Gas, being a pioneer in the introduction of both in the Canary Islands market, where DISA is also the largest producer of renewable energy. At the same time, it is extending its geographical scope of action, recently entering the Uruguayan and Portuguese markets. In line with the changes that society and the economy are undergoing, this Group is in continuous internal transformation, promoting innovation, digitalisation and energy transition to continue improving people's lives.

DISA is actively involved, in alliance with companies in the energy sector and local authorities, in projects for the introduction of hydrogen in the energy supply of the Canary Islands, with the expectation of expanding this activity to other parts of Spain and the world.

LINE OF BUSINESS

1 Energy

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen Refueling
Stations



Hydrogen production



Certifications and
insurance



Hydrogen transportation
and distribution

SPANISH HYDROGEN ASSOCIATION

GRUPO IBEREÓLICA RENOVABLES



Pº Marqués de Zafra nº5 28028 – Madrid

Website: www.grupoibereolica.com/

Email: gac@grupoibereolica.com

Phone: +34 915570566

Grupo Iberólica Renovables apuesta, desde sus orígenes en 1996, por participar de forma activa en la lucha por mitigar los efectos de la emergencia climática en el mundo e impulsarlo hacia un modelo energético más sostenible. Hoy día la compañía, pionera en la promoción, construcción y explotación de instalaciones de generación de energía eléctrica a partir de fuentes de origen renovable, se proyecta hacia el futuro como una de las mayores plataformas de producción de energía 100% limpia que permita cumplir con el Objetivo de Desarrollo Sostenible 7 de Naciones Unidas “Energía asequible y no contaminante”, y garantizar el bienestar de nuestras futuras generaciones.

Nuestro objetivo para los próximos años es consolidarnos como impulsores de una de las mayores plataformas de proyectos renovables a nivel mundial, contribuyendo a un futuro mejor para nuestra sociedad y para nuestro planeta. La generación de hidrógeno a partir de fuentes renovables constituye uno de los principales vectores de cambio del actual modelo energético, y nuestra inagotable búsqueda de la energía del futuro nos ha llevado a definir el desarrollo de proyectos de generación de hidrógeno verde como uno de nuestros principales vectores de crecimiento.

LINE OF BUSINESS

1

Promotion

2

Engineering

3

Construction

4

Operation of electric power generation facilities from renewable sources

SPANISH HYDROGEN ASSOCIATION

GRUPO IBEREÓLICA RENOVABLES



Pº Marqués de Zafra nº5 28028 – Madrid

Website: www.grupoibereolica.com/

Email: gac@grupoibereolica.com

Phone: +34 915570566

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

GUNVOR

Calle Balbina Valverde 17 - 28002 Madrid



Website www.gunvorgroup.com

Email: manel.avella@gunvorgroup.com

Phone: +34 619010830

The Gunvor Group is one of the world's largest independent commodity traders, creating logistics solutions to move energy safely and efficiently from where it is produced and stored to where it is consumed. In 2021, the company had a turnover of \$135 billion, managing 240 million t of physical energy worldwide. With strategic investments in infrastructure (refineries, storage, pipelines and terminals), Gunvor generates value for its customers and partners along the entire value chain.

By virtue of its commitment to the Energy Transition, Gunvor is expanding its presence in power and renewables in Europe, including long-term PPAs and acquisitions as well as investments in operating assets and projects under development.

Hydrogen is becoming a priority commodity for Gunvor. With refineries in Germany and the Netherlands, and biodiesel plants in Spain (Huelva and Alava), the Gunvor Group is already a natural consumer of hydrogen, and aims in the medium term to commercialize green hydrogen throughout Europe. To this end, the company is developing storage and trading infrastructures, including projects such as a hydrogen import terminal in Rotterdam and a hydrogen production cluster in Ingolstadt.

Gunvor's marketing subsidiary in Spain belongs to the Asociación de Operadores Petrolíferos. Gunvor is also active in the Iberian gas and electricity markets and was the first market maker of MIGBAS.

LINE OF BUSINESS

- 1 Energy trader
- 2 Shipping trader
- 3 Refineries and biofuels
- 4 Storage

SPANISH HYDROGEN ASSOCIATION

GUNVOR

Calle Balbina Valverde 17 - 28002 Madrid



Website www.gunvorgroup.com

Email: manel.avella@gunvorgroup.com

Phone: +34 619010830

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



**Hydrogen transportation
and distribution**



Energy companies

H2B2 ELECTROLYSIS TECHNOLOGIES S.L.

Calle Fortuny 19 entreplanta. 28010 Madrid



Website: www.h2b2.es

Email: info@h2b2.es

Phone: +34 670496428

H2B2 is a technology company that promotes, develops, sources financing, designs, integrates, builds, operates and maintains hydrogen production systems based on the electrolysis of water, providing complete solutions for the generation, compression, storage, commercialisation, refuelling stations and other uses of renewable hydrogen.

In short, H2B2:

- Manufactures electrolysers
- Designs and develops systems and plants for the production of hydrogen by water electrolysis designs and develops hydrogen supply systems, including refuelling stations
- Develops solutions in the field of industry, energy and mobility, using hydrogen technologies
- Promotes projects in these areas

To this end, it has engineering, financing, equipment manufacturing and plant construction capabilities, and the development of Operation and Maintenance (O&M) services for projects that integrate hydrogen technologies.

LINE OF BUSINESS

- 1 Design, manufacture and supply of electrolysers, classified in 3 ranges: small (0.5-5 Nm³/h H₂, 5-25 kW), medium (10-60 Nm³/h H₂, 50-300 kW) and MW scale (100-580 Nm³/h H₂, 0.5-3 MW).
- 2 Design, development and construction of hydrogen production plants
- 3 Design, development and implementation of hydrogen refuelling stations

H2B2 ELECTROLYSIS TECHNOLOGIES S.L.

Calle Fortuny 19 entreplanta. 28010 Madrid



Website: www.h2b2.es

Email: info@h2b2.es

Phone: +34 670496428

LINE OF BUSINESS

- 4 Design, development and implementation of underground hydrogen storage solutions
- 5 Promotion and operation of renewable hydrogen projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Electrolysers



Hydrogen Refueling Stations



Engineering & EPC



Equipment and systems integration services



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

H₂C - THE HYDROGEN DELIVERY COMPANY



R. Brig. Ant. Pedro Brito, No. 50, 3-L,
8800-453 Tavira, Portugal

Website: www.h2clipper.com

Email: JerryB@h2clipper.com

Phone: +351912409269

Company Overview – H2C, Inc., a Delaware corporation headquartered in Santa Barbara, California, was formed in 2011 for the purpose of developing three “mid-stream” solutions for hydrogen transportation. The Clipper (or “airship”) is the world’s first 100% green hydrogen-lift and hydrogen-powered, point-to-point hydrogen and freight delivery system, the Pipeline-in-the-Sky™. The Clipper can transport hydrogen from where it is produced inexpensively to user destinations around the world cheaper and faster than other forms of transport – without airports, ports, tube trucks, or railways. Transportation via airship is 40-60% less expensive than airfreight; has a 2x payload capacity; and is 7x to 10x faster than ship, truck, or rail.

LINE OF BUSINESS

1

H2 Clipper, a hydrogen-powered airship for long-haul hydrogen and freight transport

2

LH₂ Depot for the offtake, storage, and re-pressurization of liquid hydrogen

3

Safety Pipe, Pipe-within-a-Pipe™, technology for last-mile H₂ distribution using existing rights of way

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

H2GREEM GLOBAL SOLUTIONS SL



Calle Titán 8. 28045, Madrid

Website: www.h2greem.com

Email: lsacristan@h2greem.com

Phone: +34 628759643

H2Greem is a technology company dedicated to the development, manufacture and commercialization of hydrogen electrolysis generators using its own PEM technology ('Polymer Electrolyte Membrane'), with the competitive advantage of our knowledge and capacity to produce our catalysts and manufacture and assemble the electrolyzer components, therefore generating a competitive value proposition that is currently allowing us to rapidly penetrate the market.

LINE OF BUSINESS

1

Manufacture of small and medium power electrolyzers.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production

H2 TO MARKET

Avenida Alberto Alcocer 24, piso 7.28043 Madrid

Website: www.h2tomarket.com

Email: sbiosca@h2tomarket.com

Phone: +34722686816

The objective is to guide the customer about the characteristics of green hydrogen and its different applications in the industry, to understand the current situation of the business and expectations and to evaluate the opportunities in the market, as well as to represent the interests of customers in the sector. At H2 to Market we advise the different agents within the value chain, investors, companies and industries interested in providing services or investing in the green hydrogen sector.

LINE OF BUSINESS

- 1 Identification of off-takers, preparation of contracts and agreements
- 2 Market intelligence and business strategy services
- 3 Commercial representation of the client to protect its interests in the green hydrogen sector
- 4 Advisory board
- 5 Spot consulting service according to the client's needs and follow-up of the service: project feasibility analysis and project development coordination.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



Consultancy

SPANISH HYDROGEN ASSOCIATION

H2VECTOR ENERGY TECHNOLOGIES S.L.

Parque Tecnológico de Asturias. Edificio
CEEL.33428-Llanera, Asturias



Website: www.h2vector.com

E-mail: info@h2vector.com

Phone: +34 644791295

H2vector focuses on developing solutions and disruptive products based on hydrogen technology, aiming to promote the use of renewable energy sources. Our solutions can adapt to the diverse customers' needs, providing them with a product that allows them to enjoy the energy and economic security, independence, and self-sufficiency, all without CO2 emissions.

Our company works in each of the links in the cycle of hydrogen, generation, compression, storage, and use as fuel, looking for the best solution to each of the challenges that arise. All this is possible thanks to the experience acquired during the development of our first product, a hydrogen-based energy management system. This has allowed us to open diverse and interesting paths based on continuous improvement and innovation in hydrogen technology, both for stationary and mobility applications. Scalability, modularity, adaptability, and rapid installation are some distinctive signs of our developments.

Also, H2vector offers standardized products from the point of view of design, but in turn, versatile and moldable according to the needs of each project and location.

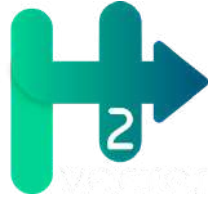
LINE OF BUSINESS

- 1 Manufacture of green hydrogen batteries.
- 2 Development of engineering solutions around the entire green hydrogen value chain.
- 3 Research and development of solutions for support to mobility with green hydrogen.
- 4 Hydrogen energy storage research.

SPANISH HYDROGEN ASSOCIATION

H2VECTOR ENERGY TECHNOLOGIES S.L.

Parque Tecnológico de Asturias. Edificio
CEEL.33428-Llanera, Asturias



Website: www.h2vector.com

E-mail: info@h2vector.com

Phone: +34 644791295

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen Refueling
Stations**



Engineering & EPC



**Equipment and
systems integration
services**



Hydrogen Production



CHP systems

H-TEC SYSTEMS

Calle Pedro Teixeira 8, 10º
28020, Madrid, Spain

Website: <https://www.h-tec.com/en/>

E-mail: j.menendez@h-tec.com

Phone: +34 689596081



H-TEC SYSTEMS is a hydrogen expert, innovation driver and partner in the energy transition. For our future and for our customers we develop innovative PEM electrolyzers and electrolysis stacks for green hydrogen production. As a technological pioneer, we have been playing a decisive role in shaping hydrogen technology for over 25 years.

We believe that mobility, production, and consumption are possible without emissions. To achieve this, H-TEC SYSTEMS builds on cooperation with visionary customers and partners, and the power of our parent company MAN Energy Solutions. Together, we are making hydrogen production green and the CO₂-neutral transformation of all sectors a reality. That's why our goal is to convert renewable energies into green hydrogen by using leading PEM electrolysis technology. And thus fuel a new, emission-free energy era. This is what we stand for. And to avoid 1% of the global CO₂ emissions by our electrolyzers.

The product range includes containerized “plug and play” electrolyzers and modular, skid-mounted, ready-to-install electrolyzers delivered as an scalable platform for industrial production of green hydrogen based on PEM technology serving projects with an electrolysis capacity of 10 to more than 100 MW. Our electrolyzers are manufactured in two locations in Germany (Augsburg and Braak).

LINE OF BUSINESS

1 Electrolyzers manufacturing

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers

HAFFNER ENERGY



2, Place de la Gare 51300 Vitry-le-François, France

Website: www.haffner-energy.com

E-mail: didier.legoic@haffner-energy.com

Phone: +33 786620471

Haffner Energy is a developer and project manager of turnkey renewable energy solutions for industrial and community (municipalities, large cities) and transport and logistics companies.

A long-standing specialist in the recycling of biomass into carbon-free energy, its HYNOCA® process, protected by 14 international patent families, is a unique innovation today to produce 100% renewable and affordable hydrogen.

Our goal is to turn the energy transition into opportunities for customer competitiveness, local economies and environmental protection.

LINE OF BUSINESS

- 1 HYNOCA® thermolysis unit for the production of renewable green hydrogen for green mobility and industries from various biomasses (industrial by-product, community waste, agricultural by-products, by-products from vineyards and forestry plants).

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Energy companies



Engineering & EPC



Equipment and systems integration services



Materials and components



CHP systems

SPANISH HYDROGEN ASSOCIATION

HASKEL SISTEMAS DE FLUIDOS ESPAÑA, S.R.L.



Pº Ubarburu, 81 Edificio 5 - Planta 1ª Locales 1 y 2.
Polígono 27. Martutene. 20115 Astigarraga

Website: www.haskel.es

Email: pablo.merino@haskel.com

Phone: +34 930028328

70 years of innovation in high pressure. Haskel has a solid reputation for quality, safety, and reliability, unparalleled expertise in pressurization technology and high-pressure transfer of liquids and gases, and a commitment to closely collaborate with customers. All of these drive us to consistently tackle complex and critical challenges with innovative solutions.

We manufacture the most reliable and comprehensive range of high-pressure pneumatic or hydraulic liquid pumps, gas boosters, air pressure amplifiers, and high-pressure valves and system components in the industry.

In 2019, Ingersoll Rand acquired Haskel. Ingersoll Rand and its family of brands have a proven track record in construction and mining, industrial, and commercial markets, providing market-leading solutions and services that enable customers to make progress across various industries and markets that touch everyday life.

In order to provide our customers with the highest level of confidence in the safety of our products, we obtain international approvals such as ISO, ATEX, ABS, API 6A and 17D, CE, NACE MR0175/ISO 15156-2003, and many more.

Our BuTech line of high-pressure valves, fittings, and tubing offers high performance and extended service life in critical and challenging environments. BuTech is manufactured under the same rigorous standards and design and engineering expertise as all Haskel products.

LINE OF BUSINESS

1 Aerospaceal and defense

2 Automotive

3 Hydraulics

SPANISH HYDROGEN ASSOCIATION

HASKEL SISTEMAS DE FLUIDOS ESPAÑA, S.R.L.



Pº Ubarburu, 81 Edificio 5 - Planta 1ª Locales 1 y 2.
Polígono 27. Martutene. 20115 Astigarraga

Website: www.haskel.es

Email: pablo.merino@haskel.com

Phone: +34 930028328

LINE OF BUSINESS

- 4 Hydrogen
- 5 Oil & Gas
- 6 Other industries
- 7 Pneumatically driven pumps, pneumatic pumps for liquids, and pneumatic pumps for coolants
- 8 Gas boosters and electrically driven air pressure amplifiers
- 9 AG Models
- 10 Q-Drive
- 11 Pneumatic actuation, H-Drive and hydraulic actuation

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Equipment and systems integration services



Hydrogen storage



Hydrogen compression



Engineering & EPC



Hydrogen Refueling stations

SPANISH HYDROGEN ASSOCIATION

HEROSE IBERICA, S.L.



Calle Aragó, 208-210 7^o 6^a - 08011 Barcelona

Website: www.herose.es

Email: judit.donoso@herose.es

Phone: +34 930028328

HEROSE Ibérica is a subsidiary of the HEROSE Group. As part of the leading group in cryogenic solutions, we have two main lines of business: cryogenic and industrial valves.

Knowledge is our primary focus, and we have expertise in selling valves to various clients, including OEMs, end-users, gas companies, engineering firms, and contractors.

LINE OF BUSINESS

1

Material for various applications such as hydrogen stations, electrolyzers and cylinder racks, capable of reaching pressures of up to 1,00 bar

2

Supply of check valves, needle valves, diverters, globe valves, ball valves and safety valves suitable to meet the needs in both gas and liquid phases

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

HIDRÓGENO CIRCULAR, S.L.



Calle Martín y Soler 18, Elche Parque Industrial 03203 Elche (Alicante)

Website: www.greene.es

Email: jmma@greene.es

Phone: +34 646295995

Hidrógeno Circular, S.L. is a recently created spin off of Greene Enterprise. S.L.. We are a company that has developed a comprehensive gasification technology for the material recovery of urban solid waste and industrial solid waste, to obtain circular raw materials. Additionally, we do consulting and technical advice and EPC for the construction, installation, start-up and operation of circular hydrogen production plants from waste. In this waste material recovery, through thermochemical recycling (pyrolysis-gasification) we obtain three fractions: permanent gas, condensable and solid phase, with the aim of maximizing any of these fractions and the compounds that make it up. For example, for the generation of circular H₂ (from waste with CO₂ capture), Hidrogeno Circular, S.L. has developed this thermochemical pathway especially for the decomposition of waste into simple gases including hydrogen that can be maximized with the necessary research in this regard, where by applying a special reactor the equilibrium reaction of water gas can be developed to its full extent, to obtain a greater amount of hydrogen than the original residue contains, transforming water and carbon monoxide into hydrogen.

LINE OF BUSINESS

1

Production of circular hydrogen, through proprietary technology consisting of thermochemical processes from waste

2

Additionally, we offer consultancy and technical advice & EPC for the construction, installation, start-up and operation of circular hydrogen production plants from waste

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Engineering
& EPC**



**Research &
Development**



**Hydrogen
production**

SPANISH HYDROGEN ASSOCIATION

HIDRONA GEA S.L.U



Carretera San Javier a Cartagena, km 24,3.
30353, Torreciega

Website: www.grupogeaperona.com

Email: adela@naftran.com

Phone: +34 600466930

The goal of Hidrona is the development, construction, management, and maintenance of hydrogen projects, with the aim of contributing to the sustainability and decarbonization of our planet. Hidrona is part of the Gea Perona group, which includes Naftran and Cringas, companies specialized in the commercialization, design, construction, maintenance, and transportation of liquefied natural gas. The specialization of our team, made up of engineers and technicians, allows us to generate synergies and provide integrated solutions in hydrogen projects.

LINE OF BUSINESS

1

Construction, management, and maintenance of hydrogen products

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

Pol. Ind. Altuna nº 6010, Pab.7 20212
Olaberria, Gipuzkoa

Website: www.hinegroup.com

Email: es-hre@hinegroup.com

Phone: +34 943162020

Founded in 1974, HINE is a leading supplier of hydraulic systems, hydraulic components, and cooling systems for industrial and renewable energy companies. The company's in-house engineering team, extensive R&D portfolio, and global manufacturing capabilities deliver competitive hydraulic solutions to customers worldwide. Our production sites in China, Spain, U.S., Brazil, India, and Mexico enable fast, reliable solution delivery so clients can accelerate project readiness. From production through post-sales support, HINE Group provides a comprehensive package of hydraulic products and services designed to give our customers a rapid response and outstanding service.

LINE OF BUSINESS

1

Technologies: wind tools, hydraulic cylinders, hydraulic systems, fluid connectors, cooling systems, and filtration & lubrication

2

Service and aftermarket business division: spare parts and consumables, repairs, technical support & training, upgrade programs and large components

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

HIS HYDROGREEN

Calle Fernández Llamazares 34. 28043 Madrid



Website: www.hishydrogreen.es

Email: s.biosca@hishydrogreen.es

Phone: +34 722686816

Consultancy/Advisory services for renewable hydrogen and value chain integration.

LINE OF BUSINESS

- 1 Green hydrogen consultancy regarding market evolution and alternatives for industries and off takers.
- 2 IBrokerage concerning green hydrogen and related products. Intermediation along the value chain.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training

HIPERBARIC, S.A.



Calle Condado de Treviño, 6. 09001, Burgos

Website: www.hiperbaric.com

Email: IDI@hiperbaric.com

Phone: +34 600466930

Hiperbaric, born in Burgos in 1999, has been dedicated since its foundation to the designing, manufacturing and marketing of high pressure industrial equipment for High Pressure Processing (HPP). With more than 350 HPP machines installed in 48 countries, it is the world leader in this sector, reaching a market share of 60%. Two other lines of business have since been added; in 2019, Hiperbaric launched its line of industrial equipment for Hot Isostatic Pressing (HIP) and in 2020, it launched the hydrogen compression technology (up to 1,000 bar), and is currently the only Spanish manufacturer of H₂ compressors. The Burgos facilities, with a surface area of 30,000m², house the company's central offices, the R&D center and the only production plant. Hiperbaric has commercial offices in the United States, Mexico, Singapore and Australia. Hiperbaric aspires to become a world leader in high pressure technologies, as indicated by its slogan "High Pressure Technologies" in its brand.

LINE OF BUSINESS

- 1** Hydrogen compression: A range of modular, compact, safe and reliable high pressure hydrogen compressors (range from 200 to 1,000 bar)
- 2** HPP equipment for high pressure processing (6,000 bar of water) or food products (in-pack and in-bulk). Fully automated turnkey solutions for the food industry
- 3** HIP equipment for hot isostatic pressing (Argon at 2,000 bar and 1,450 °C) of metallic and ceramic components to increase their mechanical performance

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**

SPANISH HYDROGEN ASSOCIATION HISPALYT - ASOCIACIÓN ESPAÑOLA DE FABRICANTES DE LADRILLOS Y TEJAS DE ARCILLA COCIDA



Calle Orense, 10 2ª - Oficinas 13 y 14.
28020, Madrid, España

Website: www.hispalyt.es

Email: antonioma@hispalyt.es

Phone: +34 610587702

HISPALYT, the Spanish Association of Manufacturers of Fired Clay Bricks and Tiles, is a non-profit organization that represents around 80 companies by manufacturing structural ceramic products (pavers, facing bricks, bricks and blocks for cladding, floor blocks, panels, and roof tiles). These companies account for 85% of the sector's production in Spain.

Since its establishment in 1968, HISPALYT's main objectives have been to defend the common interests of its sector companies, promote the recognition of ceramic materials, and facilitate the implementation and development of innovative technologies for its members. The goal is to make associated companies more competitive and sustainable, contributing to the achievement of emission reduction targets.

Based on the global goal of decarbonization of the economy becoming a climate-neutral continent by 2050, HISPALYT focuses on informing its members about the development and technological evolution of hydrogen production systems from renewable energy sources. The association aims to create alliances that will allow the future use of this energy source in the thermal processes of ceramic product manufacturing and in the cogeneration facilities of their factories. This active contribution aims to reduce greenhouse gas emissions effectively.

LINE OF BUSINESS

1 Non-profit organisation

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

HOLTROP

Avenida Diagonal 460, 4t. 08006, Barcelona



Holtrop

Legal in Energy Transition

Website: www.holtrop.legal
Email: mariaferrer@holtropslp.com
Phone: +34 699235194

"HOLTROP S.L.P, Legal in Energy Transition was founded in 2008, was awarded the Eurosolar Prize in 2015 for its untiring defense of renewable energies. The Firm is a reference, and hired by both public administration, as well as companies for in everything that concerns the regulation and legality of renewable energies, energy efficiency, smart cities and the energy transition more generally. It should be pointed out the implementation of the hydrogen as an energy vector in the renewable generation, storage and electric mobility context. We are what we do every day.

We are a purpose-driven company: we want to mitigate the climate crisis. We offer advisory services on all legal aspects of the energy transition. Our practice encompasses mainly regulatory aspects, and is complemented by any other legal issues relevant to our clients. We give legal advice to every subject of the electric system in different aspects: Renewable Energies, Suppliers, Energy Communities, Electric Mobility, Self-consumption, Storage and Hydrogen and PPAs, we also advise drafting new local and regional regulation. We represent our clients both in National and European Courts. Proximity to the customer and making ourselves understood is crucial for us. That is why in our team we work in different languages English, Spanish, Catalan, German, Dutch, French and Italian."

LINE OF BUSINESS

1 Legal advisory

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Public sector



Consultancy

SPANISH HYDROGEN ASSOCIATION

HORIZONS RENEWABLE ENERGY SYSTEMS SL



Avenida República Argentina 24, Sevilla

Website: www.holtrop.legal

Email: felix.guillen@horizons.energy

Phone: +34 639778325

Green hydrogen producer.

LINE OF BUSINESS

1

We produce green hydrogen in our production facilities on a large scale

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

HVR

Calle Zurbano 45, 1º. 28010, Madrid



Website: www.hvrenergy.com

Email: info@hvrenergy.com

Phone: +34 913269402

In HVR energy we develop and operate distributed generation of hydrogen projects, including storage and distribution, mainly for mobility solutions. As an independent company, we are flexible in the design and approach of our projects to identify the optimal solution in each case, partnering with different actors in the hydrogen value chain when necessary. HVR energy brings more than 20 years of experience in the renewable energy sector. We are committed to the decarbonisation of the transport sector, and the economy in general.

LINE OF BUSINESS

- 1 Generation
- 2 Production
- 3 Distribution
- 4 Mobility
- 5 Engineering
- 6 Project development

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Hydrogen transportation and distribution



Hydrogen production



Hydrogen storage



Hydrogen Refueling Stations



Hydrogen vehicles



Engineering & EPC



Calle Solsones, 54, 08211, Castellar del Vallès, Barcelona

Website: www.hydac.com/es-es/

Email: rodrigo.gonzalez@hydac.es

Phone: +34 677400682

Founded in Saarland in 1963 as “Gesellschaft für Hydraulikzubehör” (Company for Hydraulics Accessories) and run as a family company, HYDAC has never stopped improving. HYDAC now has 50 national companies, roughly 500 sales and service partners, 14 product lines and more than 9,500 employees worldwide. Rely on HYDAC’s expertise in hydraulics, systems and fluid engineering. We are committed to providing all-inclusive solutions that span industrial sectors and are sustainable and above all customer-oriented. We are not theorists – with comprehensive understanding of the industry, we develop systems that will stand the test of time. For you and with you.

LINE OF BUSINESS

- 1 Development, production and sales of hydraulic accumulators
- 2 Mounting technologies
- 3 Cooling systems, electronics, valves, sensors, filter systems, electrohydraulic drive systems, cylinders

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



SPANISH HYDROGEN ASSOCIATION

HYDROGEN REFUELING SOLUTIONS



HYDROGEN REFUELING SOLUTIONS

Zone Artisanale des Viallards 38560
Champ-sur-Drac, France

Website: www.hydrogen-refueling-solutions.fr/?lang=en

Email: t.vincendon@h-r-s.fr

Phone: +34 684467149

Since it was founded in 2004, Hydrogen Refueling Solutions (HRS), previously known as TSM, has provided more than 60 hydrogen refueling station solutions for every type of vehicle (captive fleets, lorries, buses, passenger cars, etc.) for the transportation, industrial, storage and energy markets.

LINE OF BUSINESS

1 Hydrogen Refueling Stations

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen Refueling
Stations**

SPANISH HYDROGEN ASSOCIATION

HYDROGREEN ENERGY, S.L.



Avenida de la Industria 13-15;
03690, San Vicente del Raspeig

Website: www.hydrogreenergy.com

Email: mk@hydrogreenergy.com

Phone: +34 965661828

Company dedicated to the manufacturing and distribution of GDLs, fuel cells and electrolysers.

LINE OF BUSINESS

- 1 GDL
- 2 Fuel cells
- 3 Electrolysers

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Fuel Cells



**Materials and
components**

HYDROS POWER



Avenida Maisonnave, 41, 3B, Alicante, 03003

Website: <https://hydros-pwr.com/>
Email: ivan.navalon@hydros-pwr.com
Phone: +34 617586321

Hydros Power was founded with the mission to accelerate the decarbonization of the hardest-to-decarbonize sectors, from industrial mobility to energy storage. To achieve this, we have developed a technology that facilitates the expansion and adoption of green hydrogen as an energy vector.

In particular, we solve the problems associated with the lack of a distribution network, the low efficiency of fuel cell hybrid systems, and the high cost of rapid refueling of this gas in mobility applications. To this end, we have developed STELION, a complete solution comprising an on-site green hydrogen generation station, pressurized capsules that enable easy last-mile distribution and rapid refueling, and more efficient power generation systems that can replace current batteries and combustion engines in these sectors.

In this way, we enable the decarbonization of all types of energy ecosystems at a small and medium scale, with a special focus on captive fleets of industrial vehicles (logistics and airport environment), UAV fleets with a high need for autonomy, off-grid energy storage and energy backup systems. In a nutshell, Hydros Power is committed to leading the transition to a clean and sustainable energy future.

LINE OF BUSINESS

- 1 Integration and manufacturing of hydrogen fuel cell modules with proprietary technology optimisation software
- 2 Sale of optimisation software and hardware to hydrogen powertrain manufacturers
- 3 Sale of hydrogen distribution capsules at different scales
- 4 Sale of hydrogen generation and refueling stations for these capsules in locations without nearby supply or distribution

SPANISH HYDROGEN ASSOCIATION

HYDROS POWER



Avenida Maisonnave, 41, 3B, Alicante, 03003

Website: <https://hydros-pwr.com/>
Email: ivan.navalon@hydros-pwr.com
Phone: +34 617586321

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



**Equipment and
systems integration
services**



Fuel Cells



**Hydrogen Refueling
Stations**



**Hydrogen
transportation and
distribution**

SPANISH HYDROGEN ASSOCIATION

HYFIVE



Plaza Euskadi, 5 planta 15 (Torre Iberdrola)
48009, Bilbao

Website: www.hys.energy

Email: asa@hys.energy

Phone: +34 669851062

HyFive is a vertically integrated company that aims to develop green H₂ projects on an industrial scale in Spain and Europe. HyFive will be present throughout the green H₂ value chain including production, transport, storage and commercialisation. It will provide industrial customers green energy end-to-end carbon neutral solutions to replace fossil fuels and will be present throughout the energy procurement process. In this way HyFive will support its customers in every step of their energy transition. HyFive aims to become a reference partner for the implementation of sustainable decarbonisation strategies on an industrial scale at European level.

LINE OF BUSINESS

- 1** Production, transport, storage and commercialisation of green hydrogen
- 2** Development of industrial-scale renewable projects in Spain and Europe
- 3** Carbon-neutral solutions

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen Refueling Stations



Engineering & EPC



Financial sector



Hydrogen production



Equipment and systems integration services



CHP Systems



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION
HYGREEN ENERGY



Calle Jose Abascal 41, Madrid 28043

Website: www.hygreenenergy.com
Email: dfsalamanca@hygreenenergy.com
TPhone: +34 667911773

International Manufacturer of systems of production of green hydrogen.

LINE OF BUSINESS

- 1** Engineering, Development, Manufacturing and supply of Hydrogen production equipment: Electrolyzers and other elements of the system.
- 2** Development of green hydrogen production projects.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
production**

SPANISH HYDROGEN ASSOCIATION

HYPERION RENEWABLES



Rua Joshua Benoliel 1, 6ºdt; 1250-273

Website: www.hyperionrenewables.com

Email: jsr@hyperionrenewables.com

Phone: +35 1914792701

Hyperion Renewables is a "All-Round" Renewable Energy Firm with +1,400 MW under development in Iberia and +350 MW of assets under Management

LINE OF BUSINESS

- 1 Grow as solar IPP
- 2 Invest Internationally
- 3 Diversifying technology, namely developing green hydrogen projects and grow as a service provider

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

HYREN



Calle de Alcalá 81, PL 1 PTA AB
28009 MADRID

Website: www.hyren.es

Email: info@hyren.es

Phone: +34 957228117

Hyren is the new green hydrogen subsidiary of Matrix Renewables (www.matrixrenewables.com), the renewable energy platform founded by TPG and its global investment platform TPG Rise.

We specialize in the production, transportation, storage, and supply of green hydrogen, as well as engineering and related services. We provide technology, supply, and services to a variety of sectors: industrial, mobility, storage, P2X, and export.

Not only do we supply green hydrogen, but we also assist in adapting systems for the use of hydrogen in the production or consumption processes of our clients. Hyren has a multidisciplinary team with a long track record and extensive experience in the renewable energy sector, having managed over 12 GW of renewable energy.

Our mission is to promote, build, operate, and maintain systems for the production of green hydrogen, either for ourselves or for third parties. Moreover, we also do the same for systems for its storage and treatment for export. Our vision is to be a benchmark in the design, construction, manufacturing, and operation of hydrogen infrastructure and the commercialization of this new energy vector.

LINE OF BUSINESS

1

Development, operation, and maintenance of infrastructure for the production, storage, and treatment of green hydrogen, both for our own use and for clients

2

We supply green hydrogen to the national and international markets for various sectors, including industrial, residential, mobility (vehicles, trains, ships, etc.), power to x, and blending in natural gas networks. Additionally, we handle storage and treatment for export

SPANISH HYDROGEN ASSOCIATION

HYREN



Plaza de las Tendillas, 1, 2º. 14002, Córdoba

Website: www.hyren.es

Email: info@hyren.es

Phone: +34 957228117

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Energy
companies**



**Hydrogen Refueling
Stations**



**Hydrogen
compression**



**Hydrogen
production**



**Hydrogen
storage**



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

HYUNDAI



Calle Quintapalla 2, 28050, Madrid

Website: www.hyundai.es

Email: ldelval@hyundai.es

Phone: +34 913605260

Hyundai Motor Europe is the Spanish subsidiary of Hyundai Motor Company in Spain. We sell cars in the local Spanish market across all major car segments with a market share of around 4.6% (2017) of total sales. Hyundai Motor manufactures and distributes fuel cell cars (Nexo model) directly from its factory assembly lines in South Korea to our national network of Hyundai dealerships since the summer of 2018

LINE OF BUSINESS

1

Automotive

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles

IBERDROLA

Plaza Euskadi, 5 - Torre Iberdrola. 48009, Bilbao

Website: www.iberdrola.com

Email: vyuste@iberdrola.es

Phone: +34 690052333

Iberdrola Group is a global energy leader. Iberdrola has been ahead of the energy transition for two decades, addressing climate change and offering a sustainable and competitive business model that creates value for society. With over 170 years of history, Iberdrola is now the leading wind power producer and one of the largest electric utility companies by market capitalization in the world.

The company has a track record of over 20 years investing in clean energy with the goal of exceeding 60 GW of renewable capacity by 2025. Iberdrola sees hydrogen produced from renewable energy as a key player in the energy transition. Therefore, it is working on the development of 60 projects in 8 countries and has a project portfolio of 2.4 GW for the period 2022-2025.

In 2022, this strategy has already begun to materialize, with Iberdrola completing the construction of its first two plants for green hydrogen production:

- An industrial plant for hydrogen production for the fertilizer sector – the largest in Europe (20 MW; Puertollano).
- A refueling plant with on-site hydrogen production for urban buses (2.5 MW; Barcelona).

By 2030, the goal is to achieve 3 GW of installed electrolysis capacity, allowing the production of over 350,000 tons of green hydrogen, with a total investment of 9 billion euros

LINE OF BUSINESS

1 Renewable energy

2 Electric grids

3 Customers: PPAs (Power Purchase Agreements), customised contracts, smart solutions (solar and mobility), industrial green hydrogen, and heat

SPANISH HYDROGEN ASSOCIATION

IBERDROLA



Plaza Euskadi, 5 - Torre Iberdrola. 48009, Bilbao

Website: www.iberdrola.com

Email: yyuste@iberdrola.es

Phone: +34 690052333

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Energy
companies**



**Hydrogen Refueling
Stations**



**Hydrogen transportation
and distribution**



**Hydrogen
production**

IBERFLUID INSTRUMENTS,S.A

Calle Botanica 122, 08908 Hospitalet de Llobregat, Barcelona

Website: www.iberfluid.com

Email: oscar.royuela@iberfluid.com

Phone: +34 933333600

IBERFLUID INSTRUMENTS, S.A. was founded in 1972 and since then it has been known as a technological partner for the industry. We supply products, solutions and services that meet our customers' needs. Primarily focused in: • Instrumentation distribution • Engineering • Pilot plants • Technological services. We are an ISO 9001 and 17025 certified company We are present in the Spanish and Portuguese market and our team of sales engineers and after sales technicians support our customers from our offices in Madrid, Barcelona, Bilbao, Sevilla and Lisbon.

LINE OF BUSINESS

- 1 Comercialisation components
- 2 R&D engineering production
- 3 Storage system integration
- 4 Control systems
- 5 Applications distribution
- 6 Consulting training

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Equipment and systems integration services



Hydrogen Refueling Stations



Hydrogen compression



Hydrogen production



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

IDEA ENERGÍA, S.L.



Calle Balbino Marrón, 8. Planta 6. 41018 Sevilla

Website: www.ideaenergia.es
Email: pablo.garcia@ideaenergia.es
Phone: +34 610191626

Idea Energia is a multidisciplinary Company which specializes in the renewable energy sector. Our main projects focus on wind power, photovoltaic solar energy and electrical infra-structures. Thanks to the experience of our team, we offer our customers a service based on trust. Idea Energia highest priority is to establish a lasting relationship with their customers. A relationship based on trust and common objectives. We contribute with a global vision of the sector to achieve the success of the projects. We are highly qualified in Project Management and our staff collaborates with large developers, technicians and financial entities in different continents, having a clearly international vocation.

LINE OF BUSINESS

- 1 Project Management
- 2 Consultancy
- 3 Engineering and environment
- 4 Technical assistance

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Hydrogen
production



Hydrogen
storage

SPANISH HYDROGEN ASSOCIATION

IDELAB INGENIERÍA S.L.

Av. Blasco Ibáñez 10 - 46940 Manises (Valencia)



Website: www.idelabingenieria.com

Email: idelab@idelabingenieria.com

Phone: +34 961935512

IDELAB Ingeniería SL is an Engineering and Consulting company specialized in Industrial Safety, Process Safety, Machine Safety, Building and Industrial Facilities and Food Safety. We have gained more than a 15-year experience in carrying out projects in all types of industrial fields and with clients in 16 different countries. In 2021 we were awarded the Prize in the SME Category of the 1st Industrial Safety Awards of the Valencian Community, and we have been certified with ISO 14001 and 9001. We actively participate in several Bequinqor standardization committees and safety commissions (Storage of chemical products, Lithium Battery Safety, Hydrogen Safety).

LINE OF BUSINESS

- 1 Industrial Safety (Storage of chemical products, Protection against fire, Industrial Facilities)
- 2 SEVESO process safety
- 3 Safety in Pyrotechnics and Explosives
- 4 Lithium batteries safety
- 5 Hydrogen safety
- 6 Food safety
- 7 Machine safety

SPANISH HYDROGEN ASSOCIATION

IDELAB INGENIERÍA S.L.

Av. Blasco Ibáñez 10 - 46940 Manises (Valencia)

Website: www.idelabingenieria.com

Email: idelab@idelabingenieria.com

Phone: +34 961935512



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



**Engineering
& EPC**



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION

IDESA INDUSTRIAL PLANTS SLU



PCTG - Edificio Felix Herreros
Calle Profesor Potter 105. 33203, Gijón

Website: www.idesa.net

Email: lucia.abad@idesa.net

Phone: +34 687 089 678

IDIP is a company part of IDESA (Ingeniería y Diseño Europeo SA) that counts with a multidisciplinary team with a high degree of specialization, allowing it to tackle projects in which they participate in a safe, efficient and competitive way. Since its foundation back in 1993, IDESA has become one of the most recognized and respected companies for the design, fabrication and supply of static and modular equipment worldwide. IDESA's leadership position in the market is due to its human capital, its technical capacity and also its logistic capabilities which allows direct access plant-to-ship without transportation limitations.

IDESA Industrial Plants (IDIP) was founded in 2015 and is specialized in the fabrication of skids and modules and the execution of site works including installation/termination of equipment, construction of industrial plants (mechanical, E&I and civil packages) and technical supervision services. IDIP's and IDESA's commitment to the Energy Transition is absolute and therefore, it has recently participated in projects related to renewable hydrogen production plants, bunkering projects, CCUS, LNG and BioLNG liquefaction plants and regasifications plants. Within hydrogen sector, IDIP provides construction and integration services for production plants and HRS, and storage solutions up to 200 bars.

LINE OF BUSINESS

- 1 Skids and modular fabrication
- 2 Site and construction services
- 3 Turnaround execution
- 4 Manufacturing of capital goods
- 5 Storage solutions

SPANISH HYDROGEN ASSOCIATION

IDESA INDUSTRIAL PLANTS SLU

PCTG - Edificio Felix Herreros
Calle Profesor Potter 105. 33203, Gijón



Website: www.idesa.net

Email: lucia.abad@idesa.net

Phone: +34 687 089 678

LINE OF BUSINESS

6

Engineering

7

Supervision and consultancy services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
storage**



**Hydrogen Refueling
Stations**



**Engineering
& EPC**



**Equipment and
systems integration
services**



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION
IDOM



Avda. Zarandoa, 23, 48015 Bilbao

Website: www.idom.com/en
Email: jsanzurdiales@idom.com
Phone: +34 944797600

We are an independent firm that provides professional services in Consulting, Engineering, and Architecture, united in our approach, shared objectives, and dedicated to serving our clients

LINE OF BUSINESS

- 1 Consultancy
- 2 Engineering
- 3 Architecture

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION

IGNIS

Calle Cardenal Marcelo Spinola 8
2ª planta. 28016, Madrid



Website: www.ignis.es

Email: joseantonio.membuela@ignis.es

Phone: +34 637300442

We are a global energy company vertically integrated in the sector of renewable energies and in the offer of innovative energy solutions. Established in 2015 by a team of engineers, IGNIS has focused its business strategy on the development of clean and competitive energies projects, with a leadership position in Spain and an increasing international presence operating in 9 countries. Also, it offers vast experience in power plants, essential to support the development of renewable energies. In addition, the company has incorporated new business areas such as energy management, where it holds 6% of the Spanish electricity market share, being vertically integrated in the value chain of the energy sector with EPC (Engineering, Procurement and Construction) and O&M (Operation and Maintenance) areas. Today IGNIS has over 450 professionals.

LINE OF BUSINESS

- 1 Development of photovoltaic and wind projects
- 2 Management of energy as a market agent and independent provider of real time energy services (4,500MW managed)
- 3 Operation and maintenance (O&M) (+1,000MW) with several renewable and conventional plants under operation
- 4 Provider of integral energy solutions for major clients, PYMES and household sector with respect to energy efficiency
- 5 Development of innovative projects based on new energy vectors such as hydrogen and batteries storage

SPANISH HYDROGEN ASSOCIATION

IGNIS

Calle Cardenal Marcelo Spinola 8
2ª planta. 28016, Madrid



Website: www.ignis.es

Email: joseantonio.membuela@ignis.es

Phone: +34 637300442

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Energy companies



Equipment and systems integration services



Fuel cells



Hydrogen production



Reformer unit



CHP systems



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

IKAV ENERGY SPAIN S.L.U.



Plaza de Tirso de Molina 12,
1ºIzquierda. 28012. Madrid

Website: www.ikav.com

Email: carrondo@ikav.com

Phone: +34 911387401

IKAV is an international, independent asset management group. Established in Germany in 2010 IKAV now comprises 12 offices across the EU and USA (Luxembourg, Munich, Paris, Madrid, Lisbon, Milan, Rome, Naples, Palermo, Houston, Durango, New York). Our portfolios are well diversified by technologies, countries, and investments. The main business focus of IKAV Spain is the identification, selection and acquisition of assets. We have performed upwards of 20 real asset purchases to date.

LINE OF BUSINESS

- 1 Asset management of SPVs
- 2 Operation and maintenance of +400 installations and +200 MW
- 3 Development of green field projects from start to finish
- 4 Self-consumption and energy efficiency investments. We develop, finance and manage self-consumption projects
- 5 Debt and equity investments in broad and diverse energy segments, including renewable energy and infrastructure

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Financial sector



Consultancy



Energy companies



**Engineering
& EPC**

SPANISH HYDROGEN ASSOCIATION

INAEEL ELECTRICAL SYSTEMS, S.A.

Calle Jarama 5. 45007, Toledo, Spain



Website: www.inael.com

Email: adlara@inael.com

Phone: +34 925233511

Manufacturers of medium-voltage electrical equipment and renewable energy solutions. Expanding knowledge and expertise into the hydrogen sector.

LINE OF BUSINESS

1

Transformer stations, switches, disconnectors, lightning arresters, fuses, insulators, transformers, etc

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Energy companies



Research &
Development

SPANISH HYDROGEN ASSOCIATION

INECO (INGENIERÍA Y ECONOMÍA DEL TRANSPORTE, SME MP SA)



Paseo de la Habana, 138 28036, Madrid, Spain

Website: www.ineco.com

Email: eduardo.marcos@ineco.com

Phone: +34 914521200

A reference engineering and consultancy company in sustainable mobility and digital transformation. For more than 55 years, Ineco has been developing comprehensive, innovative and technological solutions which have allowed to advance towards a new model of mobility that is more sustainable and safe. Ineco's solutions directly contribute to improving the quality of life of millions of people. With a multidisciplinary team of more than 5,000 professionals, the company is present in all continents, in which it deploys its experience and capacity to undertake challenging projects. All this, thanks to its specialized knowledge and the implementation of state-of-the-art technology.

LINE OF BUSINESS

1

SOLUCIONES:

- Consultancy
- Projects
- Project Management
- Works
- Operation
- Maintenance

2

SECTORES:

- Airports
- Air Navigation
- Architecture
- Sustainability
- Roads
- TIC
- Urban development
- Ports
- Rail

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION

INERCO INGENIERÍA, TECNOLOGÍA Y CONSULTORÍA, S.A.



Parque Científico Tecnológico Isla de la Cartuja
Calle Tomás Alba Edison, 2 - E, 41092, Sevilla

Website: www.inerco.com

Email: desarrollo@inerco.com

Phone: +34 954468100

INERCO offers comprehensive solutions that promote sustainable industrial development. This has been its mission since 1984, with the conviction provided by the acquired independence and comprehensive vision, which have positioned INERCO as leader in HSEC consulting, technology and engineering in the markets in which it operates.

Regarding technologies for green hydrogen production, INERCO offers comprehensive solutions for the execution of projects:

- Global Renewable H2 Service
- Feasibility and Conceptual Engineering
- Basic Engineering
- Detailed Engineering
- Supply of electrolyzers
- Specification, Procurement, Property Engineering, EPC
- Operation and Maintenance
- Environmental Permitting o AAI (*)
- Urban Compatibility (*)
- Ordinary EIA (*)
- Acoustic study
- Social impact
- Integrated Safety Management
- Conceptual Engineering
- Construction and Commissioning
- Asset Integrity - Integral OHS Management

INERCO's capacity and experience in the HSE field allows it to offer solutions for the environmental and industrial safety licensing of new hydrogen projects, as well as comprehensive management in occupational health and safety as well as in environment throughout all the life cycle of the plants.

SPANISH HYDROGEN ASSOCIATION

INERCO INGENIERÍA, TECNOLOGÍA Y CONSULTORÍA, S.A.



Parque Científico Tecnológico Isla de la Cartuja
Calle Tomás Alba Edison, 2 - E, 41092, Sevilla

Website: www.inerco.com

Email: desarrollo@inerco.com

Phone: +34 954468100

LINE OF BUSINESS

- 1** Global Renewable H2 Service: Feasibility and conceptual basic and detailed engineering; supply of electrolyzers; Specification, procurement, property engineering and EPC; construction, commissioning; operation and maintenance
- 2** Environmental permitting, AAI, ordinary EIA, urban compatibility, acoustic study and social impact
- 3** Integrated Occupational Health and Safety Management o Conceptual, Basic and Detail Engineering o Construction and Commissioning o Operation o Asset Integrity

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Engineering
& EPC**



**Equipment and
systems integration
services**



**Research &
Development**



INDOX ENERGY SYSTEMS

Pol. Ind. La Serra, Calle Tres Tombs,
s/n - 25320 Anglesola, Lleida

Website: www.indox.com/

Email: amitja@indox.com

Phone: +34 973500650

Indox Energy Systems is a Manufacturer of equipment for the transport, distribution and storage of fuels and liquefied gases (air gases, LPG, LNG, Hydrogen) with extensive experience and national and international recognition. It provides turnkey solutions in the field of energy and cryogenics: LNG, hydrogen, fuels and natural gas.

Once a pioneer in satellite regasification and liquefaction plants, it is now carrying out research, development and innovation projects to contribute to the decarbonization of industry and mobility. We offer the necessary products for the transport, distribution and storage of fuels, liquefied gases and pressurized hydrogen, as well as process engineering for turnkey hydrogen projects.

Our Solar division installs high efficiency photovoltaic plants; combined with electrolysis for the use of hydrogen in industry (Power to Gas: blending natural gas with hydrogen), mobility and logistics (Power to Fuel: refuelling stations) and isolated or critical systems (Power to Power).

Our vision is to become a reference in zero emission energy, the preferred partner for industrial blending. In 2022 we became the first SME in Spain to use green hydrogen as a source of energy. The hydrogen generated in our pilot plant is blended with LNG for the heating of paint cabins. It serves as a demonstrator and testbed for new installations.

LINE OF BUSINESS

1

Cryogenic tankers, trucks mounted and self-supporting, for fuels and liquefied gases

2

Cryogenic containers and tanks

INDOX ENERGY SYSTEMS



Pol. Ind. La Serra, Calle Tres Tombs,
s/n - 25320 Anglesola, Lleida

Website: www.indox.com/

Email: amitja@indox.com

Phone: +34 973500650

LINE OF BUSINESS

- 3 Turnkey photovoltaic plants
- 4 Hydrogen storage: from 30 to 150m³, up to 40 from 85 to 628 kg H₂ and custom sizes
- 5 Carbon steel, vertical or horizontal
- 6 High pressure equipment for hydrogen transportation
- 7 Electrolysis: we select the best technology for each use, from 100 kW to 5MW
- 8 Hydrogen turnkey installations: Power to Gas, Power to Fuel, Power to Power

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



**Hydrogen
transportation
and distribution**



**Equipment and
systems integration
services**



Engineering & EPC

INGENOSTRUM



Avda Constitución 34, 1.lzqda, 41001, Sevilla

Website: www.ingenostrum.com

Email: lcorto@ingenostrum.com

Phone: +34 689777702

An engineering company founded in 2009, specializing in the comprehensive development of large-scale renewable energy projects and the implementation of solutions for industrial decarbonization.

We handle all processes and activities involved in a project, including energy generation, transformation, transmission, and distribution.

We engage in all project phases, from the technical-economic feasibility study, energy resource assessment, planning, permit acquisition, detailed engineering, to the operation and maintenance of facilities, and advice on energy sales contracts.

Currently, the company is promoting various hubs for the generation of new energy vectors, particularly focusing on green hydrogen. Another developing business line involves the construction of sustainable and energy-efficient data centers

LINE OF BUSINESS

- 1 Energy transition - Photovoltaic and wind energy, as well as power-to-X technologies like green hydrogen, e-methanol, or e-ammonia, along with Sustainable Aviation Fuels (SAF)
- 2 Water transition - Water savings and desalination projects
- 3 Data Center - Development of data center campuses in various locations in Spain

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Training



Engineering
& EPC

SPANISH HYDROGEN ASSOCIATION

INGETEAM POWER TECHNOLOGY, S.A.

Ingeteam

Parque Tecnológico de Bizkaia,
106 - 48170 Zamudio (Bizkaia)

Website: www.ingeteam.com

Email: hydrogen.energy@ingeteam.com

Phone: +34 948288000

Ingeteam, is a team of more than 4,000 people in 24 countries, with more than 80 years of experience in providing creative solutions to specific problems to electrify society in an innovative and sustainable way through cutting-edge technology specialised in the conversion of electrical energy. We want to consolidate our position as leaders in renewable generation (wind, photovoltaic and hydroelectric), storage, in the intelligent transport network and in the efficient and clean consumption of electrical energy through our electric vehicle chargers, converters, generators and motors for traction, marine, iron and steel industry , mining, for the production of green hydrogen and submersible motors and pumps for water.

LINE OF BUSINESS

1

Renewable energies: photovoltaic solar, wind, hydraulic, and green hydrogen

2

Electric mobility

3

Storage

4

Oil & mining

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

INSTITUTO CMT-UNIVERSITAT POLITÈCNICA DE VALÈNCIA



Camino Vera s/n, Edificio 6D,
46022 Valencia

Website: www.cmt.upv.es/

Email: ftinaut@mot.upv.es

Phone: +34 963877659

Institute CMT is a research institute integrated into the Universitat Politècnica de València (Spain). As a research and training center it is fully involved in the development of future propulsion systems for mobility and energy systems for stationary generation of heat and electricity, employing more than 100 researchers.

For more than 40 years, the CMT institute has carried out basic research on thermal engines to better understand the relevant thermos-fluid-dynamic processes involved, and applied studies to optimize the characteristics of such engines and aid their development.

Hydrogen is a priority research topic, and its application is oriented both to combustion in internal combustion engines (ICE) and gas turbines (GT), and to its use in fuel cells (FC). Activities include numerical simulation and experimental tests of FC, ICE, hybrid ICE and GT.

In simulation activities, CMT institute has extensive experience in 0D-1D-3D modeling of FC electrochemistry, combustion, thermo- fluid-dynamics of auxiliary components (turbomachinery, cooling systems...), system optimization, integration and simulation under relevant conditions with virtual vehicle models.

Institute CMT has a long experience in participating in European and national projects, as well as in research contracts with companies and professional associations.

LINE OF BUSINESS

1

Fuel Cells: integration, optimisation and application of FC systems, including TCO and LCA, FC degradation and advanced control algorithms

SPANISH HYDROGEN ASSOCIATION
INSTITUTO CMT-UNIVERSITAT
POLITÈCNICA DE VALÈNCIA



Camino Vera s/n, Edificio 6D, 46022 Valencia

Página web: www.cmt.upv.es/

E-mail de contacto: ftinaut@mot.upv.es

Teléfono de contacto: +34 963877659

LINE OF BUSINESS

2

Combustion: H₂ as single, dual and blended fuel for internal combustion engines and gas turbines. The use of NH₃ as a fuel for heavy-duty vehicle engines and marine propulsion is also included. The objective of these activities is to support the development of advanced combustion systems and engines

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
vehicles**



Training



**Research &
Development**



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

INSTITUTO IMDEA ENERGÍA



Avda. Ramón de la Sagra 3, Móstoles, 28935

Website: www.energia.imdea.org/

Email: javier.dufour@imdea.org

Phone: +34 917371120

IMDEA Energy is a non-profit research center promoted by the Regional Government of the Community of Madrid with the mission of developing top-level research that contributes to addressing global challenges in terms of energy sustainability.

The IMDEA Energy Institute is committed to transferring R&D results to the productive sector, joining forces with other research centers and universities. During the last 15 years, IMDEA Energy has positioned itself as a reference institution in energy research. Its strong international profile is reflected in its high participation in international projects.

The IMDEA Energy headquarters has sophisticated laboratory equipment, as well as unique pilot plant infrastructures, which allow research activities to be carried out on different scales to facilitate the transition to commercial applications.

The staff is made up of more than 150 researchers that include experts from a wide variety of disciplines such as energy engineering, electrical and environmental chemistry, physics, biology, biochemistry and chemistry, among others, organized into eight research units:

- Thermochemical process unit
- Electrochemical process unit
- Biotechnological processes unit
- High temperature process unit
- Electrical systems unit
- Systems analysis unit
- Photoactivated process unit
- Advanced Porous Materials Unit

SPANISH HYDROGEN ASSOCIATION

INSTITUTO IMDEA ENERGÍA

Avda. Ramón de la Sagra 3, Móstoles 28935



Website: www.energia.imdea.org/

Email: javier.dufour@imdea.org

Phone: +34 917371120

LINE OF BUSINESS

- 1 Production of sustainable fuels: hydrogen, biofuels and advanced fuels from wastes
- 2 Solar power
- 3 Energy storage: electrochemical, thermal and thermochemical systems
- 4 Energy systems with enhance efficiency
- 5 Power systems and demand management
- 6 Valorization of CO2 emissions
- 7 Analysis and assessment of energy systems

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



**Research &
Development**



Public sector

SPANISH HYDROGEN ASSOCIATION

INTA-INSTITUTO NACIONAL DE TÉCNICA AEROESPACIAL



Ctra. de Ajalvir, km. 4. 28850-Torrejón de Ardoz

Website: www.inta.es/

Email : isornaf@inta.es

Phone: +34 959208847

The INTA (National Institute of Aerospace Technology) is a Public Research Organization affiliated with the Ministry of Defense, specializing in aerospace research and technological development. It also covers research and development in the terrestrial, naval, and defense sectors.

Among its main functions are the acquisition, maintenance, and continuous improvement of newly applicable technologies; the conduct of all types of homologation and certification tests for materials, components, equipment, and systems; and the provision of technical advice and services to industrial, technological companies, and public organizations.

The Energy and Environment Area primarily focuses on the integration, testing, optimization, and evaluation of power systems based on fuel cells and hydrogen for mobile applications, including transport (air, land, and sea) as well as portable devices and unmanned vehicles.

It performs test benches for PEM fuel cells ranging from 0 to 30 kW, as well as climatic chambers, vibration tables, and RF chambers prepared for testing systems operating with hydrogen. It also performs flight test fields for unmanned aerial vehicles and experience in hydrogen production through hydrocarbon reforming and water electrolysis, as well as storage and integration of renewable production systems.

SPANISH HYDROGEN ASSOCIATION

INTA-INSTITUTO NACIONAL DE TÉCNICA AEROESPACIAL



Ctra. de Ajalvir, km. 4. 28850-Torrejón de Ardoz

Website: www.inta.es/

Email : isornaf@inta.es

Phone: +34 959208847

LINE OF BUSINESS

- 1** The performance of various types of tests for the verification and certification of materials, components, equipments, systems and subsystems
- 2** Technical advisory and provision of services to entities, official bodies, and industrial or technology-based companies
- 3** Functioning as a technological center for the Ministry of Defense

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Research & Development



Electrolysers



Fuel cells



Reformer unit



Consultancy

SPANISH HYDROGEN ASSOCIATION

ITM TESTING SPAIN S.L.

C/ Francia 17, Puerto Real (Cádiz), 11519, España

Website: www.itmtestingspain.net

Email: ingenieria1@itmtestingspain.net

Phone: +34 686 410 807



ITM Testing Spain S.L. is a company with more than 20 years of experience in specialized services during the construction, start-up and operation phases in the onshore and onshore Oil & Gas sectors, conventional thermal energy, Thermosolar Energy, Combined Cycles, chemistry, military and civil vessels, among others. It has highly qualified and experienced engineering and technical personnel with a high commitment to improvement every day, as well as great logistical capacity. All this, together with a large fleet of highly specialized equipment and machinery, has allowed it to provide an integral service and work around the world on projects with different characteristics and needs.

Following the current trend, ITM is investing in training its personnel in new energy technologies with the aim of providing the best service in this new market. The main services are the following: Industrial services of Mechanical Completion, Precommissioning, Commissioning and "Start-up" Rental of highly specialized equipment and machinery Operation assistance, predictive, preventive and corrective maintenance Design, supply and assembly of hydraulic and pneumatic systems Consulting and technical office services: stress and flexibility studies, integral 3D modeling, finite elements, maintenance management...

LINE OF BUSINESS

- 1 Oil&Gas offshore y onshore
- 2 Naval: military and civil ships
- 3 Natural gas & Liquefied Natural Gas (LNG)
- 4 Combined cycles and cogeneration - photovoltaic energy, thermosolar energy, and wind energy (onshore and offshore)
- 5 Chemistry and petrochemistry

SPANISH HYDROGEN ASSOCIATION

ITM TESTING SPAIN S.L.

C/ Francia 17, Puerto Real (Cádiz), 11519, España

Página web: www.itmtestingspain.net

E-mail de contacto: ingenieria1@itmtestingspain.net

Teléfono de contacto: +34 686 410 807



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Energy
Companies**



**Equipment and
systems integration
services**



Engineering & EPC



**Research &
Development**



Industrial Gases



**Hydrogen
Storage**



**Hydrogen
compression**



**Hydrogen transportation
and distribution**



**Materials &
Components**

SPANISH HYDROGEN ASSOCIATION

JC FÁBRICA DE VÁLVULAS, S.A.U

Av. Segle XXI, 75, Pol. Ind. Can Calderón.
08830 Sant Boi de Llobregat, Barcelona



The quality option

Website: www.jc-valves.com

Email: sales@jc-valves.com

Phone: +34 936548689

JC Fábrica de Válvulas S.A.U. is a multinational company specialized in the manufacture and commercialization of high performance industrial valves under the trade name JC VALVES, with subsidiaries in 7 countries. Since its foundation in 1968, we have grown and evolved to become part of a large group: TTV-JC VALVE GROUP.

The experience accumulated during more than 50 years, designing, developing and manufacturing industrial valves for sectors such as Oil & Gas, Petrochemical, Chemical and Energy, has allowed us to continue innovating and investing in new products. Aware of the current scenario and its importance, our R&D efforts and strategy are focused on developing the best product for Hydrogen applications.

In JC VALVES we want to support the industry to overcome the current challenges and adopt as soon as possible the new and more demanding technologies for Hydrogen. For this reason, we have developed the first range of industrial ball valves specifically for this market.

LINE OF BUSINESS

1 Design, development and manufacturing of industrial valves

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Hydrogen storage



Hydrogen compression



Industrial gases



Engineering & EPC



Hydrogen transportation and distribution



Energy companies

JUMO CONTROL SA



Calle Berlín 15, Nave Polígono Ind,
28813 Torres de la Alameda

Website: www.jumo.es/

Email: rainer.molina@jumo.net

Phone: +34 918863153

JUMO is a leading global supplier and system supplier of components and systems for individual sensor and automation solutions. In addition to components for the measuring ranges of temperature, liquid analysis, pressure, level, flow and humidity, it also focuses on the challenges of automation, recording, monitoring, control and automation.

Solution-oriented and customer-focused, JUMO sees itself as a "hidden champion". The second- and third-generation family-owned company is a global market leader in the field of industrial temperature probes.

As a high-tech company, JUMO distinguishes itself through a particularly high degree of innovation, above-average production depth and a broad product range. For more than 70 years, the focus has been on the customer and the right solution for his application.

JUMO solutions:

- Are specially tailored to your needs.
- Guarantee reliability, safety and quality
- Are supported by individual and sophisticated service throughout the entire product cycle

"In our corporate policy, we are committed to aligning our actions with the highest standards in terms of quality, environment, energy and occupational safety to meet the present and future expectations of customers, employees and all stakeholders."

LINE OF BUSINESS

1 Temperature sensors

2 Liquids analysis

SPANISH HYDROGEN ASSOCIATION

JUMO CONTROL SA



Calle Berlín 15, Nave Polígono Ind,
28813 Torres de la Alameda

Website: www.jumo.es/

Email: rainer.molina@jumo.net

Phone: +34 918863153

LINES OF BUSINESS

- 3 Pressure sensors
- 4 Level sensors
- 5 Flowmeter
- 6 Humidity sensors
- 7 Process control
- 8 Data logging
- 9 Process automation
- 10 Process monitoring
- 11 Customized solutions

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**



**Equipment and
systems integration
services**



Consultancy



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION

KING & WOOD MALLESONS

Calle Goya, 6. C.P. 28001. Madrid

金杜律师事务所
KING & WOOD
MALLESONS

Website: www.kwm.com

Email: gonzalo.olivera@eu.kwm.com

Phone: +34 914260050

King & Wood Mallesons (KWM) is a global and multidisciplinary law firm with a high specialization in the energy and infrastructure sector. With more than 25 years of experience in the Spanish market, KWM has a team of lawyers specialized in all legal areas (commercial, regulatory, competition, financial, tax, new technologies, etc.), all of them having an extensive experience advising national and international companies in the energy sector. This in-depth knowledge of the sector allows us to approach every single project with a 360-degree perspective, without outsourcing any piece of the work.

Additionally, our lawyers have advised in some of the main, pioneering and most innovative energy deals worldwide. The team of professionals at KWM Spain is supported by the rest of our international offices. KWM has more than 3,000 lawyers in Europe, China, Australia, Singapore, Japan, the Middle East and the United States. Among the firm's clients are: EDP Group, Engie, Ocean Wins, Galp, PetroChina, Chevron, Shell, BP, Tokyo Gas, Sinopec, Saggas, Shanghai Electric, Ørsted, Sowitec, China General Nuclear Power Corporation, Sellafield Ltd, European Investment Bank, Finerge, First Sentier Investments, Macquarie, Capital Dynamics, Mytilneos, Santander, Wuling Power Corporation, Chint, SunEdison, Canadian Pension Fund and Equis Fund Group.

LINE OF BUSINESS

- 1 Development of hydrogen and other renewable gas generation projects
- 2 Project development for electricity production, distribution networks and transport
- 3 Regulatory advice on gas (including natural gas, LPG and renewable gases) and electricity sectors

Website: www.kwm.com

Email: gonzalo.olivera@eu.kwm.com

Phone: +34 914260050

LINE OF BUSINESS

- 4 Contractual advice (public tenders, EPC, O&M, PPA, market representation, gas and electricity trading, etc.)
- 5 Environmental law
- 6 Project finance
- 7 M&A

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



Public sector



Financial sector



Training



CHP systems



Energy companies



Hydrogen storage



Industrial gases



Hydrogen compression



Hydrogen production



Electrolysers



Fuel cells



Reformer unit



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

KITZ CORPORATION OF EUROPE S.A.



Ramón Viñas, 8 - 08930 Sant Adrià de Bèsos, Barcelona

Website: www.kitzeurope.com

Email: jcgomez@kitzeurope.com

Phone: +34 677491120

KITZ CORPORATION OF EUROPE S.A. We are a Spanish factory specialised in the design, manufacture and marketing of ball valves. The company was founded in 1925 and in 1954 we were pioneers in Spain in the manufacture of ball valves. Since 1991 we have been part of the Japanese KITZ GROUP, a world leader in the design, production and marketing of top quality industrial valves.

With extensive experience and worldwide recognition in different industrial sectors such as Oil & Gas, Chemical, Petrochemical, Pharmaceutical, Paper, Energy At KITZ CORPORATION OF EUROPE, we are ready to face the market demands for an energy transition and our R&D Department is focused on the development of Hydrogen service valves.

A hydrogen supply chain for a carbon neutral society is being developed. Valves are responsible for fluid control in all aspects of hydrogen production, transport, storage and utilisation. KITZ combines fluid control technology and cryogenic technology cultivated over many years to provide valves that support a hydrogen society. We will contribute to the realisation of a carbon neutral society worldwide with our excellent technology.

LINE OF BUSINESS

1

Design, manufacture and marketing of ball valves:

- Floating soft seat and metal to metal seat
- Trunnion soft seat and metal to metal seat
- Low temperature (-46°C, -104°C) and cryogenic (-196°C) ball valves

2

Design, manufacture and marketing of ball valves for hydrogen generation and transport, high pressure valves for hydrogen stations and valves for liquid hydrogen storage (-253°C)

3

Valve automation

SPANISH HYDROGEN ASSOCIATION

KITZ CORPORATION OF EUROPE S.A.

Ramón Viñas, 8 - 08930 Sant Adrià de Bèsos, Barcelona

Website: www.kitzeurope.com

Email: jcgomez@kitzeurope.com

Phone: +34 677491120



ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen Refueling
Stations**



**Materials and
components**

KLINGER SPAIN



Avenida del Llano Castellano 15 28034, Madrid

Website: www.klinger.es

Email: power2x@klinger.es

Phone: +34 913581212

KLINGER Spain is a company specialised in the distribution of products and services related to fluid monitoring and control as well as sealing technologies. With more than 50 years of experience in the field, the company offers solutions for both specific projects and maintenance, repair and operations (MRO) in various process industries.

It is part of KLINGER Holding, a multinational company with more than 100 years of history founded in Austria in 1886. KLINGER is a world leader in sealing solutions and has a presence in 60 countries, employing more than 2,600 people and 21 manufacturing sites. The company has a broad global customer base and makes sales in more than 80 countries on five continents.

In Spain, KLINGER has been present since 1970 and has 14 sales offices throughout the country. Its facilities in Valencia include a Logistics Centre and a full Service Centre offering a wide range of additional services such as valve automation, valve repair and assembly, KLINGER seal manufacturing and a technical office specialising in the design of customised products for customers.

The company has strong expertise in the hydrogen (H₂) sector and offers products for the entire value chain. It is involved in major national and international projects related to decarbonisation and renewable energies.

LINE OF BUSINESS

1 Valves and valve accessories

2 Automation

SPANISH HYDROGEN ASSOCIATION

KLINGER SPAIN



Avenida del Llano Castellano 15 28034, Madrid

Website: www.klinger.es

Email: power2x@klinger.es

Phone: +34 913581212

LINE OF BUSINESS

3

Safety valves, control valves, sealing, fasteners, instrumentation, filters, expansion joints, flexible metal hoses, steam traps

4

After sales service and site assistance

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

KPMG S.A.



Paseo de la Castellana, 259 C 28046 Madrid

Página web: <https://kpmg.com/es>

E-mail de contacto: nrodriguez@kpmg.es

Teléfono de contacto: +34 914563452

KPMG in Spain provides audit, tax, legal and advisory services in mergers and acquisitions, restructuring, risk and business consulting with extensive sector knowledge and a multidisciplinary approach to offer innovative solutions that deliver real results. In Spain, more than 5,500 professionals work closely with our clients through 16 offices located in the main cities.

Our experience and recognized prestige, combined with our commitment to technology and the global vision of our international network, present in 143 countries, make us a clear choice to help our clients reduce their risks, improve their regulatory and tax compliance, transform and digitize their business models, identify and interpret regulatory changes, boost their growth strategies and take advantage of the opportunities that arise in an ever-changing context.

Our ambition to attract and develop the best talent, promote diversity and reward excellence define our culture, based on quality and transparency with the strictest respect for independence in our work and ethical standards. We provide confidence for the effective functioning of the capital markets and are committed to driving change and progress in the communities in which we operate.

LINE OF BUSINESS

- 1 Provides audit, tax, legal and advisory services in mergers and acquisitions,
- 2 Restructuring, risk and business consulting with extensive sector knowledge and a multidisciplinary approach to offer innovative solutions that deliver real results.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

SPANISH HYDROGEN ASSOCIATION

LHYFE HIDRÓGENO, S.L.



Paseo Recoletos 5, 28004, Madrid

Website: www.lhyfe.com

Email: franz.bechtold@lhyfe.com

Phone: +34 699429309

Lhyfe is a French company founded in 2017 our main objective is decarbonizing the planet using hydrogen produced with renewable energy for usages in mobility and industry projects. In May 2022 Lhyfe had a successful IPO in Paris Euronext and is currently present in more than 10 European countries developing renewable hydrogen production plants with capacities ranging from 5 MW to more than 100 MW.

Lhyfe has a commitment to the market to have 55 MW of hydrogen plants operational by 2024, 200 MW in 2026 and 3 GW in 2030. Our project pipeline at the end of 2022 was 9.8 GW. Lhyfe has a production plant that has been operating for more than a year in Bouin (France) and several plants under construction in different European countries. Lhyfe has a unique value proposition, operating its own renewable hydrogen plants. With over 180 employees Lhyfe participates in the entire value chain of from designing, building and operating our hydrogen plants to logistics of the final product to final customer. We have experts helping our customers to make the business case to switch to hydrogen.

LINE OF BUSINESS

1 Manufacture and sale of renewable hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Industrial gases



Engineering & EPC



Equipment and systems integration services



Hydrogen production



Hydrogen transport and distribution

SPANISH HYDROGEN ASSOCIATION

LINDE GAS ESPAÑA

C/ Balmes, 89 - Linde Gas España 08009 Barcelona



Página web: www.linde.com

E-mail de contacto: david.asin@linde.com

Teléfono de contacto: +34 619762903

Linde Gas España is the Iberian subsidiary of Linde plc in Spain, the world's leading engineering and industrial & medical gases company. In 2023, the company recorded sales of \$33 billion. Linde has been present in Spain for more than 100 years, working for the industry, research, healthcare and society in general. To this end, we offer high-quality solutions, technologies and services that help our customers optimise their performance and decarbonise their activities. With a workforce of 300 employees, 9 production and packaging plants, 1 special gases laboratory, and a fleet of more than 120 tankers & other vehicles for the transport of gases, we serve more than 30,000 customers and 250 hospitals.

LINE OF BUSINESS

The company serves a wide variety of markets, including chemicals and energy, food and beverage, electronics, hospitality, manufacturing, metals and mining. Linde's industrial gases are used in countless applications, from life-saving oxygen for hospitals to high-purity, speciality gases for electronics parts manufacturing, as well as green hydrogen to reduce fossil fuel use. In addition, Linde offers state-of-the-art CO₂ gas capture plants to reduce customers' greenhouse emissions.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



Equipment and systems integration services



Industrial gases



Hydrogen storage



Hydrogen compression



Hydrogen Refueling Stations



Hydrogen production



Electrolysers



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

LOGOS ENERGIA



Calle Calvo Sotelo 19 6º Planta 39002, Santander

Website: www.logosenergia.es

Email: josecarlos.perez@logosenergia.es

Phone : +34 637208721

Logos Energía is an energy company that operates in the field of gas and electricity commercialization and renewable electricity generation. Logos Energía works in the development of renewable energy projects, biogas and hydrogen plants.

The company is committed to the environment and the development of renewable energy, currently has a team of 25 highly qualified professionals with presence in Spain and Portugal.

LINE OF BUSINESS

- 1 Gas and electricity trading
- 2 Renewable generation, gas and electricity
- 3 Development of renewable energy projects, biogas and hydrogen plants

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

MADRILEÑA RED DE GAS

Calle Virgilio 2B, 28223 Pozuelo de Alarcón,
Madrid, Spain



Website: www.madrilena.es/
Email: gasesrenovables@madrilena.es
Phone: +34 676784969

Madrileña Red de Gas is the first company on the Iberian Peninsula to operate a distribution network that is completely independent from the rest of the businesses in the gas value chain, thus constituting the first example of complete separation of networks and commercialization in the Iberian energy market.

It is also the third largest gas distribution company in Spain by number of supply points. It currently has more than 898,000. It started its activity on May 1, 2010 in 38 municipalities in the Community of Madrid. It currently distributes gas in 61 municipalities in the Autonomous Community, including the municipality of Madrid capital, where it is active in 5 districts.

LINE OF BUSINESS

- 1 Natural gas distribution
- 2 Residential gas market
- 3 Large gas consumption companies
- 4 New construction
- 5 LPG
- 6 Vehicular Natural Gas

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen Refueling
Stations**



**Hydrogen
production**



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

MANUFACTURA MODERNA DE METALES S.A.



Calle Miquel Torello i Pages n25 Molins de Rei 08750 Barcelona

Website: www.mmm.es

Email: jtorres@mmm.es

Phone: +34 673573378

MMM Energy is the division of the MMM group that develops products and technology associated with processes for the use of hydrogen, its production in a sustainable manner.

LINE OF BUSINESS

1 Methanol to hydrogen generator

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen production



Reformer unit

SPANISH HYDROGEN ASSOCIATION

MAPFRE GLOBAL RISK



Ctra Pozuelo a Majadahonda, 53, Majadahonda

Website: www.mapfreglobalrisks.com

Email: algarci@mapfre.com

Phone: +34 608451028

Global Risks is the MAPFRE Group's business unit specialized in offering comprehensive and innovative insurance solutions to large corporations, multinationals and companies in global sectors.

Our strong position in the Spanish and Latin American markets affirms MAPFRE Global Risks' ability to develop tailor-made solutions for large corporations facing the most complex risks in their activities, in the Energy (Electricity and Oil & Gas), Industrial, Telecommunications, Construction, Large Infrastructures, Aviation and Space, Maritime and Services sectors.

LINE OF BUSINESS

1 Insurance

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Certification and
insurance**

Carrer Noves Technologies, 6. 46980 Paterna, Valencia

Página web: <https://matteco.com/>

E-mail de contacto: hello@matteco.com

Teléfono de contacto: N/A

Matteco is a materials technology company focused on new solutions to decarbonize the economy and help build a better future together. Matteco offers catalysts, catalytic coatings and customized electrodes for alkaline & AEM electrolysis that greatly reduce energy consumption (lowering opex) and increase current densities (lower capex), making green hydrogen more cost competitive to contribute to the fight against climate change. The company is based in Valencia, Spain, and is part of the Zubi Group. It was co-founded by Zubi Labs and a group of scientists in August 2023 after a decade of research. It is currently expanding its manufacturing capacity to reach GW-scale by Q2 2024.

LINE OF BUSINESS

1

Catalysts: Matteco's patented, PGM-free catalysts ready for coating into catalyst-coated substrates (CCS) or catalyst-coated membranes (CCM)

2

Catalytic coatings: Tailor-made coatings and formulations of Matteco's patented catalysts applied onto client's substrate of choice

3

Customized electrodes: Matteco's patented catalysts applied on substrates of choice (nickel mesh, nickel foam, nickel fiber, stainless steel), in custom formats and sizes

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials &
Components**

SPANISH HYDROGEN ASSOCIATION

MCKINSEY & COMPANY, S.L.

McKinsey
& Company

Calle Sagasta, 33, 28004, Madrid

Website: www.mckinsey.com/es

Email: Blanca_Campins@mckinsey.com

Phone: +34 913465800

McKinsey & Company is a global management consulting firm committed to helping organizations transform the way they work to achieve lasting, positive changes in performance. In more than 130 cities and 65 countries, our teams help clients in the private, public and social sectors shape bold strategies and transform the way they work by initiating the technology needed and developing capabilities to sustain change. Not just any change, but change that matters - for their organizations, their people and, in turn, for society at large.

McKinsey has recently completed more than 50 hydrogen projects, most including defining the strategic vision and defining the operating models, and has presented the hydrogen perspective at a number of key conferences, events and publications. McKinsey is close to key stakeholders and market and technology developments, particularly with the strategic partnership with the Hydrogen Council, and is considered one of the best sources of information on any hydrogen topic.

LINE OF BUSINESS

- 1 Automotive
- 2 Investment and infrastructure projects
- 3 Venture capital and investments
- 4 Pulp and paper
- 5 Electrical energy and natural gas
- 6 Pharmaceuticals and medical products
- 7 Aerospace and defense
- 8 Chemical industries

SPANISH HYDROGEN ASSOCIATION

MCKINSEY & COMPANY, S.L.

Calle Sagasta, 33, 28004, Madrid

McKinsey
& Company

Página web: www.mckinsey.com/es

E-mail de contacto: Blanca_Campins@mckinsey.com

Teléfono de contacto: +34 913465800

LINE OF BUSINESS

- 9 Metals and mining
- 10 Oil & gas
- 11 Consumer packaged goods
- 12 Retail
- 13 Public and social sector
- 14 Semiconductors
- 15 Financial services
- 16 Health care services
- 17 Technology
- 18 Media and telecommunications
- 19 Travels
- 20 Logistics and infrastructure
- 21 Agriculture
- 22 Real estate

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

Calle Miquel Torello i Pages, 25,
08750 Molins de Rei, Barcelona

Website: www.mmm.es

Email: jmartin@mmm.es

Phone: +34 618269220

Messer is the world's largest family-owned industrial gases company with more than 120 years of experience. It is present in more than 35 countries in Europe, Asia and America with a total of 11,000 employees. Messer produces and markets industrial gases such as oxygen, nitrogen, argon, carbon dioxide, hydrogen, helium, as well as medical, food and specialty gases.

In its R&D centers, it develops gas application technologies for multiple sectors. Its sustainable development objectives include promoting the development of alternative energy sources, especially the development of hydrogen as an energy carrier.

Messer is a major supplier to industrial customers seeking help to integrate renewable hydrogen into their processes in support of decarbonization. It has SMR plants in Europe and hydrogen production facilities in the USA where it supplies hydrogen for mobility applications, operating hydrogen refueling stations in support of large fleets of hydrogen buses, forklifts and other transportation vehicles.

The Messer Group is a member of the European Clean Hydrogen Alliance. Messer Ibérica has been operating since 1970 in the Tarragona chemical complex, the largest in Southern Europe, where it has air fractionation plants and supplies through its own network of gas pipelines to large companies in the sector. The company is a member of the recently constituted Plataforma d'Hidrogen Verd Catalunya Sud.

LINE OF BUSINESS

1

Production and marketing of distilled air, CO₂ and hydrogen gases

SPANISH HYDROGEN ASSOCIATION

MESSER IBÉRICA DE GASES S.A.U.



Calle Miquel Torello i Pages, 25,
08750 Molins de Rei, Barcelona

Website: www.mmm.es

Email: jmartin@mmm.es

Phone: +34 618269220

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



Hydrogen storage



**Hydrogen transportation
and distribution**



**Hydrogen Refueling
Stations**



Hydrogen production



Industrial gases

MONTREL

Autovía Sevilla-Cádiz, Km.6; 41703
Dos Hermanas, Sevilla



Website: www.montrel.es

Email: ingenieria@montrel.es

Phone: +34 954680514

Montrel is a nationally and internationally established industrial group that carries out its specific activities in the field of electrotechnology, information technologies (IIoT) Industry 4.0 digitization and applied engineering, managed in an effective manner.

Founded in Seville in 1963 to meet the demand of the industrial sector, it provides innovative, efficient, safe engineering facilities with high technical guarantees, applying significant national and international standards of high technological value.

We are currently one of the leading industrial engineering companies in Spain in the Oil & Gas sector, the field of electrical engineering, information technology and applied engineering. We also have an area specializing in R&D&I for the implementation of highly innovative developments.

LINE OF BUSINESS

- 1 Electrotechnology
- 2 Industry 4.0 automation
- 3 Instrumentation and control of industrial production processes
- 4 Comprehensive energy management
- 5 Computer Engineering. Customised, dynamic and corporate information systems, with integrated solutions in real time

SPANISH HYDROGEN ASSOCIATION

MONTREL

Autovía Sevilla-Cádiz, Km.6; 41703
Dos Hermanas, Sevilla



Website: www.montrel.es

Email: ingenieria@montrel.es

Phone: +34 954680514

LINE OF BUSINESS

- 6 Telecommunications infrastructure
- 7 Design, in-house manufacture and/or installation of electrical switchgear assemblies. Special panels and consoles
- 8 Fire fighting systems
- 9 Private security

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



**Equipment and
systems integration
services**



Engineering & EPC



**Research &
Development**

ASOCIACIÓN ESPAÑOLA DEL HIDRÓGENO

MOSTOS, VINOS Y ALCOHOLES, S.A.

MOVIALSA
Mostos, Vinos y Alcoholes, S.A.

Calle Mompó, 2, 13610 Campo de Criptana, Ciudad Real

Página web: www.movialsa.es

E-mail de contacto: alfonso@movialsa.es

Teléfono de contacto: +34 649405866

MMOVIALLSA es una compañía con actividad en los sectores vitivinícola y energético que cuenta con una antigüedad en actividades relacionadas con la agricultura, la elaboración de vinos y la fabricación de alcoholes desde el año 1.940. La actividad tradicional es la vinícola, para cuyo ejercicio cuenta con 5 bodegas. Posteriormente se introdujo en la actividad energética, siendo en la actualidad propietaria de 5 plantas industriales de generación de energía eléctrica.

MOVIALSA realiza actividades relacionadas con la elaboración de vinos y mostos, la destilación y rectificación de alcoholes, y la explotación de los subproductos generados de las actividades anteriores, a través de un proceso "cogenerativo" de producción de energía y generación de calor útil, destacando que la sociedad viene desarrollando desde hace años un modelo de economía circular basado en la gestión y valorización de los subproductos generados en el sector vitivinícola.

Estamos muy concienciados sobre la necesidad de evolucionar hacia el consumo de combustibles más 'limpios' que contribuyan a la descarbonización de la economía y a alcanzar los objetivos de neutralidad climática. Para ello es indispensable colaborar con instituciones como AeH2 que nos ayuden a profundizar en el conocimiento y desarrollo de las tecnologías del hidrógeno, y, adicionalmente, a desarrollar futuros proyectos que nos permitan evolucionar hacia un modelo económico compatible con el cuidado de nuestro medio ambiente.

PRINCIPALES LÍNEAS DE NEGOCIO

- 1 Elaboración de vinos y mostos
- 2 Destilación de alcoholes
- 3 Producción de energía eléctrica
- 4 Agricultura

SPANISH HYDROGEN ASSOCIATION

MOSTOS, VINOS Y ALCOHOLES, S.A.

Calle Mompó, 2, 13610
Campo de Criptana, Ciudad Real

Website: www.movialsa.es

Email: alfonso@movialsa.es

Phone: +34 649405866

MOVIALSA
Mostos, Vinos y Alcoholes, S.A.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



CHP systems



Energy companies

SPANISH HYDROGEN ASSOCIATION

MOTUSA



Requejada, B20, 39312 Polanco, Cantabria

Website: www.motusa.es

Email: motusa@motusa.es

Phone: +34 942824411

MOTUSA, is a boilermaking company founded in 1958 specialized in the manufacture and assembly of equipment, especially focused on special materials and pressure equipment.

We have 6.000m2 of facilities with easy access by road, rail and seaport to facilitate the transport of large parts. MOTUSA has a technical office formed by qualified engineers for the design, documentation preparation, manufacturing control and final certification of the manufacturing process, fulfilling all the necessary requirements of the manufactured equipment.

To meet the needs of our customers MOTUSA is certified by Lloyd's Register in ISO 9001:2015 for Quality Management, EN 1090-2009 for the manufacture and assembly of structures, EN ISO 3834-2:2005 for welding and also for the Manufacture, Assembly and Repair of Pressure Equipment. We have WPS, PQR and WPQ for welding works from carbon steel, stainless steels, titanium etc, as well as the homologation of welders for it.

LINE OF BUSINESS

- 1 Energy related market (CSP, nuclear...)
- 2 Chemical market, food, paper, water purification... We manufacture and assemble equipment, such as tanks, reservoirs, piping, equipment, skits... Specialized in special welding works and pressure equipment

SPANISH HYDROGEN ASSOCIATION

MOTUSA



Requejada, B20, 39312 Polanco, Cantabria

Website: www.motusa.es

Email: motusa@motusa.es

Phone: +34 942824411

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Reformer unit



**Materials and
components**



Hydrogen storage



**Hydrogen
compression**



Energy companies

SPANISH HYDROGEN ASSOCIATION

NAITEC: FUNDACIÓN I+D AUTOMOCIÓN Y MECATRONICA

CC. Tajonar, 20, 31006 Pamplona, Navarra



Website: www.naitec.es

Email: pmarana@naitec.es

Phone: +34 948 29 29 00

NAITEC is the technology centre specialised in Mobility and Mechatronics in Navarra. We offer solutions to companies to develop more competitive and sustainable products and processes. We get involved in the entire life cycle to detect the areas in which companies can gain in functionality, efficiency and sustainability. We add value in 3 key activity sectors for industry and society: Mobility, Mechatronics and Validation. We contribute with our knowledge in:

- Validation Engineering
- Advanced and Sustainable Manufacturing
- Electronics and Intelligent Transport Systems
- AI and Data Analytics
- Ecodesign and Energy Intelligence
- New Materials
- Digital Twin Cells and Electrolysers electrochemical, fluid thermal and structural modelling of alkaline electrochemical cells.
- Electrode design and fabrication, new materials development, design and print manufacturing.
- Mechatronic product design and component validation.
- Digital Stack Twin and Bench Electrolysers.
- Sensorisation and Continuous Monitoring.
- Prescriptive and Predictive Analytics.
- Environmental Sustainability.

LINE OF BUSINESS

- 1 Smart Mobility: autonomous and connected vehicle, smart city
- 2 Green Mobility: sustainability
- 3 Mechatronic product: IoT solutions, printed electronics, materials
- 4 Digital transformation of processes

SPANISH HYDROGEN ASSOCIATION

NAITEC: FUNDACIÓN I+D AUTOMOCIÓN Y MECATRONICA

CC. Tajonar, 20, 31006 Pamplona, Navarra

Website: www.naitec.es

Email: pmarana@naitec.es

Phone: +34 948 29 29 00



NAITEC
CENTRO TECNOLÓGICO DE
AUTOMOCIÓN Y MECATRONICA

LINE OF BUSINESS

5 Technological services: Component and system testing

6 Materials assistance

7 Electronic product validation

8 NVH

9 Environmental impact

10 Autonomous and connected vehicle testing

9 New business: aerospace

10 Biomedical

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Research &
Development**

Calle IFN, ETSII, Calle Jose Gutierrez
Abascal 2, 28006 Madrid

Website: www.nano4energy.eu

Email: info@nano4energy.eu

Phone: +34 653236118

Nano4Energy is a technology-based company with great international projection. The main activity of Nano4Energy is the technological development of high added value coatings through magnetron sputtering technology and the implementation of such coatings in industrial coating systems.

Due to the requirements of current coatings, the company has become one of the world leaders in coatings applied using HIPIMS (High Impulse Power Magnetron Sputtering) technology. In addition, Nano4Energy is specialized in the development and manufacture of HiPIMS power sources that respond to the needs of companies producing coatings in a personalized manner.

LINE OF BUSINESS

- 1 PVD coatings to coating manufacturing companies, technology centers, or PVD machine builders
- 2 Development of thin film coatings in a wide range of applications such as hydrogen, instrumentation for development with HiPIMS technology and development of industrial systems for coating production

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Research &
Development**

SPANISH HYDROGEN ASSOCIATION

NARA SOLAR



Calle López de Hoyos 15, 3º Dcha,
28006, Madrid, Spain

Website: www.narasolar.com/

Email: lola.lumpina@narasolar.com

Phone: +34 653236118

Nara Solar is a Europe-wide company that develops large-scale renewable energy projects.

LINE OF BUSINESS

1 Renewable energy projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

Avenida de América, 38. 28028, Madrid

Website: www.naturgy.com/

Email: ogoiocoechear@naturgy.com

Phone: +34 699425247

We are an innovative and sustainable multinational energy group and we are present in the electricity and gas business. Our business model operates through numerous companies, mainly in Spain, Latin America (Argentina, Chile, Brazil, Mexico, and Panama) and Australia. Throughout the value chain, our business model stands out as a leader in the gas sector and a benchmark in the power sector, in both cases guaranteeing a regular power supply, essential for a quality service and fulfilling our social responsibilities, while providing a wide range of value-added services and promoting sustainable innovation as a driver of development.

LINE OF BUSINESS

- 1 Gas and electricity distribution
- 2 Electricity generation and marketing
- 3 Gas infrastructure, supply and marketing

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen Refueling
Stations



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

NERVION INDUSTRIES ENGINEERING AND SERVICES, S.L



Calle Henao, 5 - 3º 48009 Bilbao

Website: www.nervionindustries.com

Email: secretaria@nervionindustries.com

Phone: +34 944240500

A business group dedicated to offering a wide range of industrial services in strategic sectors. Since 1953, when the first company of the group was founded, we have specialized in the execution of projects and assembly and maintenance of industrial facilities.

LINE OF BUSINESS

1

Execution of projects and assembly and maintenance of industrial installations.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION

NEUWALME S.L.U.



Crta. Fragoiño 32, CP36214, Vigo

Website: www.neuwalme.com

Email: neuwalme@neuwalme.com

Phone: +34 986494922

Founded in 1982, Neuwalme was born as a family business dedicated to the sale of components for pneumatic and oil-hydraulic applications. Over the years, the company has grown continuously, expanding its portfolio of products and services to become a global provider of value-added solutions in the fields of oil hydraulics, pneumatics and industrial control.

Neuwalme's customers belong to sectors such as automotive, shipbuilding, energy, equipment manufacturers or food industry. Operations cover the entire value chain: technical and commercial evaluation, engineering, design, manufacturing, logistics and assembly; repairs, maintenance and technical assistance; as well as sales of elements and components.

In this field, Neuwalme is the official distributor of reference brands in hydraulic and pneumatic components, and the first distributor of Parker Premier in Spain. The human team is formed by professionals with great experience and skills, who work with the best industrial and technical capabilities. With a philosophy of customer service, flexibility and constant innovation, Neuwalme moves to be one of the reference companies in the sector in Europe.

LINE OF BUSINESS

- 1 Design and manufacture of oil-hydraulic power units
- 2 Cooling and instrumentation panels
- 3 Pneumatic frames
- 4 Electrical cabinets and control panels
- 5 Electromechanics and control systems

SPANISH HYDROGEN ASSOCIATION

NEUWALME S.L.U.



Crta. Fragoiño 32, CP36214, Vigo

Website: www.neuwalme.com

Email: neuwalme@neuwalme.com

Phone: +34 986494922

LINE OF BUSINESS

- 6 Compressed air networks
- 7 Piping installations and auxiliary systems
- 8 Hydraulic and mechanical engineering and R&D
- 9 Technical assistance
- 10 Equipment repair
- 11 Sale of oil-hydraulic, pneumatic and control components.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Hydrogen Refueling Stations



Equipment and systems integration services



Research & Development



Materials and components

SPANISH HYDROGEN ASSOCIATION

NIPPON GASES ESPAÑA S.L.U.



Calle Orense, 11 5ª Planta. 28020 Madrid

Website: www.nippongases.com/

Email: info.spain@nippongases.com

Phone: +34 914533040

Nippon Gases España (NGE) focuses its activity on the production and marketing of industrial gases (H₂, N₂, O₂, Ar, CO₂, noble gases, special and process gases) and medicinal gases. NGE belongs to the Japanese multinational Nippon Sanso Holdings (NSHD), based in Tokyo and founded in 1910. It currently has more than 50 subsidiaries in as many countries. Since May 2014 NSHD has been part of the Mitsubishi Chemical Corporation.

NGE offers innovative solutions for industry, helping our customers to improve their productivity and develop their processes in an environmentally sustainable way. The NSHD group has extensive experience in hydrogen production and distribution, with a highly qualified and experienced team of engineers working on large projects, as well as several research centers in Japan and the USA for the development of new hydrogen production and utilization technologies.

LINE OF BUSINESS

- 1 Aquaculture
- 2 Automotive
- 3 Chemical industries
- 4 Food and beverages
- 5 Glass
- 6 Health and home care
- 7 Metal production and metallurgy

SPANISH HYDROGEN ASSOCIATION

NIPPON GASES ESPAÑA S.L.U.



Calle Orense, 11 5ª Planta. 28020 Madrid

Website: www.nippongases.com/
Email: info.spain@nippongases.com
Phone: +34 914533040

LINE OF BUSINESS

- 8 Petrochemical industry
- 9 Pharmaceutical industry
- 10 Water treatment waste
- 11 Welding and cutting

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



Electrolyzers



Industrial gases



**Hydrogen
production**



Reformer unit



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

NOKSEL ESPAÑA S.A.



Avda. Ciudad de Barcelona 81 planta 6º 28007 Madrid

Website: www.nokselSpain.com

Email: gonzalo.orueta@nokselSpain.com

Phone: +34 673494446

NOKSEL ESPAÑA, S.A. was established to serve domestic and international markets by manufacturing spiral welded steel pipes for hydrogen, petroleum, gas and water lines, and piling industries with more than 30 years of experience. Our objective is to sustain our company's position as a top pioneering firm in our sector. Our facility, whose construction started in 2008, is located in Polígono Industrial Saprelorca, Lorca, Murcia (Spain).

LINE OF BUSINESS

1

Piral welded steel pipe for hydrogen lines, and for refineries transportation of liquid. Outside diameter from 16" to 100". Quality up to API 5L, X80.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen transportation and distribution



Engineering & EPC



Energy companies

NORDEX ELECTROLYZERS S.L.



Polígono Industrial Barásoain, Parcela 2, 31395
Barásoain, Navarra, Spain

Website: www.nordex-online.com

Email: jfernandez@nordex-online.com

Phone: +34 948720535

Following the acquisition of Acciona Windpower in 2016, Nordex Group has become a global player in the wind turbine industry. As one of the world's largest manufacturers of wind turbines, the Nordex Group offers cost-effective, high-performance platforms that can be used to generate electricity from wind energy sustainably and economically in all geographical and climatic conditions worldwide.

The Nordex Group, founded in 1985, has a proven track record of launching industry-leading products. In 1995, we pioneered the mass production of 1 MW wind turbines; in 2000, we were the first to launch the 2.5 MW class; and in 2017, we launched the first +4MW class wind turbine, the N149/4.0-4.5. However, we are currently focused on wind turbines up to 6MW.

LINE OF BUSINESS

1

Nordex: Hybridization of electrolyzers with wind power to produce and export hydrogen

2

Nordex Electrolyzers for the development and future industrialization of pressurized alkaline electrolyzers adapted to renewable sources.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Electrolyzers



Materials and components



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

NORTEGAS GREEN ENERGY SOLUTIONS



General Concha, 20 48010, Bilbao

Website: www.nortegas.es

Email: jaione.ortiz@nortegas.es

Phone: +34 946140020

Nortegas is an energy infrastructure company mainly engaged in the distribution of natural gas. We are currently present in more than 380 municipalities in the Basque Country, Cantabria and Asturias and serve more than one million customers. These figures make us the second largest gas distributor in the Spanish market. Nortegas has a strong commitment to promoting research and projects that provide competitive solutions on the path towards the decarbonization of the economy and we are aware of the decisive role of natural gas.

Nortegas Green Energy Solutions promotes projects around natural gas vehicles and renewable gases: biomethane, biogas and hydrogen. We are committed to the development of hydrogen injection projects in distribution networks that demonstrate the technical feasibility and economic needs arising from the implementation of this gas as a source of energy in the medium / long term. The projects and research encourage and promote initiatives aligned with the circular economy, thus contributing to the minimization of climate change and job creation in the regions where they are developed.

LINE OF BUSINESS

- 1 Gas natural and LPG distribution
- 2 Renewable gases (biogas, biomethane and hydrogen)
- 3 Natural Gas Vehicle (NGV)
- 4 LPG maintenance services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen transportation and distribution



Energy companies



Research & Development

SPANISH HYDROGEN ASSOCIATION

NORVENTO ENERXÍA



Rúa Ramón M^a Aller Ulloa, 23 - 27003 Lugo

Website: www.norvento.com

Email: oconde@norvento.com

Phone: +34 982227889

Norvento is a business group specialized in advanced energy engineering. It designs and manufactures wind turbines and electronic converters and implements turnkey distributed generation and microgrid projects for customers worldwide, including storage and management of renewable electricity. It is also engaged in the development, construction and operation of power plants using renewable energy sources.

LINE OF BUSINESS

- 1 Design and manufacture of wind turbines and electronic power converters
- 2 Promotion, development and operation of large renewable generation facilities
- 3 Integral engineering of renewable generation plant projects
- 4 Comprehensive project management for the construction of renewable energy facilities

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Equipment and systems integration services



Engineering & EPC



Consultancy



Energy companies



Hydrogen production

Camino de la Fuente de la Mora, 1,
28050, Madrid, Spain

Website: www.es.nttdata.com/

Email: david.cuesta.pardo@nttdata.com

Phone: +34 917490000

NTT DATA is a multinational Company specialized in technology consulting services with headquarters in Tokyo. NTT DATA innovates through emerging technologies with the aim of developing projects which contribute to improve people's quality of life. NTT DATA provides our clients with strategy consulting services, applications, infrastructure and BPO services, helping them in overcoming today and tomorrow's challenges.

In the hydrogen field, NTT DATA provides strategy consulting services focused on renewable hydrogen and derivatives development, technology innovation and digital tools supporting renewable hydrogen deployment. NTT DATA has a large reference base in hydrogen with projects for the main Spanish utilities and energy companies, investment funds and multilateral organizations.

LINE OF BUSINESS

1

Strategy consulting services in hydrogen and derivatives, such as feasibility studies, development of proposals for public funding, technology analysis and foresight, development of use cases for renewable hydrogen and development of digital tools

2

For the public sector, NTT DATA advises governments and multilateral organizations in the development of policies and roadmaps for renewable hydrogen deployment

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

SPANISH HYDROGEN ASSOCIATION

NUTAI - NUEVAS TÉCNICAS DE AUTOMATIZACIÓN INDUSTRIAL S.L



Polígono Industrial l'Alteró, Avda. Palmar,
nº9, 46460 Silla, Valencia

Website: <https://nutai.com/>

Email: mperez@nutai.com

Phone: +34 685127563

NUTAI, a leading Valencian SME in engineering and innovation solutions, stands out in the automotive and mobility sector with its advanced industrial automation solutions. Recognized as an 'Innovative SME' by the Spanish Government, its focus is on research and development (R&D) in industrial processes, renewable energies, batteries for electric vehicles, and hydrogen fuel cell technologies.

In the hydrogen field, NUTAI excels in its commitment to research and development. A clear example of this is its creation, ELYGREEN H2, a versatile test bench designed for SOEC/SOFC systems that operates at high temperatures, ranging from 700 to 900 °C, incorporating a high-temperature furnace.

ELYGREEN H2 works with various gases (O2, H2, H2O, and hydrocarbons), allowing for different operating modes. It facilitates system characterization for various applications, providing flexibility in R&D for solid oxide cells. The adaptability, precision, and efficiency in testing reflect NUTAI's remarkable contribution to hydrogen research.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Public Sector



Equipment and systems integration services



Research and Development



Electrolysers



Materials and components

SPANISH HYDROGEN ASSOCIATION

NUTAI - NUEVAS TÉCNICAS DE AUTOMATIZACIÓN INDUSTRIAL S.L



Polígono Industrial l'Alteró, Avda. Palmar,
nº9, 46460 Silla, Valencia

Website: <https://nutai.com/>

Email: mperez@nutai.com

Phone: +34 685127563

LINE OF BUSINESS

NUTAI provides comprehensive solutions for projects and production processes, standing out for the continuous development of new products and services. Always at the forefront of technology, we employ a management strategy based on total service quality.

The main areas of focus for NUTAI revolve around the following technologies:

- 1 Industrial automation
- 2 Collaborative robotics
- 3 Artificial vision
- 4 Hydrogen
- 5 Energy and electric vehicle batteries
- 6 Research and Development

SPANISH HYDROGEN ASSOCIATION

OCA GLOBAL CONSULTING AND TECHNICAL ADVISORY SERVICES S.L.U



Avinguda Can Fatjó dels Aurons, 1, 08173, Barcelona

Website: www.ocaglobal.com/es

Email: jorge.martinez@ocaglobal.com

Phone: +34 902103620

Oca Global provides #Consulting, #Independent Technical Advisory, #QA/QC, #Regulatory and Voluntary Inspection and #Testing services for #Project Developers, #Investment Funds, #EPCs, #Constructors, #Industrial Corporations, Administrations and #Public Agencies , Public, multilateral and private financial institutions.

OCA Global accompanies its clients throughout the entire development cycle of #RenewableGeneration plants, including green H2 generation plants, #Stand-alone or as #Hybridized plants with photovoltaic installations, electrolysers and storage systems to increase their manageability.

OCA Global is a private corporation with more than 90 offices, headquartered in Spain and more than 15 subsidiaries and project offices worldwide.

LINE OF BUSINESS

1

Consulting, testing and technical advice for renewable and storage plants, either lithium or H2

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

SPANISH HYDROGEN ASSOCIATION

ODENRA XXI S.L

ODENRA

Avinguda diagonal 460, Barcelona

Website: www.odenra.com/

Email: rahima@odenra.com

Phone: +34 657287061

ODENRA has developed 10 GW of RE projects in more than 20 countries. We provide services of Consulting, Engineering, Project management, Permitting and Land Acquisition for all kinds of RE projects. We are developing medium-scale stand-alone green hydrogen projects in Spain to provide localised production of green hydrogen.

LINE OF BUSINESS

1

We provide all kinds of project development services for Solar, Wind, battery storage and Green Hydrogen Projects

2

We help clients in land scouting, permitting and interconnection process

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

OHMIUM EUROPE, S.L.

Travessera de Gracia, 11, planta 5, 08021,
Barcelona, Spain

Website: www.ohmium.com

Email: melchor.gamarro@ohmium.com

Phone: +34 618830546



Ohmium International enables industries to deploy green hydrogen for a sustainable future. The company's suite of electrochemical products helps customers achieve their sustainable energy goals in industrial, transportation, and energy projects. Ohmium is headquartered in the United States, with manufacturing in India and operations worldwide.

LINE OF BUSINESS

- 1 Green hydrogen solutions with focus on PEM electrolyzer R&D
- 2 Design, manufacturing, supply and remote monitoring of PEM electrolyzers and auxiliary systems

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers

SPANISH HYDROGEN ASSOCIATION

OSMOFILTER



Avenida espioca 97, silla 46460,
Valencia, Spain

Website: www.osmofilterindustrial.com

Email: jose.santos@osmofilter.com

Phone: +34 667744480

We are reverse osmosis manufacturer and other water treatment systems for hydrogen production. Our factory sited in Spain is specialist in water treatment products.

LINE OF BUSINESS

- 1 Water treatment
- 2 Reverse osmosis systems
- 3 Softeners
- 4 Filtration
- 5 Products for industrial water treatment

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Equipment and
systems integration
services**



Hydrogen production



**Materials and
components**

Pacifico Energy Partners is a company specialising in renewable energy development and asset management in five European markets. Pacifico has a rapidly growing development pipeline of over 2 GW. Within the hydrogen sector, it covers a wide range of activities including project origination, development, and execution of renewable hydrogen projects, as well as dedicated solar and wind power generation for hydrogen generation. In addition, it is focused on the analysis and monitoring of relevant markets for renewable hydrogen and the management of public subsidy applications.

LINE OF BUSINESS

- 1 Project development: green hydrogen, renewables (PV & wind) and storage
- 2 Asset acquisition & transaction advisory
- 3 Asset management & portfolio optimization
- 4 Renewable energy and land assessment
- 5 Business development

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

Gran Via Corts Catalanes 645, 2-1, 08010, Barcelona

Website: www.pasch.es

Email: rmendez@pasch.es

Phone: +34 629242177

Since its foundation in 1913, PASCH has represented first-class foreign manufacturers of capital goods in Spain and Portugal, such as a significant part of the German group MAN, which it has formally represented since 1920. In addition to this representation activity, PASCH packages tailor-made solutions with different technologies such as steam turbines, cogeneration modules or emission control systems among others. Many of the technologies that PASCH represents or packages are already present today in the new trends of the hydrogen market. Additionally, the portfolio of products that PASCH represents has been expanded to face this new energy era, with compressors, H2 purity analyzers or other components.

LINE OF BUSINESS

- 1 Gas compressors
- 2 Steam turbines
- 3 Cogeneration modules with gas engines (including hydrogen)
- 4 Continuous gas monitoring systems
- 5 Hydrogen purification systems
- 6 Cryogenic pumps
- 7 Biomethanation systems (upgrading)
- 8 Marine propulsion engines

SPANISH HYDROGEN ASSOCIATION

PASCH

PASCH

Gran Via Corts Catalanes 645, 2-1, 08010, Barcelona

Website: www.pasch.es

Email: rmendez@pasch.es

Phone: +34 629242177

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



Energy companies



Fuel cells



CHP systems



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

PETROALACANT S.L.U., S.A.



Calle Bonanza, 32,03006
Pol. Ind. Pla de la Vallonga, Alicante

Website: www.petroalacant.es

Email: vbarcelo@petroalacant.es

Phone: +34 606441998

We are an energy business group, located in Alicante. We have service stations, fuel distribution and we want to agglutinate the rest of energies, to offer them to our clients. Always under the premises of quality and service.

LINE OF BUSINESS

- 1 Service stations
- 2 Supermarkets
- 3 Retail fuel distribution
- 4 Wholesale fuel distribution

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



**Hydrogen Refueling
Stations**



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

PHYNIX ENERGY IBERIA, S.L.

Calle Lagasca , 95. 28006, Madrid



Website: www.phynix-energy.eu
Email: luisantoniotorresf@gmail.com
Phone: +34 609264161

Phynix Energy Iberia, SL is a Spanish subsidiary of Phynix Energy SAS, belonging to the French group EVERGREEN, which defines its value proposition as a vertically integrated industrial initiative for the production and commercialization of renewable hydrogen with plants established throughout the Iberian Peninsula to supply the European Union market with a strong vocation and focus on capturing local value maximizing the circular economy.

Our current strategic plan contemplates the development of several H2 Renewable production plants powered by solar and wind energy distributed in strategic locations.

As a whole, we will have a base capacity of up to 150 MW of electrolyzers by 2025, as well as the necessary facilities and infrastructures for logistics, distribution and final marketing.

Our project portfolio exceeds 500 MW in different stages of maturity with both industrial customers and mobility operators already identified in France, Spain and Germany.

As a relevant fact, we have a financial vehicle created for and by the Hydrogen Transition already constituted and promoted by our parent company EVERGREEN (fund: "Transition Hydrogen"), which together with the financial capacity of EVERGREEN guarantees the economic solvency and financing capacity of our projects providing our customers with the necessary peace of mind & stability.

SPANISH HYDROGEN ASSOCIATION

PHYNIX ENERGY IBERIA, S.L.

Calle Lagasca , 95. 28006, Madrid



Website: www.phynix-energy.eu
Email: luisantoniotorresf@gmail.com
Phone: +34 609264161

LINE OF BUSINESS

- 1 Identification of sites for the construction of H2 production plants with their corresponding renewable electricity supply and infrastructure
- 2 Development, promotion and integral administrative & technical processing of projects with all public administrations
- 3 Development, promotion and integral administrative & technical processing of projects with all public administrations
- 4 Energy transition solutions for off-takers

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC



Equipment and systems integration services



Hydrogen refueling Stations



Hydrogen storage



Hydrogen production

Cami ral 130, 08401 Granollers, Barcelona

Website: www.pilz.es

Email: info@pilz.es

Phone: +34 938497433

At Pilz, we are a global supplier of automation-related components, systems and services. We make no compromises when it comes to safety for people, machines and the environment. As a family-owned company with a long tradition and an international presence, we aim to be a close and reliable partner. Our motto: The Spirit of Safety. Everything we do is aimed at making the world a safer place. This can be felt in all Pilz products and solutions, which consider machine safety as well as security requirements. We focus at all times on the needs of our customers and strive to ensure that they receive state-of-the-art technology of the highest quality.

LINE OF BUSINESS

- 1 Safe burner control systems
- 2 Safety controls
- 3 Safety sensors
- 4 Consultancy services on machinery safety regulations and CE marking
- 5 Training for professionals

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Equipment and
systems integration
services



Training



Materials and
components

Calle Teodoro Camino, 17, 02002 Albacete

Website: <https://planeaenergia.es>

Email: hola@planeaenergia.es

Phone: +34 967216917

Planea is a energy generator company with more tan 20 years of experience in the renewables energy sector. The company realize the development, promotion, and operation of its own renewables energy facilities. We believe in green hydrogen as an energy vector for the future and present. The company is developing different projects for the generation, distribution, and dispensing of green hydrogen, carrying out the development, construction, operation and maintenance of the plants.

LINE OF BUSINESS

1 Production and sale of electrical energy (Photovoltaic, wind, BESS installations) and renewable hydrogen

- Engineering and development
- Construction
- Operation and maintenance

2 Trade

- Trade of electrical energy
- Claims management
- Invoicing and contract processing
- Commercial service department

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Equipment and systems integration services



Hydrogen Refueling Stations



Hydrogen production



Hydrogen transportation and distribution

PRF GAS SOLUTIONS

EN 356/1, km 5.8, 2400-821 Leiria, Portugal



Website: www.prf.pt

Email: manuelfonseca@prf.pt

Phone: +35 1914336131

PRF Gas Solutions is a company with 31 years of activity focused on technology, engineering, construction, operation and maintenance of all types of equipment and infrastructure for the fuel gas sector.

In recent years PRF Gas Solutions has invested in technology and human capital in the area of renewable energy, particularly in hydrogen, and with the know-how acquired over the years, has established itself as a major national technological reference in the area of Hydrogen.

PRF Gas Solutions is involved in several projects in this area, from projects for industry, injection of hydrogen in the natural gas network (Green Pipeline Project), and mobility (having built the first portable hydrogen filling station in Portugal - DRHYVE, operating since August 2021, and we are now building a fixed station in Madrid and will soon start building a public fixed station in Lisbon).

LINE OF BUSINESS

- 1 Technology, engineering, construction, operation and maintenance of all types of equipment and infrastructure for the natural gas sector.
- 2 Natural gas transportation, distribution and utilization networks.
- 3 Regulating stations, LNG Bunkering Systems, natural gas refuelling stations, LNG regasification plants and hydrogen vehicle refuelling stations
- 4 Renewable energy projects

SPANISH HYDROGEN ASSOCIATION

PRF GAS SOLUTIONS

EN 356/1, km 5.8, 2400-821 Leiria, Portugal



Website: www.prf.pt

Email: manuelfonseca@prf.pt

Phone: +35 1914336131

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen Refueling
Stations**



Engineering & EPC



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

PRODUCTOS DE INSTRUMENTACIÓN S.A.



Calle Montejo 11, Nave 9, 28021, Madrid

Website: www.pisa-e.com

Email: madrid@pisa-e.com

Phone: +34 917109950

Since 1981, PISA, Productos de Instrumentación S.A., provides the services of advising, marketing, and seeking the best technical and economic solutions in the field of instrumentation - specifically in the chemical, oil & gas, petrochemical, and alternative fuels sector (H2, CNG, and LNG).

With experience in different fields and markets of the industrial and research sectors, we aim to assist our clients in achieving their project goals. We are committed to working efficiently, and we can do this thanks to our extensive stock.

In our catalog of Instrumentation Products and Materials, you will find everything necessary to carry out your industrial project with all the guarantees, quality certificates, and required safety standards.

Our company and our team of engineers are eager to participate in your innovative projects. We will assist you in preparing materials for engineering assembly, contributing our training and experience in the sector.

LINE OF BUSINESS

1 Instrumentation

2 Security

3 High pressure

4 Supercritical

5 Mechanical interlocks

SPANISH HYDROGEN ASSOCIATION

PRODUCTOS DE INSTRUMENTACIÓN S.A.



Calle Montejo 11, Nave 9, 28021, Madrid

Website: www.pisa-e.com

Email: madrid@pisa-e.com

Phone: +34 917109950

LINE OF BUSINESS

6 Tubing

7 Integration systems and industrial pumps

8 Filtration

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Materials and components



Hydrogen transportation and distribution



Energy companies



Research & Development

SPANISH HYDROGEN ASSOCIATION

PROTIO POWER S.L.

Calle Principe de Vergara 69,1º Derecha,
8006, Madrid, Spain



Website: <https://www.protiopower.com>

Email: jm.barquin@partners.com

Phone: +34 610613164

Developers and integrators of fuel cell systems, with the ultimate goal of creating zero-emission solutions, especially in various mobility sectors and stationary power generation systems. We offer a comprehensive service that spans the entire value chain, from design to manufacturing. We also provide the implementation of efficient solutions tailored to each client and their needs.

LINE OF BUSINESS

- 1 Fuel cells systems
- 2 Stationary power generation systems
- 3 Movility
- 4 Last-mile delivery
- 5 Autonomous refrigeration systems for semi-trailers
- 6 Drones and autonomous aerial systems

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Hydrogen
vehicles**



Fuel cells

SPANISH HYDROGEN ASSOCIATION

PSA INGENIEROS

Calle Agustina de Aragón, 147-40
Valdemoro, 28342



Website: www.psaingenieros.com
Email: efranco@psaingenieros.com
Phone: +34 918658081

Spanish engineering company dedicated to the supply and integration of analysis systems.

LINE OF BUSINESS

- 1 Continuous analysers supply
- 2 Engineering, design, and supply of continuous analysis systems
- 3 Technical support services for continuous analysers (commissioning, training, maintenance, repairs, etc)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



Consultancy



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

Q ENERGY GMBH



Paseo de la Castellana 95, Planta 13,
28046, Madrid, Spain

Website: www.qenergy.eu/solutions/es/

Email: daniel.gonzalez@qenergy.eu

Phone: +34 679464624

Q ENERGY is a provider of comprehensive green energy plant solutions in Europe: an experienced partner throughout the value chain of renewable energy projects. Based in Berlin, with subsidiaries located in Germany and France, Q ENERGY has over 20 years of experience and has successfully completed over 2 GW of renewable energy assets. The company operates an active development portfolio of around 15 GW of green energy projects in Spain, Portugal, France, Germany, the Netherlands, Italy, and the United Kingdom.

Their portfolio includes photovoltaic plants, onshore and offshore wind farms, as well as large-scale energy storage projects. With the ambition to also participate in green hydrogen projects in the near future. Q ENERGY operates throughout the value chain of green energy projects: from Greenfield development to engineering, procurement, and construction (EPC), as well as operation and maintenance (O&M), to creating value for green energy investors, and acting as an independent power producer (IPP).

LINE OF BUSINESS

- 1 Development of renewable energy projects
- 2 Engineering and construction services for renewable energy projects
- 3 Operation and maintenance services for renewable energy plants

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

RECURRENT ENERGY

Avenida General Peron, 27 10º planta



Website: www.recurrentenergy.com

Email: bd_spain@canadiansolar.com

Phone: +34 660192162

Recurrent Energy is an energy development company with a presence in 6 continents and 30 countries belonging to Canadian Solar Inc. group. Since it began its journey in the renewable energy sector 14 years ago, it has developed, built and operated a portfolio of 9 GW of solar energy and 3 GWh of battery storage plants (BESS) in Europe. Now with the hydrogen challenge, Recurrent Energy intends to develop this technology, just as it has done with both solar and storage.

LINE OF BUSINESS

- 1 Sale of energy from renewable sources, batteries, or other source

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Training



Hydrogen
production

Calle Mahonia, 2, Planta -1, 28043, Madrid

Website: www.redexis.es

Email: comunicacion@redexis.es

Phone: +34 672381743

Redexis is an energy infrastructure company with a sustainable and environmentally responsible business model, committed to energy transition and economic development. The company focuses on the operation and maintenance of natural gas and LPG transport and distribution networks, as well as on energy efficiency, mobility and the development of renewable gas projects such as biomethane or green hydrogen, thus contributing to decarbonisation and meeting the objectives of the circular economy.

The company maintains a solid and continuous expansion plan with close to 1,500 million euros invested since 2010 and always works with the objective of creating constant value in the communities where it is present, with 350 direct jobs and close to 3,000 indirect jobs. In 2022, the GRESB Sustainability and Infrastructure Index awarded it the mention "Sector Leader", maintaining the maximum rating of five stars in ESG (Environmental, Social and Governance), achieving a total of 95 points out of 100; and it obtained the result of "Advanced" in the Moody's ESG Solutions Sustainability and CSR rating.

LINE OF BUSINESS

- 1 Natural gas distribution, natural gas transmission, LPG, NGV
- 2 Biomethane injection and production
- 3 Hydrogen injection and production
- 4 Solar self-consumption, solar photovoltaics, optical fibre

SPANISH HYDROGEN ASSOCIATION

REDEXIS

Calle Mahonia, 2, Planta -1, 28043, Madrid



Website: www.redexis.es
Email: comunicacion@redexis.es
Phone: +34 672381743

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Engineering & EPC



Research & Development



Hydrogen storage



Hydrogen Refueling Stations



Hydrogen production



Hydrogen transportation and distribution

REGANOSA

Punta Promontorio, s/n, 15620
Mugardos, A Coruña

Website: www.reganosa.com

Email: pdiaz@reganosa.com

Phone +34 981930093

Reganosa is the first Galician energy multinational that develops, operates, and maintains infrastructures for the storage and transportation of natural gas. Certified as a Transmission System Operator (TSO), Reganosa owns and operates the Mugardos LNG terminal and its associated high-pressure pipeline (130 km at 80 barg). The company has extensive experience in project management, engineering, construction, and operation and maintenance across more than 20 countries worldwide.

Reganosa Asset Investments was established with the goal of leading the energy transition in Galicia by promoting various initiatives related to gases and renewable energies, energy storage, circular economy, energy efficiency, and digitization. Reganosa is involved in several projects to deploy a renewable hydrogen market in Galicia. Reganosa is a member of the European Network of Transmission System Operators for Gas (ENTSO-G), Gasnam (an association that promotes the use of natural and renewable gas in mobility), the Spanish Gas Association (Sedigas), and the European Clean Hydrogen Alliance.

LINE OF BUSINESS

- 1 Reganosa is active in the energy sector, with its services ranging from the promotion of projects related to gases and renewable energies to the management of projects, engineering, construction, and operation and maintenance of plants

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen transportation and distribution



Hydrogen production



Energy companies



Hydrogen storage



Consultancy

SPANISH HYDROGEN ASSOCIATION

RENEWCO POWER

Tomás de Ibarra, 15 Entrepantana - 41001 Seville



Website: www.renewcopower.com

Email: javier.salgado@renewcopower.com

Phone +34 661165853

We are a highly experienced team of entrepreneurs and renewable energy specialists who believe that clean energy is both an attractive commercial opportunity and a positive force that can make the world a healthier and more sustainable place to live. Our mission is to accelerate the deployment of large-scale solar, wind, green hydrogen and storage to enable countries to decarbonise their energy systems. We have set ourselves the ambitious challenge of developing projects with a combined capacity of 2GW by 2025, with a pipeline of a further 3GW.

Our business model is to grow sustainably through asset turnover as we reach the ready to build status. However, with the financial support of our partner Corran Capital, we will explore the option of financing, building and owning assets for operation on a case by case basis. Renewco takes a collaborative approach and seeks to work with local developers, brokers and landowners to create a diversified portfolio of projects across multiple geographies. Through our expertise and commitment to sustainability, we add value and minimise risk to projects at all stages from origination, development, design, construction, acquisition and financing to eventual sale.

LINE OF BUSINESS

1

Development of renewable energy generation projects, including solar, wind, storage and green hydrogen.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

REPSOL



Calle Méndez Álvaro 44; 28045, Madrid

Website: www.repsol.com

Email: fernando.guedan@repsol.com

Phone: +34 679671963

Repsol is a global multi-energy provider who strives to drive innovation towards a low-emission energy model. We have a workforce of over 25,000 employees and operations in 34 countries. Our focus is on delivering energy solutions that meet people's needs and safeguard their well-being. Our mission is to supply energy to society efficiently and sustainably.

With this ambition in mind, we are the first energy company to commit to achieving net-zero emissions by 2050. To accomplish this, we are aligning our business plans with the goals of the energy transition and strengthening our profile as a customer-centric multi-energy provider.

We have specific plans to reduce our carbon intensity in the coming decades: 10% by 2025, 20% by 2030, and 40% by 2040. With current technological advancements, we anticipate achieving a minimum net emission reduction of 70% by 2050 and are committed to applying the best technologies, including CCUS, to increase this figure.

Additionally, we will offset emissions through reforestation and other natural climate solutions to achieve net-zero emissions by 2050. The new strategic plan includes investments totaling 18.3 billion euros between 2021 and 2025, of which 5.5 billion - 30% - will be allocated to low-carbon-emission businesses.

Our technological strategy allows us to form the best alliances and partnerships in innovative disciplines, supporting businesses to enhance their competitiveness.

LINE OF BUSINESS

- 1 Upstream
- 2 Industrial
- 3 Customer Centric
- 4 Low Carbon Generation

SPANISH HYDROGEN ASSOCIATION

REPSOL



Calle Méndez Álvaro 44; 28045, Madrid

Website: www.repsol.com

Email: fernando.guedan@repsol.com

Phone: +34 679671963

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Research &
Development**



**Equipment and
systems integration
services**



Energy companies



**Hydrogen
production**



**Hydrogen
storage**



**Hydrogen
compression**



**Hydrogen transportation
and distribution**

SPANISH HYDROGEN ASSOCIATION

RIC ENERGY

Castellana 91. 4 Madrid, 28046



Website: www.ric.energy/

Email: pvazquez@ric.energy

Phone: +34 608094373

RIC Energy is a pioneer in the development of renewable energies with a presence on four continents and a firm commitment to innovation in new technologies such as the production of green hydrogen, storage and the generation of energy with biogas.

It currently has a photovoltaic project development portfolio of some 7,000 MW.

It is a Spanish company with an international vocation as it has projects on four continents with a special focus on the United States and several African countries such as Uganda, Kenya, Cape Verde, Malawi and Burkina Faso.

Its agile decision-making allows it to anticipate business opportunities and meet customer needs with excellence, transparency and proximity.

In its processes, it is a disruptive company that offers its clients simple and efficient solutions, with the capacity to adapt quickly to current environments of change, evolution or uncertainty.

It is committed to the creation of shared value, where economic value is equated with social contribution, it contributes to generating wealth and prosperity in the communities where it operates.

LINE OF BUSINESS

1

Photovoltaic development, with a portfolio of around 7,000 MW

2

Green hydrogen: it is developing two green hydrogen projects in Puertollano and Valladolid with 100MW and 15MW electrolysers, respectively

SPANISH HYDROGEN ASSOCIATION

RIC ENERGY

Castellana 91. 4 Madrid, 28046



Website: www.ric.energy/

Email: pvazquez@ric.energy

Phone: +34 608094373

LINE OF BUSINESS

3

In storage, RIC energy expects to enter the practical implementation phase of projects 2023 once it has completed the technical and economic analyses

4

Biogas: RIC energy promote the use of renewable gas through the use of waste at a global level

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Energy companies



Hydrogen
production

ROBERT BOSCH ESPAÑA SLU



Calle de los Hermanos Garcia Noblejas
19, Madrid, 28037

Website: www.grupo-bosch.es
Email: emma.nogueira@es.bosch.com
Phone: +34 649456533

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility.

Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life."

LINE OF BUSINESS

1 Mobility Solutions

2 Industrial Technology

3 Consumer Goods

4 Energy and Building Technology

5 Innovative solutions for smart homes, industry 4.0, and connected mobility

SPANISH HYDROGEN ASSOCIATION

ROBERT BOSCH ESPAÑA SLU

Calle de los Hermanos Garcia Noblejas
19, Madrid, 28037



BOSCH

Website: www.grupo-bosch.es
Email: emma.nogueira@es.bosch.com
Phone: +34 649456533

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
vehicles**



Electrolyzers



Fuel cells



**Hydrogen
compression**

ROSETTA TECHNOLOGY SOLUTIONS SL



Paseo de Europa 26, 1º OF. 8 - 28703 San Sebastián de los Reyes

Website: www.rosetta-technology.com/

Email: rosetta@rosetta-technology.com

Phone: +34 918051910

Rosetta Technology Solutions is a technology company specialized in providing consultancy and supply of high-level instrumentation and measurement solutions, including calibration standards, along with associated services such as commissioning, training, and after-sales support. With extensive experience in supplying such products, we offer high-level guidance in selecting the most advanced, reliable, and proven instrumentation from our product portfolio for applications related to the hydrogen industry, including Test Benches, Fuel Cells, Electrolyzers, Dispensers, R&D applications, among many others.

LINE OF BUSINESS

- 1 Flor meters and mass flow controllers
- 2 Vortex flow meters
- 3 Flow computers
- 4 Transmisores y controladores de presión
- 5 Pressure transmitters and controllers
- 6 High-precision digital pressure gauges
- 7 Systems for measuring high-pressure hydrogen transfer (MID/OIML)
- 8 Hydrogen dispenser validation systems

SPANISH HYDROGEN ASSOCIATION

ROSETTA TECHNOLOGY SOLUTIONS SL



Paseo de Europa 26, 1º OF. 8 - 28703 San Sebastián de los Reyes

Website: www.rosetta-technology.com/

Email: rosetta@rosetta-technology.com

Phone: +34 918051910

LINE OF BUSINESS

9

Buck pressure regulators

10

Calibration standards: pressure, flow, and temperature

11

ISO17025 flow calibration service for liquids and gases (including H2)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Electrolyzers



Materials and components



Hydrogen compression



Equipment and systems integration services



Fuel cells

ROXTEC S&P

Avenida Ciudad de Barcelona 81
2ª Planta, 28007, Madrid

Website: www.roxtec.com/es

Email: beatriz.serralle@roxtec.com

Phone: +34 916882178



ROXTEC S&P develops, manufactures, and sells complete mechanical sealing solutions for cable and pipe penetrations. It is a Swedish multinational founded in 1990, specializing in adaptable solutions for cables and pipes of various sizes, based on modular designs with removable layers.

The company's mission is to protect people and facilities by ensuring that cable and pipe entries and exits are secure against various risks, including water, dust, vibrations, rodents, fire, gas, smoke, explosions, electrical discharges, electromagnetic interference (EMC), high temperatures, noise, etc. This ensures operational reliability throughout the life of the plant.

ROXTEC S&P's mechanical seals are designed and implemented in applications for various infrastructure types with high demands. Specifically in the hydrogen industry, their solutions have been implemented in electrolyzers and in sealing pipes and cables in different hydrogen projects and processes worldwide, including compression stations, electrical substations, control buildings, processing plants, hydrogen stations, etc.

Their clients include Acciona, Siemens Gamesa Renewable Energy (SGRE), Repsol, Cepsa, Iberdrola, Dragados Offshore, Navantia, ABB, EDP, Enercon, Eiffage, among others. Close collaboration with clients from the design stage, coupled with their global international presence, creates conditions for continuous support and improvement in their clients' projects.

LINE OF BUSINESS

- 1 Infrastructure sectors
- 2 Manufacturing industry
- 3 Marine

SPANISH HYDROGEN ASSOCIATION

ROXTEC S&P

Avenida Ciudad de Barcelona 81
2ª Planta, 28007, Madrid

Website: www.roxtec.com/es
Email: beatriz.serralle@roxtec.com
Phone: +34 916882178



LINE OF BUSINESS

- 4 Oil & Gas Offshore
- 5 Energy and process industries
- 6 Projects for the production and processing of hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Hydrogen compression



Electrolysers



Energy companies



Engineering & EPC



Materials & components



Fuel cells

SPANISH HYDROGEN ASSOCIATION

RP GLOBAL SPAIN OPERATIONS



Calle Caracas, 23, 4ª planta, 28010, Madrid

Website: www.-global.com

Email: s.rodriguez@rp-global.com

Phone: +34 915756212

RP Global is a large-scale developer and operator with 35+ years of experience in the renewable energy sector. We develop, finance, construct, invest in and operate solar PV, wind and hydropower, as well as hydrogen and battery storage projects in the years ahead. We are an international renewable energy platform with strong local teams on the ground in all our core Western and Eastern European markets (Spain, Portugal, Italy, France, Germany, Croatia, Serbia and Poland), as well as in Latin America, Tanzania and West Africa.

The company's headquarters are in Vienna, Austria and Madrid, Spain. Our mission is to make a relevant contribution to the energy transition, by developing and implementing a portfolio of more than 7 GW(p) in Europe alone, with sustainable renewable energy projects. All of RP Global's projects will meet the highest social and environmental standards and provide solid returns to attract the necessary investment. We strive for genuine engagement with our stakeholders, build authentic relationships, and ensure that our projects are in harmony with the environment, bringing real value to all parties involved in their construction and operation.

LINE OF BUSINESS

1

Development, implementation, and operation of renewable energy projects: Hydro, Solar, Wind, Green Hydrogen, Storage.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies

SPANISH HYDROGEN ASSOCIATION

SAILH2 INGENIERÍA S.L.

Calle Brasil 1, sótano A, Sevilla, 41013



Website: www.sailh2.com
Email: rituerto@sailh2.com
Phone: +34 605012386

SailH2 is a company specialized in the development of green hydrogen production plants from renewable energies. SailH2 has a multidisciplinary team of specialists with a prominent track record in the renewable energy sector, led by two of its founding partners, Dr. Fernando Isorna Llerena and Dr. Eduardo López González.

Both have extensive experience with over 30 years in the development of renewable hydrogen projects, renewable energy storage, and fuel cells for the INTA (National Institute of Aerospace Technology), being pioneers in building Spain's first (and Europe's second) renewable hydrogen production plant in 1991.

LINE OF BUSINESS

- 1 Strategic consulting on renewable hydrogen projects
- 2 Opportunity spotting
- 3 Technical-economic feasibility studies
- 4 Obtainment of licenses and permits
- 5 Search of land
- 6 Fundraising and grant acquisition
- 7 Engineering and construction project management
- 8 Supplier selection and procurement management
- 9 Project management and site coordination

SPANISH HYDROGEN ASSOCIATION

SAILH₂ INGENIERÍA S.L.

Calle Brasil 1, sótano A, Sevilla, 41013



Website: www.sailh2.com
Email: rituerto@sailh2.com
Phone: +34 605012386

LINE OF BUSINESS

- 10 Operation and maintenance services
- 11 Security studies in hydrogen technologies

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen storage



Consultancy



Hydrogen Refueling Stations



Engineering & EPC



Hydrogen production



Hydrogen vehicles

SPANISH HYDROGEN ASSOCIATION

SARRALLE

Calle Orendaundi N° 7 Apdo. 1,
20730 Azpeitia

Website: www.sarralle.com/
Email: iauzmendi@sarralle.com
Phone: +34 617532846

sarralle[®]
A Universe of Engineering

Sarralle is a private business group created in 1965 in Azpeitia (Spain), a worldwide leader in industrial engineering in the Environment, Energy and Steel Sectors, along 5 business lines: Metallurgy & Casting, Rolling mill, Processing lines, Environment & Energy and Workshop & Storage Systems. Sarralle is an innovative Design, Engineering, Manufacturing and Installation company, with more than 700 dynamic, highly-qualified and multicultural employees located in more than 9 countries worldwide. Sarralle Environment&Energy, is Sarralle's business line that offers technological solutions for industrial sectors related to the Circular Economy and Energy, including the integration of green hydrogen technologies in the industry.

LINE OF BUSINESS

- 1 Steelmaking
- 2 Heating equipment
- 3 Hydrogen
- 4 Water treatment
- 5 Waste to energy
- 6 Steel dust recycling

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



**Engineering
& EPC**



**Equipment and
systems integration
services**



**Hydrogen
production**

Ballibar Kalea, 1. 20870 Elgoibar

Website: www.schaeffler.es
Email: info.es@schaeffler.com
Phone: +34 934803410

The Schaeffler Group is a leading global automotive and industrial supplier. The Schaeffler Group is making a decisive contribution to mobility with its high-precision components and systems in engine, transmission and chassis applications, as well as rolling and plain bearing solutions for a large number of industrial applications. Since its inception, the Schaeffler company has been characterized by pioneering innovations and global customer orientation. Sustainability and the spread of renewable energy are fundamental components of Schaeffler's strategy. In Schaeffler's strong commitment in this area, hydrogen technology plays a central role.

LINE OF BUSINESS

- 1 Schaeffler considers the entire hydrogen value chain, from green hydrogen production through electrolysis to end use in application such as industrial processes or in stationary and mobile fuel cells
- 2 Focusing on PEM technology, Schaeffler develops, manufactures and sells key components and subsystems for PEM fuel cells and PEM electrolyzers

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolyzers



Fuel cells

SPANISH HYDROGEN ASSOCIATION

SCHLAICH DAUSS, S.L.P.

Rambla de Cataluña, 52 4º 2ª 08007 Barcelona - C.
Claudio Coello, 77 6º 28001 Madrid



Website: www.schlaich-dauss.com
Email: info@schlaich-dauss.com
Phone: +34 930107593 / +34 917409783

Law firm specialising in energy transition.

LINE OF BUSINESS

1

Legal support and advice in:

- Administrative processing of renewable projects
- Electric and gas infrastructure
- Investment structuring and shareholder agreements
- Power Purchase Agreements (PPA) contracts
- New business models in the energy sector

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Financial sector



Public sector

SCHWER FITTINGS

Polígono Industrial Malpica, Grupo Gregorio Quejido
Nave 31, E-50016 Zaragoza

Website: www.schwer.com

Email: chuliilla@schwer.es

Phone: +34 976465660

Schwer Fittings specializes in products in the field of pipe connection technology. Our extensive product range includes groups such as stainless steel hydraulic fittings, fittings, valves, ball valves, tubes, stainless steel high-pressure flanges, and much more.

Also part of our product line are threaded fittings for fluid technology, as well as stainless steel cutting ring fittings according to EN ISO 8434 (DIN 2353), stainless steel threaded fittings, high-pressure fittings, or stainless steel valves. Within our range, you can also find u2-Lok double ring fittings and Clino aseptic connections, suitable for the gas and H2 industry, bioindustry, chemical, and pharmaceutical industries. u2-Lok double ring fittings ensure leak-free pipe connections in both high-pressure and vacuum conditions.

Schwer Fittings meets the requirements of the Process Industry and provides solutions that optimally respond to the complexity of demands. Thus, the products of Schwer Fittings undergo the strictest quality measures, from raw material control and checks between each production phase to final acceptance.

The high quality standard of Schwer Fittings products is achieved through in-house assembly and final control.

LINE OF BUSINESS

- 1 Fittings (with u2-Lok double ring, threaded, Ecotube, for welding...)
- 2 Unions (with ring, with sealing cone, aseptic clino, push in-on)
- 3 Instrumentation

SPANISH HYDROGEN ASSOCIATION



SCHWER FITTINGS

Polígono Industrial Malpica, Grupo Gregorio Quejido
Nave 31, E-50016 Zaragoza

Website: www.schwer.com

Email: chulilla@schwer.es

Phone: +34 976465660

LINE OF BUSINESS

- 4 Valves
- 5 Enchufes rápidos
- 6 Tubos
- 7 Flanges and SAE flanges
- 8 Clamps
- 9 Hose terminals and hoses
- 10 60° hydraulic adapters

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

SENER



Calle Severo Ochoa 4, Tres Cantos,
28760 Madrid

Website: www.engineeringandconstruction.sener

Email: sarar.alonso@sener.es

Phone: +34 918077440

SENER is a private technology group founded in 1956 which employs over 2,350 professionals. Through continuous development in Engineering and Construction, the Group has, over its more than 60 years of history, expanded into new businesses in key sectors such as Aeronautics and Energy/Environment.

In all these business areas, SENER develops its own technology, handling all stages of a project cycle: conceptual, basic, and detailed engineering, as well as providing the necessary procurement, construction, commissioning, and management services for a profitable project completion in terms of time, performance, cost, and quality.

SENER offers a full range of services required to complete a project from initial phases to operational stages and under various financing and operation schemes: Design, Design and Construction, EPC (Engineering Procurement Construction), PPP (Public Private Partnership), etc.

In the Energy sector, specifically in the H2 field, SENER provides its services as an integrated engineering and construction company, delivering tailored solutions to each client based on a commitment to quality and innovation. Moreover, SENER has been working for several years on the development of green H2 generation products, both through electrolysis and reforming, contributing its proprietary technology in processes, integration, industrialization, and, of course, digitalization.

LINE OF BUSINESS

- 1 SENER Aerospace supplies equipment, system integration, and engineering services for Space, Defense, Aeronautics, and Vehicles
- 2 SENER Engineering provides sustainable and innovative solutions in Infrastructure and Transportation (roads, airports, ports, urban transport/railways), Energy (Renewables, Liquefied Natural Gas, Power, Oil & Gas), and Naval

SPANISH HYDROGEN ASSOCIATION

SENER



Calle Severo Ochoa 4, Tres Cantos,
28760 Madrid

Website: www.engineeringandconstruction.sener

Email: sara.alonso@sener.es

Phone: +34 918077440

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Engineering
& EPC**



**Energy
companies**



Electrolysers



**Equipment and
systems integration
services**



Reformer unit

SPANISH HYDROGEN ASSOCIATION

SERTO GAL, S.L.

sertogal

Calle Río Conso N° 2, bajo. 32001, Ourense

Website: www.sertogal.com/

Email: administracion@sertogal.com

Phone: +34 988510003

SERTO GAL is a Spanish company that provides consulting, engineering, and surveying solutions for the energy and industrial sectors.

Our professionals have over 25 years of experience in the industry, focusing on surveying and energy services. We specialize in the transportation and distribution of energy, with extensive technical expertise in civil engineering and renewable energy fields. We have undertaken numerous projects using Building Information Modeling (BIM) technology.

Committed to our clients, we always strive to provide excellent customer service with the best end product. We are dedicated to each project, consistently delivering the best technical and economic solutions, meeting deadlines, and maintaining a strong work ethic.

In our operations, we integrate a commitment to Quality, Environment, and Occupational Health and Safety. Our goal is continuous improvement in all offered services, environmental enhancement, and ensuring maximum safety in working conditions.

We meet client requirements, ensuring a prompt response and achieving a high level of satisfaction.

LINE OF BUSINESS

- 1 Electric power transmission and distribution lines
- 2 Infrastructure projects for high, medium, and low voltage
- 3 Renewable energies: wind farms and photovoltaic plants
- 4 Renewable energies: wind farms and photovoltaic plants

SPANISH HYDROGEN ASSOCIATION

SERTO GAL, S.L.

Calle Río Conso Nº 2, bajo. 32001, Ourense

Website: www.sertogal.com/

Email: administracion@sertogal.com

Phone: +34 988510003

sertogal

LINE OF BUSINESS

- 5 Modeling of installations in BIM (building information modeling)
- 6 Topographic surveys and layout
- 7 land management
- 8 Environmental impact studies

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Engineering
& EPC**



Consultancy

SPANISH HYDROGEN ASSOCIATION

SHiE, SERVICIOS DE HIDRÓGENO ENERGÉTICO, S.L.



Calle La Habana, 25. Pol. Ind. Centrovía. 50196 La Muela

Website: www.shie.es

Email: informacion@shie.es

Phone: +34 976403403 / +34 619679080

SHiE is a company focused on the green hydrogen industry as a key sustainable solution for decarbonizing the economy. SHiE is a joint venture, with a 50% ownership split between ARPA Equipos Móviles de Campaña S.A. and Grupo Zoilo Ríos S.A. Its main activity is the manufacturing of modular and scalable systems for the generation, compression, storage, transport, and dispensing of green hydrogen.

LINE OF BUSINESS

- 1 Modular hydrogen stations
- 2 Service for H₂ refueling stations, renewable energy generators and public service stations
- 3 Development of modular systems for production, storage, and compression of green hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Equipment and
systems integration
services**



**Hydrogen Refueling
Stations**



**Hydrogen
production**



**Hydrogen
compression**



**Hydrogen transportation
and distribution**

SIEMENS ENERGY

Ronda de Europa 5. 28760 Tres Cantos, Madrid



Website: www.siemens-energy.com

Email: josem.macho@siemens-energy.com

Phone: +34 670540044

Siemens Energy is a technology provider for the energy sector company formed by the spin off of the former Gas and Power division of Siemens Group and includes Siemens Gamesa. The Group's product range mainly includes:

- Power transmission and distribution (transformers, switchgear, high-voltage direct-current transmission)
- Low-voltage switchgear: switchgear for load feeders, components for power distribution, control and signaling devices, complete cubicle systems (circuit breakers, etc.)
- Power plant technology
- Turbomachinery: Wind turbines, steam turbines, gas turbines, generators, compressors
- PEM hydrogen electrolyzers
- Digital solutions for the energy sector"

LINE OF BUSINESS

1 Products and technological solutions for the energy sector

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



Electrolyzers



**Engineering
& EPC**



**Equipment and
systems integration
services**



Fuel cells

SIEMENS S.A

Ronda de Europa, 5. 28760 - Tres Cantos

Website: www.siemens.com/H2
Email: francisco.montojo@siemens.com
Phone: +34 607078478

Siemens, S.A. is a global technology powerhouse that brings together the digital and physical worlds to benefit customers and society. The company focuses on intelligent infrastructure for buildings and decentralized energy systems, on automation and digitalization in the process and manufacturing industries, and on smart mobility solutions for rail and road transport.

LINE OF BUSINESS

- 1 Digitalisation (digital twin)
- 2 Process and system stimulation tools
- 3 Control systems (DCS)
- 4 Field instrumentation
- 5 Gas analysers and chromatographs
- 6 PLCs/SCADA systems
- 7 Motors and drivers
- 8 Industrial communications (cybersecurity)
- 9 Electrical substations
- 10 Financial services
- 11 Artificial intelligence
- 12 Life cycle studies

SPANISH HYDROGEN ASSOCIATION

SIEMENS S.A

Ronda de Europa, 5. 28760 - Tres Cantos



Website: www.siemens.com/H2
Email: francisco.montojo@siemens.com
Phone: +34 607078478

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Financial sector



**Equipment and
systems integration
services**



Consultancy



Electrolyzers



**Engineering
& EPC**



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

SIMA S.L



Calle Dels Xofers, 17. 46200, Paiporta

Website: <https://simasl.es/>

Email: info@gsima.es

Phone: +34 963604370

Integral energy services company with over 20 years of experience in the industry. Specialists in renewable energies and gases, hydrocarbons and construction.

LINE OF BUSINESS

- 1 Engineering, installation and maintenance of H2
- 2 Biomethane/Biogas
- 3 Fotovoltaic
- 4 Natural Gas Networks
- 5 LNG
- 6 NGV Refueling Stations (LNG, CNG)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Engineering
& EPC**

SISTEMA INGENIERIA S.A.

Calle Eduardo, 3, bajo, 35002
Las Palmas de Gran Canaria, Las Palmas

Website: www.sistemaingenieria.com
Email: rsainani@sistemaingenieria.com
Phone: +34 925384712

SISTEMA, S.A., is an engineering consultancy backed by over 40 years of experience in the field of civil engineering. Since its inception, SISTEMA has completed projects totaling more than 500 km of road infrastructure, including over 100 km of highways or expressways and the rest on conventional roads. The portfolio extends to numerous interventions in hydraulic and maritime works, along with multiple urban development projects, establishing itself as a consultancy with significant technical capabilities.

SISTEMA is an independent professional society dedicated to providing consulting and engineering services. It has no affiliations with construction companies, manufacturers, equipment suppliers, or financial entities. The company boasts technicians of renowned prestige who endorse the projects they design and oversee, either as members of the society or part-time collaborators.

The fundamental commitment of SISTEMA is to the comprehensive quality of its service, ensuring excellence in its projects, customer satisfaction, and environmental respect. This commitment is evident in the implementation of the Integrated Management System for Quality and Environment, certified by AENOR under ISO 9001 and 14001 standards.

LINE OF BUSINESS

- 1 Engineering services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



Electrolysers



Hydrogen compression



Hydrogen storage



Fuel cells



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

SMARTENERGY SPAIN

Plaza del Ayuntamiento 27 - 4º. 46002 Valencia



SMARTENERGY

Website: www.smartenergy.net

Email: info@smartenergy.net

Phone: +34 963155077

Smartenergy is a Swiss-based investment company dedicated to renewable energy. We identify, develop and deliver green energy assets. We are a driving force in the ongoing transition of the industry towards green energy being focused on the deployment of solar, wind and green hydrogen projects. We are committed to pursuing the potential of hydrogen and related technology as an ideal complement for utilizing and storing renewable energy. Smartenergy, founded in 2011, is headquartered in Wollerau, Switzerland. Beyond our Team in Wollerau, we rely on our own local subsidiaries in all major markets in Europe. Local knowledge and proximity to the industry stakeholders allow us to identify and secure opportunities at an early stage while creating synergies across the entire value chain.

LINE OF BUSINESS

1

Smartenergy operates in Spain, Portugal, Italy and Germany, where it develops and covers the entire value chain of renewable energy projects. The company currently has a portfolio of 8 GW of renewable energy projects and 2GW of green hydrogen projects

2

The firm's flagship H2 project in Spain is Orange.bat, aimed at helping the Castellón ceramics cluster on its path towards decarbonisation by replacing natural gas combustion with green hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

SOCIEDAD ESPAÑOLA DE CARBUROS METÁLICOS, S.A.



Av. de la Fama 1 - 08940 Cornellà de Llobregat

Website: www.carbueros.com

Email: mktg@carbueros.com

Phone: +34 932902600

Carbueros Metálicos is a leading company in the industrial and medical gases sector that produces, distributes and sells gases for multiple sectors: metallurgy, glass, water, food, medical, energy, petrochemicals, laboratories, freezing, refrigeration, oenology, leisure and beverages. The company provides a wide range of products, solutions and services to its customers, as well as materials and equipment for gas applications.

Founded in 1897, Carbueros Metálicos has been at the service of Spanish industry for 125 years and has always maintained a strong link with society. It is currently the leader in the industrial and medical gases sector in Spain and a benchmark in the chemical sector in terms of safety, innovation and sustainability.

Carbueros Metálicos has a team of more than 700 professionals in Spain, a daily production capacity of more than 1,200 tonnes of liquefied gas (mtpd), 12 production plants, 14 packaging plants, 2 high purity gas laboratories and an R&D centre located in Bellaterra (Barcelona) that provide service to more than 100,000 customers. Since 1995, the company has belonged to the US group Air Products (NYSE:APD).

LINE OF BUSINESS

1

Industrial and medical gases, hydrogen to promote the energy transition and the decarbonisation of industry and mobility

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Industrial gases

SOLARIG, S.A.



Calle Ribera Del Loira 28, 2^a
28042, Madrid, Spain

Website: www.solarig.com
Email: dvallejo@solarig.com
Phone: +34 656390837

Solarig is a global renewable energy developer with more than 17 years of experience. Nowadays, we manage +10GW of O&M assets with a loyalty rate +90%. We executed 1GW of EPC projects and own more than 8GW of projects in different status. Our strategic plan leads to +15GW by 2025. Solarig is an active player in the design, development, engineering, construction, asset management, operation & maintenance in 4 continents with solid roots in 14 countries, among others: Japan, UK, Australia, Mexico, Brasil, Chile, Spain, Italy, USA and Poland. We adjust our services to transform our clients & partners ideas in actions with Flexibility, Transparency and Competitiveness. From 2020, Solarig founded the Hydrogen Business Development Area that Will lead electrolyzers, compression, storage of Green Hydrogen plus the related renewable energy (solar, ESS, wind).

LINE OF BUSINESS

- 1** Design, promotion, construction, investment and asset management of Green Hydrogen Projects
- 2** Integration of Green Hydrogen Projects with Renewable Energy Sources and ESS
- 3** EPC, O&M of photovoltaic projects, ESS projects, and any sort of hybridation/combination of them in wind as well

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Electrolyzers



Equipment and systems integration services



Energy companies



Engineering & EPC



Hydrogen production

SOLARTEC



Calle Cascajales, 27 37184 Villares de la Reina,
Salamanca, Spain

Website: www.solartecrenovables.com

Email: info@solartecrenovables.com

Phone: +34 923204213

At SOLARTEC, we are a company specialized in the promotion and installation to exploitation, operation and maintenance of solar energy projects as well as energy efficiency projects. After 20 years of experience, we manage all steps of the process involved in a solar Project, going from initial design, engineering, processing of paperwork, installation, operation and maintenance. We develop 100% of Projects with our own personnel, without outsourcing any part of the processes. This competitive advantage becomes paramount when controlling quality from beginning to end at all times during installations.

LINE OF BUSINESS

- 1 Design and Engineering of solar parks
- 2 Processing of paperwork as required
- 3 EPC installations to exploitation
- 4 Operation and maintenance of both Solar Parks and self-supply projects
- 5 Installation of high power charge pumps, mild voltage, accumulation batteries and batteries charge management

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen Refueling
Stations



Engineering
& EPC



Equipment and
systems integration
services



Hydrogen
production

SPANISH HYDROGEN ASSOCIATION

SOUTHERN LIGHTS



Inteckningsvägen 15, 129 31 Hägersten

Website: www.southernlights.io

Email: felipe@southernlights.io

Phone: +46 734101036

A Swedish software startup specialising in the design, simulation, and assessment of green hydrogen projects during the promotion stages.

LINE OF BUSINESS

1

Software for the design, simulation, and evaluation of PtX (Power-to-X) projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Financial
sector**



**Research &
Development**



Consultancy



**Energy
companies**



**Equipment and
systems integration
services**



Public sector



**Materials &
components**

SPANISH HYDROGEN ASSOCIATION

STAUBLI ESPAÑOLA



Calle Salvador Gil Vernet, 1 08192-
SANT QUIRZE DEL VALLES

Website: www.staubli.com

Email: c.mingo@staubli.com

Phone: +34 630067497

Staubli is a global provider of industrial and mechatronic solutions. It was founded in 1982 In Switzerland and today it is an International Group. As one of the leading manufacturers of quick connectors, Staubli covers everyone's connection needs. types of fluids, gases and electricity.

Staubli Española, founded in 1979, is located in the city of Sant Quirze del Vallés (Barcelona) with Offices in the North and Center of Spain. For more than 30 years, the innovative and socially responsible company Staubli has provided specific services results for any sector of the hydrogen chain.

In the field of alternative fuels, Staubli offers special hydrogen connection systems for fueling plants to respond to new energy challenges: Individual vehicle smart nozzles based on wireless technology and one heavy-duty. It also offers commercial vehicles that guarantee total safety during hydrogen refueling. Both solutions offers robustness, lightness, handling, reliability and of course compliance with international standards standards. Complete hydrogen refueling solutions with the BRH08 manufacture and distribution of quick connectors.

Stäubli is a global provider of industrial and mechatronic solutions with four dedicated divisions: Electrical Connectors, Fluid Connectors, Robotics and Textile, serving customers looking to increase their productivity in many industrial sectors. separable safety component as well available.

LINE OF BUSINESS

1

Manufacture and distribution of quick connectors, for any part of the chain of production, distribution, and use of any type of fluid/gas. (H2)

SPANISH HYDROGEN ASSOCIATION

STAUBLI ESPAÑOLA

Calle Salvador Gil Vernet, 1 08192-
SANT QUIRZE DEL VALLES

Website: www.staubli.com

Email: c.mingo@staubli.com

Phone: +34 630067497

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
compression**



Energy companies



**Hydrogen Refueling
Stations**



Industrial gases



Engineering & EPC



**Equipment and
systems integration
services**



**Hydrogen
production**



**Hydrogen transportation
and distribution**



**Hydrogen
vehicles**

SUMITOMO CORPORATION S.A

Calle Infanta Mercedes, 90. Planta 7
28020, Madrid, Spain

Website: www.sumitomocorp.com/en/europe/sceu/

Email: infra.scsp@sumitomocorp.com

Phone: +34 915553033

The Sumitomo Corporation Group engages in commercial activities, including the sale of various products and services, import and export, and global investment in businesses and companies, across a wide range of industries worldwide. This is facilitated through its eight business units, energy innovation initiatives, and regional organizations worldwide, all working closely together.

Sumitomo Corporation Europe, along with its subsidiary Sumitomo Corporation Spain, collaborates closely with the Tokyo headquarters, sharing regional and product strategies and leading the creation of global businesses by fully utilizing resources and functions.

The Energy Innovation Unit aims to develop next-generation businesses in the decarbonization sector and new energy businesses, focusing on three key areas while adopting a comprehensive perspective that oversees the entire energy value chain.

In the carbon-free energy area, we develop new businesses around hydrogen and green ammonia. In the expanding energy services area, we develop and expand the business of large-scale storage batteries, reusable batteries, and electric power platform businesses, etc. In the area of CO2 capture, storage, and utilization, we take on the challenge of creating environmental value through forestry and bioenergy businesses

LINE OF BUSINESS

1 Transportation and construction systems

2 Metallic products

SUMITOMO CORPORATION S.A

Calle Infanta Mercedes, 90. Planta 7
28020, Madrid, Spain

Website: www.sumitomocorp.com/en/europe/sceu/

Email: infra.scsp@sumitomocorp.com

Phone: +34 915553033

LINE OF BUSINESS

- 3** Infrastructures
- 4** Mineral resources, energy, chemicals, and electronics
- 5** Related to housing and real state
- 6** Energy Innovation
- 7** IMedia and ICT (information and communication technology)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Hydrogen transportation and distribution



Energy companies



Research & Development



Hydrogen production



Hydrogen storage

SUNCO CAPITAL

Calle Goya, 6 , 2 28001, Madrid



Website: <https://www.sun.co/es/>

Email: dsanmartin@sun.co

Phone: +34 644922015

Sunco Capital is involved in the development, management, and investment of renewable energy assets in Latin America and Europe from project inception to operational phases. Our vision is to generate clean energy, contributing to the creation of a more sustainable and low-CO2 emissions future.

LINE OF BUSINESS

- 1 Development
- 2 Management
- 3 Financing
- 4 Operation of renewable energy facilities

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



**Engineering
& EPC**



Energy companies



**Hydrogen
storage**



Financial sector



**Hydrogen
production**

SPANISH HYDROGEN ASSOCIATION

SWAGELOK IBÉRICA



Parque Empresarial Cervelló,
Xarelo 2, 08758 Cervelló

Website: www.swagelok.com/iberica

Email: info@iberica.swagelok.com

Phone: +34 935896000

Válvulas y Conexiones Ibérica is the authorized Swagelok sales and service center for Spain and Portugal. Swagelok products have earned a worldwide reputation for excellence by applying the latest technologies in materials and manufacturing for connection, sealing, and flow and pressure control.

Today, in addition to supplying you with components, we can also manufacture Custom Solutions and provide value-added services such as specialized training, equipment rental, hose and leak detection consulting, inventory management, and emission control consulting.

LINE OF BUSINESS

1

Solutions for fluid handling systems

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Consultancy



Engineering & EPC



Hydrogen Refueling Stations



Hydrogen vehicles



Training

TAIICHIO & WOLF PROJECTS



Calle Puerto Rico, 3 pta. 5.
46006, Valencia

Website: www.taiichio-wolf.com
Email: rlopez@taiichio-wolf.com
Phone: +34 649802553

Taiichio & Wolf Projects is part of the GreenSteel SL corporate group. It is a company specialised in Lean Supply Chain for renewable energy projects. Taiichio & Wolf Projects, along with its Korean partner SeAH Steel, is currently developing technologically leading and productively competitive pipeline solutions for the transport and distribution of hydrogen. Taiichio & Wolf Projects is currently Spain's leading supplier of steel for offshore wind and solar photovoltaic sectors. Our corporate group (GreenSteel and Taiichio & Wolf Projects) develops a certification/verification system for greenhouse gas emissions in steel production and supply with the aim of supporting actions to calculate, reduce and offset CO2 emissions. This information is key to helping companies achieve carbon neutrality.

LINE OF BUSINESS

- 1 Integral project management of steel supply chain
- 2 Steel supply chain for solar photovoltaic and offshore wind sectors
- 3 Steel supply chain hydrogen sector

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



Energy companies



Materials and components



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

TCA TÉCNICAS DE CONTROL Y ANÁLISIS



Calle de la Mora nº 40, 08918 Badalona

Website: www.tca.es

Email: tcabcn@tca.es

Phone: +34 934091280

TCA is a company with more than 36 years of experience and presence in Spain, Portugal, Argentina and Brazil, dedicated to the project and design, assembly, installation, commissioning and maintenance including all necessary supplies of control and test equipment for the automotive industry, areas of general process control and environment, power generation and propulsion engines and aerosol control technologies.

The main company represented by TCA is the Japanese technology multinational HORIBA, which has a division dedicated to fuel cell and electrolyser test benches, supplying the world's leading automotive brands and leading research centres in the application of Fuel Cell and Electrolyser technologies.

TCA also supplies, installs and maintains hydrogen purity and impurity analysis equipment of our represented V&F (Austria), a leading company in the supply of H2 quality and H2 impurity analysers. Our interest is to be part of the important development momentum that is taking place in the hydrogen production and applications sector, sharing knowledge and experience with the companies involved in this new energy stage.

LINE OF BUSINESS

- 1 Automotive
- 2 Industry & environment
- 3 Aerosols
- 4 Hydrogen & batteries

SPANISH HYDROGEN ASSOCIATION

TCA TÉCNICAS DE CONTROL Y ANÁLISIS



Calle de la Mora nº 40, 08918 Badalona

Website: www.tca.es

Email: tcabcn@tca.es

Phone: +34 934091280

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

TCI GECOMP SL

Calle Rambla Belén 8,
Entresuelo, 04008, Almería

Website: www.tci-gecomp.com

Email: mariogomez@tci-gecomp.com

Phone: +34 639543633



Engineering and Construction Company specialized in renewable energy installations and Green Hydrogen technologies.

TCI has been established in Spain and in Latin America in Chile, Peru and Argentina since 2012, where we have participated in the construction of photovoltaic and wind farms with an accumulated equivalent power of approximately 1 GW.

In the field of hydrogen, TCI is a member of H2 Chile and is currently developing its own and third party Green Hydrogen generation projects in Chile, Argentina, DR Congo and Spain for an equivalent electrical power of more than 4 GW.

LINE OF BUSINESS

- 1 Design, construction and maintenance of renewable energy installations
- 2 Green hydrogen systems engineering and consulting, promoter of green hydrogen projects

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Consultancy



Engineering & EPC



Energy companies



Research & Development



Hydrogen production

SPANISH HYDROGEN ASSOCIATION

TECHNIP ENERGIES IBERIA S.A.U.

Edificio N°8, Planta 4ª - WTC Almeda Park.
08940 Cornellà de Lobregat



Website: www.technipenergies.com

Email: jose-antonio.borque-galindo@technipenergies.com

Phone: +34 934139800

Technip Energies is an engineering company with more than 60 years of history and located in 48 countries, we execute large and complex projects globally, where we combine our extensive project management capabilities with engineering and construction execution, with our technological know-how to develop new solutions to support the world's energy transition.

Our culture of innovation has always given us a pioneering and leading edge in petrochemicals, including proprietary technology in conventional hydrogen, ethylene, refining and fertilizers, as well as in other industries such as mining and metals, pharmaceuticals, fine chemicals, nuclear, as well as off-shore platforms and floating LNG production units (FLNG).

Our recent agreement with McPhy, positions us in an excellent way to impact and embrace projects related to green hydrogen, which is key to address the energy transition. Along with this green hydrogen and our historical leadership in conventional hydrogen, we leverage our expertise in technology, engineering and construction by developing new projects based on Sustainable Chemistry (biochemistry/biofuels), as well as CO2 capture and storage (CCU).

LINE OF BUSINESS

- 1 LNG: Large and Medium Scale LNG Projects, Modularization and Floating LNG Platforms
- 2 Sustainable chemistry: biofuels, biochemicals and the circular economy
- 3 Decarbonization: energy efficiency, blue hydrogen, CCUS, advisory services.
- 4 Carbon-free energy solutions: green hydrogen, project management and integration, other (Marine and Nuclear Energy, etc.)

SPANISH HYDROGEN ASSOCIATION

TECHNIP ENERGIES IBERIA S.A.U.

Edificio N°8, Planta 4ª - WTC Almeda Park.
08940 Cornellà de Llobregat



Website: www.technipenergies.com

Email: jose-antonio.borque-galindo@technipenergies.com

Phone: +34 934139800

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



Electrolyzers



Energy companies

SPANISH HYDROGEN ASSOCIATION

TECNALIA

Paseo Mikeletegui, 2
20009 Donostia - San Sebastián



MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

Website: www.tecnalia.com/tecnologias/hidrogeno

Email: ekain.fernandez@tecnalia.com

Phone: +34 667119606

Fundación Tecnalia Research & Innovation is the first private Applied Research Center in Spain and the fifth in Europe. It emerged in 2010 as a result of the merger of 8 leading Technology Centers: Labein Foundation, Cidemco Foundation, Fatronik Foundation, Inasmet Foundation, Robotiker Foundation, European Software Institute Foundation, European Virtual Engineering Foundation and LEIA Foundation Technological Development Center. It has currently more than 1,400 employees of 30 nationalities, including researchers and support staff with several specializations (legal, juridical, technical, economic, and transfer experts).

LINE OF BUSINESS

1

Development of several technologies within the whole value chain of hydrogen, including hydrogen generation, distribution, transport, storage and end uses.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



Research & Development



Hydrogen production



Training



Hydrogen storage



Electrolyzers



Consultancy



Hydrogen compression



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

TECNALIA

Paseo Mikeletegui, 2
20009 Donostia - San Sebastián



MEMBER OF BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

Website: www.tecnalia.com/tecnologias/hidrogeno

Email: ekain.fernandez@tecnalia.com

Phone: +34 667119606

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Equipment and
systems integration
services**



**Hydrogen Refueling
Stations**



Reformer unit



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

TECNATOM



Avenida Montes de Oca 1,
San Sebastián de los Reyes, Madrid

Website: www.tecnatom.es/en/

Email: jlaparra@tecnatom.es

Phone: +34 916598600

Tecnatom is an international engineering business group founded in 1957. Its main business is the energy sector, although it also has solutions for the industrial and aeronautical sectors.

Tecnatom's main objective is to support its clients in the management of processes, people and assets, developing solutions for safe and efficient operation. Tecnatom is currently present in 10 countries and has projects in more than 40.

Tecnatom's portfolio of products and services is based on our extensive experience in safety, training, operation and maintenance, inspection and testing, and process digitalization.

Within the hydrogen sector, Tecnatom provides solutions in inspection and maintenance, system and process simulation, safety management and training with the transfer and retention of critical knowledge.

In its clear commitment to technology and innovation, Tecnatom invests 10% of its annual revenues in technological developments to remain state-of-the-art, with digital solutions such as the TecOS suite of operating solutions, or the SOUL and Hup on-line training platforms.

In addition, Tecnatom is a member of several associations in the energy and related sectors: AeH2, PTe H2, AEE, Protermosolar, Sustainable Nuclear Energy Technology Platform (SNETP), Foro Nuclear, Materplat, Hisparob, Tedae, PAE, Futured...

Avenida Montes de Oca 1,
San Sebastián de los Reyes, Madrid

Website: www.tecnatom.es/en/

Email: jlaparra@tecnatom.es

Phone: +34 916598600

LINE OF BUSINESS

- 1 Renewable energy, nuclear, thermal, energy storage and hydrogen sectors
- 2 Other industries, such as oil & gas, aeronautics or railways
- 3 Inspection and testing of systems/equipment, covering multiple sectors
- 4 Development of highly specialized products
- 5 Development of asset operation support solutions (from applications to O&M manuals)
- 6 B2B & B2C training

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Equipment and systems integration services



Engineering & EPC



Hydrogen storage



Training



Energy companies

SPANISH HYDROGEN ASSOCIATION

TECNICA DE FLUIDOS



Av. de las Palmeras 18 Naves A-7-8-9
28350, Ciempozuelos

Website: www.tecnicafluidos.es
Email: tdfmadrid@tecnicafluidos.es
Phone: +34 918757656

Técnica de Fluidos was founded in 1976. Since then, our main motivation has been to offer the best solutions in the transfer of difficult products. Our dedication and extensive experience has placed us in a leading position in the manufacture, distribution and installation of pumping equipment, instrumentation and related products.

In Técnica de Fluidos we aim to offer an integral service to our customers and that is why we have specialized technical departments based on both types of products: Pumping Equipment, Systems, Instrumentation, Mechanical Seals and Industrial Filtration.

Our instrumentation department has qualified personnel with more than 25 years of experience and offers different products and solutions in pressure, level, flow and temperature for different sectors and industries:

- Chemical
- Research
- Energy, Oil & Gas
- Petrochemical
- Alternative fuels
- Semiconductors

Our product range includes Mechanical Instrumentation (valves, fittings, pressure regulators, accessories,...), Control Products (pressure switch, flow switch,...) and different instruments in Flow, Pressure, Temperature and Level used in gas and liquid applications.

SPANISH HYDROGEN ASSOCIATION

TECNICA DE FLUIDOS



Av. de las Palmeras 18 Naves A-7-8-9
28350, Ciempozuelos

Website: www.tecnicafluidos.es
Email: tdfmadrid@tecnicafluidos.es
Phone: +34 918757656

LINE OF BUSINESS

1

Pumping equipment, systems, instrumentation, mechanical seals and industrial filtration. Offering high quality complete solutions for dosing, transferring, filtration and instrumentation.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**



**Equipment and
systems integration
services**



Consultancy



Energy companies

SPANISH HYDROGEN ASSOCIATION

TÉCNICAS REUNIDAS S.A.

Avda. de Burgos, 89 Adequa Edificio, 6
28050 Madrid, Spain



Website: www.tecnicasreunidas.es

Email: tr@tecnicasreunidas.es

Phone: +34 915920300

Spanish company Técnicas Reunidas is one of the most important companies in its sector on an international scale, with a presence in 25 countries and a track record of more than 1.000 industrial plants throughout its 60 years of experience. It's business is mainly focused on the implementation of engineering projects, development of industrial plants for clean fuels and petrochemical products, production and processing of natural gas, and the promotion of engineering technologies of low carbon emissions such as a green hydrogen, CO2 capture and storage, biofuels, waste recovery, etc. It has more than 6,800 employees, most of these ones highly qualified engineers, thus making its headquarters in Madrid and center of excellence in engineering activities.

LINE OF BUSINESS

- 1 Clean fuels
- 2 Petrochemicals
- 3 Natural gas
- 4 Hydrogen
- 5 Carbon capture and storage
- 6 Circular Economy

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Engineering & EPC



Research &
Development



Hydrogen production



Reformer unit

SPANISH HYDROGEN ASSOCIATION

TEIGA TMI, S.L.

Rúa Parroquia de Guísamo, 7B
15166, Bergondo, A Coruña



Website: www.teigatmi.com

Email: teigatmi@teigatmi.es

Phone: +34 981783535

TEIGATMI is a leading company in the provision of industrial services throughout the life cycle of assets. TEIGATMI has been in business for more than 40 years, making it a solid company and a benchmark in the sector. Our capabilities and references set us apart: engineering and solutions, installation and assembly, manufacturing, maintenance, commissioning. We offer quality solutions to meet our customers' needs.

TEIGATMI is currently focused on the energy transition, renewable energies and digitalisation, although our references over the last few years include sectors as diverse as the petrochemical, energy and food industries. Our strength in the national market is a reflection of our aspiration: to evolve and achieve new goals in all parts of the world, from Europe to Asia, Latin America and the Middle East. The company's international vocation has led TEIGATMI to work in various countries, and the company currently has a permanent presence through subsidiaries or branches in Peru, Portugal, Panama and Mexico.

LINE OF BUSINESS

- 1 Services during construction and in the operation and maintenance phase of the assets
- 2 In the construction phase, TEIGATMI provides mechanical, electrical and instrumentation assembly services
- 3 In the operation phase, in addition to maintenance services, TEIGATMI has extensive experience in plant expansion and renovation projects
- 4 Within the solutions business line, TEIGATMI is a supplier of electrical panels and offers automation services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

TELAM PARTNERS



Av. Diagonal, 463bis, 9-2, 08036 Barcelona

Website: www.telampartners.com/

Email: capgar@telampartners.com

Phone: +34 932387711

Telam Partners is a strategic advisory firm specialized in financing and market entry across all sectors involved in the transition towards the new sustainable economy, including energy, transportations, logistics, AI and circular economy. Telam scales up innovative business projects, designing and executing international market entry acceleration strategies, creating opportunities with key partners worldwide. Telam also designs complex financial structures and connects clients with equity and debt from global institutional investors.

LINE OF BUSINESS

1 Market entry

2 Project finance

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Electrolysers



Fuel cells

SPANISH HYDROGEN ASSOCIATION

TOYOTA ESPAÑA S.L.U.



Avenida de Bruselas, 22. 28108
Alcobendas, Madrid

Website: www.toyota.es/electrificacion/hidrogeno

Email: corporate@toyota.es

Phone: +34 911513300

Toyota, with its Toyota and Lexus brands, is a world leader in the commercialization of electrified engines, with more than 21 million electric hybrid cars sold worldwide and 380,000 units in Spain since 1997. Toyota's electrification roadmap, with its sights set on a society without CO2 emissions, started more than 25 years ago with the birth of hybrid technology and, since then, we have continued working towards that goal.

To face environmental challenges, the company places hydrogen technologies in the foreground, trying to make it the main energy source of tomorrow's society. A future society in which not only there will be no emissions, but we will also go further, connecting people, buildings and vehicles in a single ecosystem, which will rise to a better society, with mobility for all as its axis, a mobility that it goes beyond cars and is all about overcoming challenges and making dreams come true.

LINE OF BUSINESS

1 Toyota Spain distributes, markets and provides after-sales service to vehicles

- Hybrids
- Plug-in hybrids
- Battery electric cars
- Hydrogen fuel cell electric vehicles

of the Toyota and Lexus brands, from its headquarters in Alcobendas (Madrid), with a network of 200 points of sale and 222 assistance points.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
vehicles**

SPANISH HYDROGEN ASSOCIATION

TRAFAG ESPAÑA, S.L.



Parque Tecnológico de Bizkaia, Edificio 208.
48170, Zamudio, Bizkaia

Website: www.trafag.com/es-es/

Email: ivan.blanco@trafag.es

Phone: +34 667843260

Trafag is one of the world's leading suppliers of high-quality sensors and monitoring devices for pressure, temperature and density of SF6 gas. In addition to a wide range of standardised and configurable products, Trafag also develops customised solutions for OEM customers.

Trafag pressure transmitters, pressure switches, temperature transmitters and thermostats are used in shipbuilding, hydraulics, hydrogen, the railway industry, large engines, explosion risk areas (EX), water treatment systems, test benches and more.

The renewable hydrogen sector is experiencing unprecedented political and business momentum, which is why we at Trafag have set ourselves the goal of consolidating our position as a leading supplier of hydrogen compatible pressure and temperature transmitters, thus contributing to sustainable industrial development and the improvement of the environment.

Trafag was founded in 1942 and is based in Switzerland. The company has an extensive distribution and service network in more than 40 countries worldwide. This enables the company to offer an individual and competent consulting service and guarantees fast service. Efficient development and production departments not only guarantee the fast and reliable delivery of our high quality and precision products, but also ensure that customisations can be carried out at short notice.

LINE OF BUSINESS

- 1 Shipbuilding & railway
- 2 Hydrogen
- 3 Wind energy

SPANISH HYDROGEN ASSOCIATION

TRAFAG ESPAÑA, S.L.



Parque Tecnológico de Bizkaia, Edificio 208.
48170, Zamudio, Bizkaia

Website: www.trafag.com/es-es/

Email: ivan.blanco@trafag.es

Phone: +34 667843260

LINE OF BUSINESS

- 4 Water treatment
- 5 Hydraulics
- 6 Process technology
- 7 Mechanical engineering
- 8 Mining
- 9 Test benches
- 10 Gas density
- 11 Explosive areas
- 12 General industry

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Materials and
components**

SPANISH HYDROGEN ASSOCIATION

TRANS-GRAU, S.L.



Camí Vell Onda - Castelló, s/n.
12540, Vila-real

Website: www.transgrau.es

Email: eliseo@transgrau.es

Phone: +34 964506250

International road freight forwarding company founded in 1972. Specialized in transport from Spain to the south of France and north of Italy and vice versa.

LINE OF BUSINESS

- 1 Breakbulk and groupage cargo from Spain to southern France and Italy and from Italy to southern France and Spain
- 2 Distribution warehouses in Vila-real and Sassuolo (Modena, Italy)
- 3 Transport of goods of special sizes between Spain and Italy and vice versa

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Hydrogen
vehicles**



**Hydrogen Refueling
Stations**



Fuel cells

SPANISH HYDROGEN ASSOCIATION

TRESCA INGENIERÍA



Calle Julia Morros s/n , 2º Planta Edif.
Usos Comunes, Parque Tecnológico de León (León) , 24009

Website: <https://tresca.es/>

Email: leon@tresca.es

Phone: +34 987275066

Tresca Ingeniería S.A. was founded in 2001 as an engineering and consultancy services company with an industrial profile. Over time and with the experience acquired, it extended its scope of action to the large industry and energy sectors, also expanding its presence throughout Spain and with an international presence in more than 30 countries. Tresca Ingeniería, today, is a company specialising in multidisciplinary engineering, in the fields of energy, oil & gas, industrial plants and installations, mining, chemical and pharmaceutical and railway engineering, providing civil engineering, electrical engineering, mechanical engineering and industrial architecture services, with a capacity to develop process engineering and high added value. Tresca Ingeniería also has an exclusive division dedicated to the integral project management of new projects and extensions of existing ones, ranging from the conceptual engineering phases to site management, including purchasing management. Tresca Ingeniería has important references and certifications that comply with international standards regularly audited by its clients.

LINE OF BUSINESS

1 Hydrogen Technology

2 Industry

3 Energy

4 Chemistry

5 Pharmacy

SPANISH HYDROGEN ASSOCIATION

TRESCA INGENIERÍA

Calle Julia Morros s/n , 2º Planta Edif.
Usos Comunes, Parque Tecnológico de León (León) , 24009



Website: <https://tresca.es/>

Email: leon@tresca.es

Phone: +34 987275066

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Financial sector



Consultancy



**Equipment and
systems integration
services**



Engineering & EPC



**Certification and
insurance**

SPANISH HYDROGEN ASSOCIATION

TSK ELECTRONICA Y ELECTRICIDAD S.A.



PARQUE CIENTIFICO Y TECNOLOGICO, Calle Ada
Byron 220, 33203 Gijón, Asturias

Website: www.grupotsk.com

Email: grupotsk@grupotsk.com

Phone: +34 984495500

TSK is a global Company that specializes in the execution of complex projects at an international level providing its own technology for different sectors in industry such as electrical infrastructures, industrial plants, energy generating power plants (conventional or renewable), Oil&Gas, water treatment plants or installations for handling and storage of raw materials.

Energy: • Biomass and Urban Solid Waste generation plants • Conventional power generation plants (Coal, CCGT, Geothermal) • Thermosolar plants • Wind farms • Photovoltaic power plants • Hydroelectric plants • Green Hydrogen and e-fuel production plants
Electrical infrastructures: • Power lines and substations • Manufacture of electrical and control equipment and installations
Industry and environment: • Industrial projects (steel, cement, food or paper) • Water supply and treatment systems
Material handling and mining • Solid bulk handling port terminals • Conveyor systems • Storage and homogenization parks
Oil & gas • Pipelines, gas pipelines and compression stations • Regasification stations and fuel storage

LINE OF BUSINESS

- 1 Energy
- 2 Infrastructure
- 3 Gas to power
- 4 Industry
- 5 Digital innovation and Handling
- 6 Environment

SPANISH HYDROGEN ASSOCIATION

TSK ELECTRONICA Y ELECTRICIDAD S.A.



PARQUE CIENTIFICO Y TECNOLOGICO, Calle Ada
Byron 220, 33203 Gijón, Asturias

Website: www.grupotsk.com

Email: grupotsk@grupotsk.com

Phone: +34 984495500

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Equipment and
systems integration
services**

SPANISH HYDROGEN ASSOCIATION

TÜV SÜD IBERIA



Ronda de Poniente 4; Parque Empresarial Euronova;
28760, Tres Cantos

Website: www.tuvsud.com

Email: esther.bermejo@tuvsud.com

Phone: +34 652904392

In 1866, our founders had a bold vision to reduce the impact of technological risks and protect people, assets and the environment. More than 150 years on, sustainability and safety continue to be the backbone of our mission and services. Our aim is to inspire trust in technology, enabling progress by managing technology-related risks and facilitating change. This commitment is embodied in our claim “Add value. Inspire trust.” We work progressively towards being the trusted partner of choice for safety, security and sustainability solutions, adding tangible value to our clients globally. As we look towards the future, we believe that sustainability and digitalisation will continue to shape the narrative of commerce and society. Today, we are represented by more than 25,000 employees located across over 1,000 locations. Our community of experts is passionate about technology and is inspired by the possibilities of your business. United by the belief that technology should better people’s lives, we work alongside our customers to anticipate and capitalise on technological developments. Going beyond regulatory compliance, we inspire trust in a physical and digital world to create a safer and more sustainable future.

LINE OF BUSINESS

1

Conformity assessment services in different sectors such as industry

2

Non-statutory and voluntary technical assistance services including consultancy, advice and training

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Certification and insurance

SPANISH HYDROGEN ASSOCIATION

TYPSA, TÉCNICA Y PROYECTOS S.A.

Calle Gomera, N°9, 28703
San Sebastián de los Reyes

Website: www.typpsa.com/

Email: H2@typpsa.es

Phone: +34 670850173 / +34 917 227 300



TYP SA is an independent consulting and engineering services group, and a leader in infrastructure, energy, environmental and city solutions. The Group has over 50 years' experience supporting public, private, and institutional clients in developing transport, water, buildings, renewable energy and rural development projects, from concept through to commissioning and operation.

We work to the highest technical, sustainability and integrity standards, which enables us to participate in emblematic projects on the five continents and has contributed to our long track-record with International Financing Institutions. The Group is growing through innovation, introducing the full potential of BIM and virtual reality across the whole buildings and infrastructure lifecycle, with a circular economy approach, creating asset management platforms and developing new value-engineering solutions.

LINE OF BUSINESS

1

TYP SA's services cover the full project cycle, assisting clients with the analysis of investments, project preparation, implementation support and capacity building.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Engineering & EPC

TW SOLAR



Calle Veinat San Daniel 90; 08490
Tordera, Barcelona

Website: www.twsolar.com
Email: info@twsolar.com
Phone: +34 981229959

TW Solar is a Spanish company with an international presence in Europe, Latin America and the United States of America. With more than 15 years of experience in the renewable energy market, the company has created and formed work teams that apply in each market with the best practices found in the most competitive environments. The company has a strong technological vocation.

We focus on meeting the needs of each client by offering high-quality custom projects and comprehensive solutions. Our value added services are the result of the combination of experience and market knowledge. Currently, we are developing 6 MW of projects in different countries in the US, Mexico, Colombia, Italy, Portugal and Spain. Our clients and partners include some of the largest operators on the market: Top-tier solar module manufacturers Investment funds IPP EPC providers Electric companies Utilities Our offices are located in Spain, Mexico and Colombia.

LINE OF BUSINESS

- 1 Development of photovoltaic and wind projects
- 2 Development of green hydrogen generation projects
- 3 Energy efficiency thanks to the area dedicated to self-consumption

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Hydrogen storage



Hydrogen Refueling Stations



Hydrogen production



Hydrogen transportation and distribution

SPANISH HYDROGEN ASSOCIATION

UNIVERGY RENOVABLES HIDRÓGENO S.L.



Calle Serrano, 41 3º dcha. 28001. Madrid

Website: www.univergysolar.com

Email: julio.hidalgo@univergysolar.com

Phone: +34 606747090

Univergy is a Spanish-Japanese company specialized in the development of Solar, Wind and Green hydrogen projects. We established the company in 2012 and, since then, we have experienced a significant growth and we have today a relevant international presence.

Our reference markets are located in Europe, Asia-Pacific and Latin America. We are currently in a process of fully integration in the value chain of Renewable Energies and Green Hydrogen, offering services of EPCM management and entering in the IPP business. Univergy Solar group is currently developing projects, either directly or through its alliances, in 19 countries.

LINE OF BUSINESS

- 1 Development, construction and operation of Renewable Energy and Green Hydrogen projects at international level.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Engineering & EPC



Hydrogen production



**Hydrogen Refueling
Stations**

UNIVERSAL H2

Rua Guerra Junqueiro 473 4150-387
Porto, Portugal

Website: www.uh2.eu

Email: info@uh2.eu

Phone: +35 1226091243



Universal H2 is an independent developer of industrial green hydrogen and ammonia projects. UH2's mission is to enable decarbonization and drive the energy transition with full production facilities on 3 continents.

Universal H2 has extensive experience in hydrogen production and storage solutions. Combined mainly with solar energy, our hydrogen solutions are 100% green and cover the entire value chain, from H2 production technologies, to hydrogen as energy storage, enabling energy transition in 'hard to decarbonize' sectors.

With high standards and a futuristic vision, Universal H2 aims to produce energy close to consumption and reduce dependence on the grid.

LINE OF BUSINESS

- 1 Development of hydrogen and ammonia production projects, including design and engineering, land leasing, financial support, construction, maintenance and management.

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Research &
Development



Hydrogen storage



Hydrogen
compression



Hydrogen
production



Hydrogen transportation
and distribution

SPANISH HYDROGEN ASSOCIATION

UNIVERSIDAD DE BURGOS

Hospital del Rey s/n. Edificio de Rectorado
09001 Burgos



Website: www.ubu.es
Email: sec.investigacion@ubu.es
Phone: +34 947258731

The University of Burgos is a public university, recognised among the best young universities in the world, which develops its mission based on the provision of high quality and comprehensive teaching, very close to the student and focused on internationalisation.

Founded in 1994, the UBU is already a referent in Spanish university research and in the transfer of knowledge to the business world. Recognised by the Ministry of Education as a Campus of International Excellence, it belongs, along with 7 other universities on the continent, to the EMERGE European university project.

It currently offers 26 bachelor's degrees, 5 of which are taught online and face-to-face and 2 are bilingual in English and Spanish, in addition to 7 double degrees, 27 master's degrees, 13 doctoral programmes and 16 private degrees.

In relation to the capabilities and possibilities around hydrogen, the university has a Hydrogen Laboratory (H2-Lab), which has the necessary equipment to study and test the behaviour of materials in an H2 environment and the susceptibility to embrittlement of different kinds of alloys.

This equipment allows a wide variety of standardised tests to be performed in a hydrogen gas environment at high pressure (up to 300 bar) and high temperature (up to 300°C): traction tests with smooth or carved samples, fracture toughness tests and fatigue tests. Electrochemical and gas permeation tests. LECO analyser for hydrogen content measurements.

SPANISH HYDROGEN ASSOCIATION

UNIVERSIDAD DE BURGOS

Hospital del Rey s/n. Edificio de Rectorado
09001 Burgos



Website: www.ubu.es
Email: sec.investigacion@ubu.es
Phone: +34 947258731

LINE OF BUSINESS

- 1 Specialised training. Master's degree in Hydrogen Technologies
- 2 Material characterisation tests in a pressurised hydrogen environment
- 3 Numerical simulation of material behaviour and development of models for studying permeation, diffusion and embrittlement
- 4 Preparation of catalysts for the hydrogenation of carbon dioxide to formic acid
- 5 Reverse process of dehydrogenation of formic acid to carbon dioxide and hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



**Research &
Development**



Public sector

Avda. de las Universidades s/n, 41704,
Dos Hermanas, Sevilla

Website: www.uloyola.es

Email: dsengelhardt@uloyola.es

Phone: +34 955641600 (Ext. 2753)

Loyola University brings together a unique and outstanding experience in relation to hydrogen as an energy vector. It leads the development of hydrogen technologies through projects promoted from the Loyola Innovation Hub in collaboration with high-level companies such as Acciona, H2B2, PROTIO POWER or CiTD, among others.

More than €1,000,000 has been mobilized in co-development projects, generating techno-economic models related to green hydrogen, and building an experimental laboratory (Laboratory of Hydrogen Technologies) equipped with instrumentation and specific infrastructure to carry out tests with hydrogen .

There is full involvement of our own researchers and staff from the aforementioned companies, incorporating new doctoral students and technicians who together add value to a group of excellence.

Likewise, Loyola University teaches the first official hydrogen master's degree in Spain: "University Master's Degree in Hydrogen Energy and Technologies", which responds to the needs of the energy, business and industrial markets that are increasingly committed to decarbonisation, renewable energies, renewable hydrogen and energy storage.

LINE OF BUSINESS

- 1 Study under various conditions of PEM and AEM electrolysers, and PEM fuel cells
- 2 Study of degradation and new materials related to the production of green H₂
- 3 Transformation of H₂ into green NH₃
- 4 Simulation and analysis of the storage and transport of green H₂

SPANISH HYDROGEN ASSOCIATION

UNIVERSIDAD LOYOLA



Avda. de las Universidades s/n, 41704,
Dos Hermanas, Sevilla

Website: www.uloyola.es

Email: dsengelhardt@uloyola.es

Phone: +34 955641600 (Ext. 2753)

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Training



**Research &
Development**

UNIVERSITAT ROVIRA I VIRGILI

Calle de l'Escorxador s/n.
43003, Tarragona

Website: www.urv.cat

Email: h2valleycat@urv.cat

Phone: +34 629872618 / +34 619 131 206

The Universitat Rovira i Virgili (URV) (www.urv.cat) is ranked 3rd in the U-Ranking 2020, which ranks the 88 Spanish universities by evaluating their teaching, research and innovation activities. The URV is the engine of sustainable development, economic, social and cultural innovation of the Catalonia-South territory, with international vocation.

Thus, the URV is a member of the Aurora alliance, a network of 9 European universities recognized as European University Network. The community of students, teachers-researchers and administrative staff is almost 21,000 people and students and professionals are trained in virtually all areas of knowledge, of which 80% enter the labor market in <6 months.

The URV's commitment to the territory and sustainability is reflected through the leadership assumed in the Hydrogen Valley Catalonia project (www.h2valleycat.urv.cat/es/), selected by the Catalan Government as one of the driving force projects of European funds for economic recovery Next Generation Catalonia. All the agents (more than a hundred) that make up the value chain of green hydrogen, as an energy vector, participate in this territorial initiative, which initially includes 30 projects that will generate knowledge, research, production, distribution and use and will allow to face the climate challenge and activate a new green economy that generates prosperity and an energy neutral and sustainable society.

LINE OF BUSINESS

1 Higher education, research and knowledge transfer

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



**Research &
Development**



Public sector

URBAS ENERGY



Calle del Prof. Potter 126. 33203. Gijón, Asturias

Website: <http://www.energy-urbas.com/>

Email: eduardo.tamargo@grupourbas.com

Phone: +34 985200384

Urbas Energy is a company with an international presence, committed to sustainable solutions. We offer Engineering, FEED, EPC and project development services. We design and execute renewable energy projects, green hydrogen production plants and its applications such as ammonia synthesis, fertilizer production or other Power-to-X technologies. Urbas Energy is part of Grupo Urbas, a leading company in the fields of real estate, infrastructure, sustainable construction, architecture and operation, providing financial capacity and global resources.

LINE OF BUSINESS

- 1 Project development
- 2 FEED and Engineering Services
- 3 EPC Projects
- 4 O&M Services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Research & Development



Equipment and systems integration services



Engineering & EPC



Hydrogen production



Reformer unit

URVA FLUIDOS INDUSTRIALES, S.L.

Calle Papiro N°28, pol ind. La Negrilla.
41016, Seville

Website: www.urvafluidos.com

Email: patricia@urvafluidos.com

Phone: +34 954404359

URVA FLUIDOS INDUSTRIALES is a company dedicated mainly to the distribution of industrial valves, with the exclusive representation of different renowned manufacturers in the sector and the added value of the technical advice offered by our engineering team throughout the purchasing process.

Characterized by offering personalized services, we perform valve automation and offer engineering services of the highest level.

LINE OF BUSINESS

- 1 Distribution of industrial valves and engineering services

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Materials and components



Equipment and systems integration services



Consultancy



Engineering & EPC



Hydrogen storage



Training

SPANISH HYDROGEN ASSOCIATION

VAINDUSA S.L.



Calle Calderón de la Barca, 8 Pol. Ind. Paracuellos de Jarama
28860 Paracuellos de Jarama

Website: www.vaindusa.es

Email: vaindusa@vaindusa.es

Phone: +34 916582125

Válvulas y accesorios. Distribución de válvulas, actuadores neumáticos y eléctricos, niveles, instrumentación, accesorios y filtros.

LINE OF BUSINESS

1 Wholesale trade of woodworking and metalworking machinery

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

VALCAT DESARROLLOS RENOVABLES

Calle Marconi 4-5 Polígono industrial Avanzado
Ciudad Real CP 13005

Website: www.valcatrenovables.com
Email: jjlopez@valcat-inversiones.com
Phone: +34 635158640

Valcat is a dynamic company formed by a team with more than 20 years of experience in the renewable sector dedicated to the development, construction and operation and maintenance of renewable generation plants, mainly photovoltaic.

It is immersed in the development of more than 400 MW of photovoltaic power plants in Spain, some of them with the objective of generating energy for green hydrogen plants.

LINE OF BUSINESS

- 1 Development, construction and operation and maintenance of photovoltaic plants

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Equipment and
systems integration
services**



Energy companies

SPANISH HYDROGEN ASSOCIATION

VÁLVULAS PHIVAL, S.L



Avenida Montseny, 11B 08812
Sant Pere De Ribes, Barcelona

Website: www.valvulas-phival.com

Email: ventas@valvulas-phival.com

Phone: +34 937822766

From VÁLVULAS PHIVAL, a company with extensive experience in the national and international industrial sectors, we offer a wide range of technical solutions to all types of industrial installations in the field of valve and engineering. Always working with products from the best manufacturers internationally, with the current certificates that the industry currently demands, we provide an extensive number of customers with the highest quality in the supply of valves, as well as engineering services that can demand any type of industry related to fluid control.

Our goal as a company is that our customers improve their facilities in safety and performance with the best materials, reducing their maintenance costs and maximizing their production. Valves PHIVAL has an international logistics service that allows us to offer our products in an efficient and fast way to all our customers regardless of their location.

LINE OF BUSINESS

1 Globe valves with and without bellows, gate valves, check valves, control valves, plug valves, ball valves, butterfly valves, sample valves, bottom tank valves

2 Filters

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC



**Equipment and
systems integration
services**



**Materials and
components**

Ronda Auguste y Louis Lumière,
6, 46980 Paterna, Valencia

Website: vgplanet.es

Email: cmoreno@vgplanet.es

Phone: +34 617171664

We are developers of renewable energy, green hydrogen and renewable gas projects with more than 20 years of experience in engineering and consulting with international reach, with the firm objective of helping companies reduce their cost and decarbonize their processes and activities.

LINE OF BUSINESS

- 1 Land prospecting
- 2 Feasibility studies
- 3 Financing
- 4 Processing
- 5 Basic and detail engineering
- 6 Continuous auditing

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy



Industrial gases



Electrolyzers



CHP systems



Reformer unit



Fuel cells

SPANISH HYDROGEN ASSOCIATION

VGPLANET



Ronda Auguste y Louis Lumière,
6, 46980 Paterna, Valencia

Website: vgplanet.es

Email: cmoreno@vgplanet.es

Phone: +34 617171664

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Hydrogen vehicles



Energy companies



Hydrogen storage



Public sector



**Equipment and
systems integration
services**



**Hydrogen
compression**



Financial sector



Engineering & EPC



**Hydrogen Refueling
Stations**



Training



**Research &
Development**



Hydrogen production

VINCI ENERGIES ESPAÑA, S.A.U.

Paseo de la Castellana 41, 2ª Planta
28046, Madrid

Website: www.vinci-energies.es/es/
Email: agustin.gomez@omexom.com
Phone: +34 620979816

In an ever-changing world, VINCI Energies focuses on connections, performance, energy efficiency and data, to accelerate the deployment of new technologies and support two major shifts: digital transformation and energy transition.

Keeping pace with market change, VINCI Energies supports its customers by offering increasingly innovative solutions and services, from design to implementation, operation and maintenance. With its strong regional roots and agile organizational structure, VINCI Energies' 1,800 business units increase the reliability, safety and efficiency of energy, transportation and communication infrastructure, factories and buildings.

LINE OF BUSINESS

- 1** OMEXOM: is the brand specialized in the generation, transmission, transformation and distribution of electric power
- 2** AXIANS is the brand specialized in information and communication technologies (ICT) for IT and communication infrastructures.
- 3** ACTEMIUM is the brand 100% specialized in the industrial sectors: chemical, logistics, aerospace, automotive...

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Hydrogen transportation and distribution



Energy companies



Hydrogen storage

VODIK GREEN ENERGY



Edificio Niza, C. de Caleruega, 81, 4ºA,
28033 Madrid

Website: www.vodik.es

Email: fagudin@vodik.es

Phone: +34 616468380

The company VODIK, born from the convergence between REGENERA LEVANTE and IDEA INGENIERÍA in May 2021, was created to provide a solution to the energy needs of its customers in a sustainable way by betting on hydrogen technology.

VODIK's mission is the promotion and implementation of the use of green hydrogen, from generation to demand, in new and existing business models, with special focus on industry.

VODIK is an expert in the integrated management of energy, renewable and green hydrogen projects, from the engineering phase to construction. VODIK improves the efficiency and sustainability of companies through the implementation of green hydrogen energy solutions, such as:

- Energy feasibility studies.
- Consulting.
- VODIK is an Energy Services Company: customized solutions for the optimization of customer's energy solutions.
- Promotion: Carrying out all administrative, technical, environmental and any other type of procedures up to the Ready to Build stage.
- Development of the energy solution (EPC)

LINE OF BUSINESS

1 Consulting, engineering, EPC of green H2

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Consultancy



Engineering & EPC



Certification and insurance



Research & Development



Training

SPANISH HYDROGEN ASSOCIATION

WATER2KW

Avenida de Brasil 6, 28020, Madrid



Website: www.water2kw.com

Email: soporte@water2kw.com

Phone: +34 911 126 707

With an average of 25 years of experience in the energy sector, the Water2kW team is prepared to tackle multidisciplinary projects in the field of Hydrogen. Thanks to the previous experience of our team in senior management positions in energy multinationals with a global presence, we have solid knowledge in the technological, economic, legal and commercial fields. Currently focused on the hydrogen and renewable energy sector.

LINE OF BUSINESS

- 1 H2umidity® produces green hydrogen in almost any circumstance, even in environments and processes where water is not available

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Hydrogen transportation and distribution



Hydrogen storage



Energy companies

WATSON FARLEY & WILLIAMS

Calle de María de Molina, 4, 28006 Madrid

Website: www.wfw.com

Email: ddiez@wfw.com

Phone: +34 915156300

Watson Farley & Williams is an international law firm advising on complex transactions and disputes through local knowledge and an integrated international network. They have a strong sector focus, combining their technical excellence with deep industry knowledge across energy, transport and associated infrastructure.

With a global network of more than 500 lawyers and a presence in the world's major financial centers, their business exists to help their clients achieve their goals, partnering with them to meet the challenges they face today and will face tomorrow.

Their values rest on developing deep and long-lasting relationships externally and internally through respect, sharing, communication and integrity. Watson Farley & Williams strive for excellence in everything they do and view investment in their people as key to achieving their business goals and values. Their teams are integrated across legal disciplines and offices delivering consistently high levels of service locally and in combination across borders.

LINE OF BUSINESS

1 Energy, transport and infrastructure

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Consultancy

SPANISH HYDROGEN ASSOCIATION

WHITE SUMMIT CAPITAL

Calle Serrano 21, 28001 Madrid



Website: www.whitesummitcap.com/

Email: alexander.orourke@whitesummitcap.com

Phone: +34 665277060

White Summit Capital is a long-term investor and asset manager specializing in identifying superior capital deployment opportunities in the infrastructure and energy sectors. Our strategy is based on fostering long-term relationships with industry players in order to provide creative and flexible capital solutions to their evolving needs. Thanks to our multidisciplinary and highly experienced team, we have the ability to execute transactions quickly and confidentially. We focus on best-in-class asset management to ensure long-term value creation, capital protection and cash performance.

LINE OF BUSINESS

- 1 Investment and management of energy infrastructures and assets, including green hydrogen

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Energy companies



Hydrogen
production



Financial sector



Research &
Development

WITZENMANN ESPAÑOLA, S.A.

Calle Livorno s/n. Polígono Industrial Henares.
19004, Guadalajara

Website: www.witzenmann.es

Email: sergio.ruiz@witzenmann.com

Phone: +34 949325222

Witzenmann is the world leader of metallic elements for the conduction of media and energy. With more than 160 years of history and headquarters in Germany, it currently counts with 4,400 employees distributed in 18 countries. The group, committed to the sustainability and digitization of its products and services, exceeds an annual turnover of 620 million euros and holds more than 2,800 patents. Its most relevant products are: piping systems, expansion joints, metal bellows, stainless steel hoses and pipe supports.

LINE OF BUSINESS

- 1 Solutions for media conduction and energy dissipation in vehicles
- 2 Fluid transport for electrolyzers
- 3 Combined energy systems, hydrogen production and compression systems
- 4 Service stations
- 5 Batteries and tanks
- 6 Reformers, and rigid and flexible piping systems for general connection and transportation of media

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Engineering & EPC

WOLFTANK IBERIA



Calle Andalucía, 14, 28864 Ajalvir, Madrid

Website: www.wolftank.es
Email: santiago.ramas@wolftank.com
Phone: +34 657355972

Wolftank Iberia is a manufacturer of fixed, modular or transportable hydrogen refuelling stations with more than 20 years of experience and participation in more than 100 projects internationally. From small stations for demonstrations to large facilities for more than 30 buses per day. Austrian manufacture under the strictest quality and safety controls. Sale, technical support, installation, permitting and maintenance in country. The company is a leading technology partner in energy and environmental solutions.

In the field of energy mobility and logistics, it helps its customers to execute projects in an efficient and environmentally friendly way. To this end, it develops and implements the technologies of tomorrow to decarbonise transport and build the infrastructure necessary for zero-emission mobility, such as the turnkey delivery of modular hydrogen and LNG refuelling facilities. In the field of environmental solutions, the offer includes due diligences for environmental risks, customized services for soil and groundwater recovery, as well as recycling. Its concern for environment protection is also evident through its Wetstock Management services. Wolftank Iberia is part of Wolftank Group, an international group based in Innsbruck, Austria, which has been operating worldwide for more than 30 years.

LINE OF BUSINESS

1 Hydrogen Refueling Stations

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Equipment and systems integration services



Engineering & EPC



Hydrogen Refueling Stations



Hydrogen compression

SPANISH HYDROGEN ASSOCIATION

WORLEY



Paseo de la Castellana 182-184.
Madrid 28046, Spain

Website: www.worley.com/
Email: salesmadrid@worley.com
Phone: +34 917991092

Worley is a worldwide team of 51,000 consultants, engineers, construction workers and data scientists committed to solve the complexity of the energy, chemicals and resources sectors. We deliver projects and provide engineering, procurement and construction expertise to the upstream, midstream, chemicals, power, and mining and metals sectors. We work with our customers at every stage of their project: from initial concepts to sustaining and enhancing their assets. We've been involved in commercial applications of H2 for decades. Low-carbon H2 might only have emerged recently, but we were there from the start. We've assembled the expertise to design how to produce, transport, store, process and use it. We work across industries touching on every step of the low-carbon H2 journey, playing a leading role in pioneering projects, including among others:

- Technical advisory (market assessment, feasibility, competitive analysis, partner outreach, manufacturing strategy, etc.) and Owner's Engineer for NEOM's green H2 program, Saudi Arabia.
- Project configuration definition, feasibility study and conceptual design (including CAPEX/OPEX estimate) of 3 facilities (>1GW) to produce green H2 for the steel industry, Spain.
- FEED for a 100MW green H2 plant integrated into the Phillips66 Humber refinery, UK.
- Engineering services for Shell's 10MW green H2 plant, integrated in Wesseling Refinery, Germany, and already operating (commissioned in 2021).

LINE OF BUSINESS

- 1 Energy: power & new energy - Upstream & midstream
- 2 Chemicals: refining, petrochemicals, chemicals
- 3 Resources: mining, materials, metals, infrastructure
- 4 Digital solutions

SPANISH HYDROGEN ASSOCIATION

WORLEY



Paseo de la Castellana 182-184.
Madrid 28046, Spain

Website: www.worley.com/
Email: salesmadrid@worley.com
Phone: +34 917991092

ACTIVITIES WITHIN THE HYDROGE VALUE CHAIN



Consultancy



**Equipment and
systems integration
services**



Engineering & EPC

SPANISH HYDROGEN ASSOCIATION

X-ELIO

Calle del Poeta Joan Maragall, 1, Piso 5
28020, Madrid



Website: www.x-elio.com/
Email: teresa.blanco@x-elio.com
Phone: +34 618190407

X-ELIO is a global leader in the renewable energy sector with a strong commitment to greenhouse gas reduction and the fight against climate change.

It specializes in the development, construction, operation, financing and maintenance of large-scale solar photovoltaic plants in key geographies. The company has a strong track record with 16 years of experience and has developed and built +2.5 GW since its founding in 2005.

The firm has a team of ~ 200 highly qualified professionals and a current presence in 7 countries: Australia, Japan, Italy, Spain, Chile, Mexico and the United States.

LINE OF BUSINESS

- 1 The development, construction, financing and maintenance of large-scale solar PV plants in key geographies - providing 100% renewable energy

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Financial sector



Energy companies



Hydrogen storage



Hydrogen compression



Fuel cells



Hydrogen transportation and distribution

Calle Julián Camarillo, 29 E1 2ª Planta
28037, Madrid, Spain

Website: www.yokogawa.com/es

Email: joaquin.pla@es.yokogawa.com

Phone: +34 638791995

Yokogawa, with more than 100 years of history, is a leading provider of Digitalization Enterprise Solutions, Industrial Automation and Test and Measurement solutions. Combining superior technology with engineering services, project management, and maintenance, Yokogawa delivers field proven operational efficiency, safety, quality, and reliability. Nowadays, Yokogawa Iberia headquarters are in Madrid with two Operation centres of Engineering and Services offices in the Andalusia and Catalunya.

LINE OF BUSINESS

- 1 Services and consultancy
- 2 Digitalization enterprise solutions
- 3 Cybersecurity OT integrated solutions
- 4 Industrial automation systems
- 5 Control Test and Measure instrumentation advance gas Analysers
- 6 Control and automation engineering services
- 7 Technical training center

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



Training



Consultancy



Equipment and
systems integration
services



Engineering &
EPC



Research &
Development



Materials and
components

SPANISH HYDROGEN ASSOCIATION

ZWICKROELL S.L.

Av.Corts Catalanes, 5-7, 2-1 08173
Sant Cugat del Vallès (Barcelona)



Website: www.yokogawa.com/es

Email: eventos@zwickroell.com

Phone: +34 931895790

We are ZwickRoell, a global leader and innovator in materials testing machines with more than 160 years of experience, offering comprehensive, customized solutions that comply with the highest standards of quality and accuracy, for over 20 Industries, including automotive, aerospace, energy, construction, and component manufacturing. In relation to Energy Industry, we highlight our commitment in relation to the material and the infrastructure, across the entire hydrogen industry value chain . ZwickRoell developed solutions related to the new and diverse challenges of material testing under H2 conditions like for example: • Hydrogen production (e.g. electrolyzers) •Hydrogen transport (e.g . pipes, valves) •Hydrogen storage (e.g. liquefied gas, pressure vessels) •Energy conversion (e.g. fuel cells) •Testing at cryogenic temperatures •Hydrogen influence on metals / hydrogen embrittlement •Testing of hydrogen fuel cells

LINE OF BUSINESS

- 1 Development and Manufacturing of Material Testing Equipment
- 2 Testing solutions for test methods in R&D
- 3 Quality Assurance and Control in Over 20 Industries
- 4 Technical Advisory and Application Engineering
- 5 Calibration of Material Testing Equipment

ACTIVITIES WITHIN THE HYDROGEN VALUE CHAIN



**Research &
Development**



Consultancy



**Equipment and
systems integration
services**



**Materials and
components**

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CONTACT US

SPANISH HYDROGEN ASSOCIATION



www.aeh2.org



info@aeH2.org



663 288 736



Ronda de Poniente 15, 1ª planta Izda B, 28760, Tres Cantos, Madrid, Spain

