MEMBERS GUIDE

ASOCIACIÓN ESPAÑOLA DEL HIDRÓGENO
The AeH2 Members Guide provides information on many of the key companies, public and private institutions, and organizations active in Spain’s hydrogen and fuel cell sector.

This guide includes the current AeH2 members' list and profiles to facilitate cooperation between the hydrogen community.

August 2021
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1. The AeH2

The Spanish Hydrogen Association (AeH2) is a non-profit organization which main objective is the promotion of hydrogen technology development as an energy carrier, and its use in industrial and commercial applications.

AeH2 members are the most active Spanish companies, public and private institutions, and researchers in hydrogen technology, with a common interest: opening markets and social and environmental benefits of introducing hydrogen and fuel cells in energy systems. AeH2 members have developed strong capabilities in hydrogen and fuel cell technologies.

The AeH2 has naturally become an important and visible actor within the hydrogen community nationally and internationally and will play an important role in this emerging industry.
2. Objectives

The main objective of the AeH2 is the promotion of hydrogen technologies development as an energy carrier and its use in industrial and commercial applications.

Additionally, the AeH2 pursues the following specific goals:

- **Cluster**: To be the gathering place of the sector, bringing together companies, institutions, technology and research centers and universities with activity in hydrogen and fuel cells.

- **R&D&I**: To promote research and innovation in hydrogen and fuel cells, as well as the promotion of startups and technological knowledge.

- **Development**: To support the development, promoting the production, storage, and distribution applications of hydrogen, and its use in fuel cells.

- **Education**: Offering professional education through specific courses already consolidated with various universities and training centers.

- **Legislation**: Promoting laws and rules for the regulation of hydrogen as an energy vector.

- **Dissemination**: To make hydrogen acknowledged as an energy vector by our society.
3. How we work

The AeH2 supports research and development, technology demonstration, and market introduction impulse of hydrogen energy. To reach its objectives, the AeH2 carries out different activities:

- Information and dissemination.
- Expertise and promotion.
- Organization and participation in conferences, seminars, and meetings.
- Promotion and education.
- Lobbying for hydrogen and fuel cells.
- Facilitates contacts with companies from Spain and abroad.
- Provides networking forums for the exchange of ideas...

The AeH2 has promoted the creation of the AEN/CTN 181 of “Hydrogen Technologies” and participates in the International Committee ISO/TC 197 “Hydrogen Technologies”.

The AeH2 maintains active cooperation with other international Associations, agencies, and institutions such as:
4. Initiatives

The Association plays a crucial role in promoting activities for the hydrogen community and its relationships with organizations and authorities, either national or international, and in strategic, legislative, and regulatory issues.

The AeH2 promoted the **Spanish Technological Platform for Hydrogen and Fuel Cells (PTE HPC)**, active since May 2005. The PTE HPC works to establish a national strategic policy in the field of hydrogen and fuel cells technology, to promote and accelerate the development and use of hydrogen and fuel cell-based energy systems and component technologies for transport, stationary and portable applications in Spain. It also considers all the R&D&i chains.

More than 200 Spanish entities, whose activity is related to hydrogen and fuel cell technologies, participate in the PTE HPC. These entities contribute, with their experience, knowledge, and opinions to the elaboration of strategic documents, enabling the establishment of scientific, industrial, and technological guidelines which adoption will favor the incorporation of hydrogen technologies in our energy system, enhancing new energy solutions and stimulating a new industrial and technological services sector.
5. Companies
• ABEI ENERGY
• ABENGOA INNOVACIÓN
• AESA
• AHMON
• AIMEN
• AIR LIQUIDE
• ALCAZAR INVESTMENT MANAGEMENT
• ALFA LAVAL IBERIA
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• ARENA
• ARIEMA
• ASEA BROWN BOVERY (ABB)
• ATLAS COPCO
• AVL IBERICA

• BASE SISTEMAS Y SUMINISTROS
• BENBROS
• BIROU GAS SL (Logos Energía)
• BATERÍAS SOLARES ESPAÑA S.L.
• BLUE TREE
• BOLLFILTER
• BOSCH
• BUREAU VERITAS
• BÜRKERT IBÉRICA

• CADE SOLUCIONES DE INGENIERÍA
• CANARY OIL SL
• CENER
• CEPSA
• CLAN TECNOLOGICA SL (Clantech)
• CETIL DISPENSING
• CETREN
• CO-AX VÁLVULAS
• COMEVAL
• GRENERGY
• GRUPO ENERGY LACUNYEN

H
• H2B2
• H2GREEN
• HASKEL
• HAFFNER ENERGY
• HEROSE
• HIDRÓGENO VERDE RENOVABLE (HVR)
• HIDRONA GEA SLU
• HIPERBARIC
• HISPALYT
• HOLTROP
• HYDROGREEN ENERGY
• HYUNDAY

I
• IBERDROLA
• IBERFLUID
• IDEA ENERGÍA
• IDOM
• IGNIS
• INAEL
• INERCO

J
• JC FÁBRICA DE VÁLVULAS
• JOLTECH
• JUMO CONTROL SA

K
• KING&WOOD MALLESONS

L
• LEAN HYDROGEN
• LOGIS GREEN

M
• M&M PROCESOS FINALES
• MADRILEÑA RED DE GAS
• MESSER
• MONTREL
• MOTUSA
• MOVIALSA
TAICHIO&WOLF
TCI GECOMP
TECHNIP ENERGIES
TECNATOM
TÉCNICAS DE FLUIDOS S.L.U.
TÉCNICAS DE CONTROL Y ANÁLISIS S.A.
TOYOTA ESPAÑA
TRAFAG
TRANSPORTES LASARTE S.A.
TRESCA INGENIERÍA
TW CONSULTORES
TYPSA
URVA FLUIDOS INDUSTRIALES
VALCAT
VINCI ENERGY
WATER2KW
WHITE CAPITAL SUMMIT
WORLEY
X-ELIO
YOKOGAWA
ZIMMA EQUITY INVESTMENTS
ABEI Energy is an International Independent Power Producer (IPP) which engages in the full management of projects to generate power from renewable resources using photovoltaic, CSP, biomass, wind, hydroelectric and cogeneration power technologies.

With an experience in the sector of more than 15 years in Europe and America. We’re rapidly expanding, here in Spain as well as our international presence USA, UK, France, Italy and Poland.

We have the main pillars that fully cover any project, from development, construction and asset management.

As part of the Asset Management Department, ABEI Energy has a specific R&D and new technologies area working on developing innovative projects with new technologies for business diversification at geographies in which the company is present, focused on green hydrogen among others.
Abengoa is an international company that applies innovative technology solutions for sustainability in the infrastructures, energy and water sectors. Abengoa Innovación is a business group within Abengoa dedicated to development and innovation in three key areas: Electric Power Systems/Energy Storage, Hydrogen, and Aerospace.

The Hydrogen Department has more than 15 years' experience designing, constructing, integrating, and testing different technologies in the field of hydrogen and fuel cells.

Abengoa Innovación is dedicated to the development of fuel cell power plants, hydrogen production units, hydrogen refueling stations and customization projects for civil, the defense and aerospace sectors.

Abengoa can cover the entire EPC chain from the design and engineering phase to the procurement, construction, commissioning and startup of the different technologies it develops.
AESA is a consulting and engineering firm specialized in providing energy solutions for industry, with an experience of more than 150 energy projects executed, developed with all types of technologies and for all types of industries, which have involved an investment of more than 1.5 billion EUR.

AESA is an independent company, detached from any technologist or construction group, whose mission is to ensure that our customers have the most appropriate technologies for their interests, always through sustainable, efficient and environmentally friendly technologies, ensuring their energy economy and security of supply.

AESA covers all the stages in the design process: we study, together with our clients, the different applicable solutions, we recommend those that best meet their needs and we carry out the basic and detailed engineering, we specify, we advise during the process of purchasing equipment and facilities, we supervise the construction and commissioning of the project, we verify compliance with their guarantees, and we provide support in the process of operation of the installation.

AESA uses the most advanced techniques, both for the development of its works (3D modeling) and in its applications (digital models for operation verification).
Water born export project of renewable energy from Spain to North-West Europe and the supply of fuel to ships (Bunkering), through the processing of the green hydrogen as its vector and its consequently green ammonia as the latter transporter.

With a processing capacity (electrolyzers) of green hydrogen, synthesis (reactors) into ammonia, and its storage (1 Tank * 60,000 cbm) in Phase I of 100 MW and implementation by 2023, in Phase II - 400 MV by 2025, and in Phase III 1 GW by 2030, with scaling being the basis of competitiveness.

AHMON, being located at a Mega-Port (390 mtrs long jetty, 25 mtrs draught) with intermodal capabilities (marine, rail, wheels, and grid) additionally, will be able to fulfil the Spain and Portugal’s mainland (hinterland) ammonia processing export logistics-hub needs, for the foreseeable projects with surpluses for export.

AHMON European status location (including Customs), close to destinations (NWE-ARA), existing infrastructure (Port + Substation + Fresh water), and access and conditions to utilities (PPAs + Fresh water), make it the most European viable and competitive ammonia project.
Asociación de Investigación Metalúrgica del Noroeste - AIMEN is a private non-profit association founded in 1967 on the initiative of a group of Galician entrepreneurs.

AIMEN is an innovation and technology centre specialized in research and in providing technological services in the field of materials, advanced manufacturing process and industry 4.0.

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 operation ranges to avoid risks, welding engineering and corrosion engineering.

• Materials, Analysis and Testing Laboratory: Characterization of materials in different conditions in an H2 environment, absorption, permeability and H2 transport tests using electrochemical techniques, tightness tests, evaluation of hydrogen embrittlement.

• Training: Specialized courses in materials, welding, paints and coatings.
Air Liquide is the world leader in gases for industry, health and the environment, and is present in 80 countries with close to 60,000 employees.

Oxygen, nitrogen, hydrogen and rare gases have been at the core of Air Liquide's activities since its creation in 1902. Using these molecules, Air Liquide continuously reinvents its business, anticipating the needs of current and future markets. The Group innovates for the good of society while delivering growth and consistent performance.

Innovative technologies that curb polluting emissions, lower industry’s energy use, recover and reuse natural resources or develop the energies of tomorrow, such as hydrogen, biofuels or photovoltaic energy... Oxygen for hospitals, home healthcare, fighting nosocomial infections... Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society.

A partner for the long term, Air Liquide relies on employee commitment, customer trust and shareholder support to pursue its vision of sustainable, competitive growth.

The diversity of Air Liquide’s teams, businesses, markets and geographic presence provides a solid and sustainable base for its development and strengthens its ability to push back its own limits, conquer new territories and build its future.
Alcazar Investment Management has been providing advisory services within the Energy space since 2012. We specialise in predictive intelligence for monetizing opportunities within the energy transition and the hydrogen ecosystem.

Hydrogen is a vector for renewable energy storage, smoothing renewables intermittence variability, as well as connecting production location to distant demand centres. This opens up opportunities for furthering renewables generation, power purchase agreements, grid integration, CCUS, the transport and storage of hydrogen, and international hydrogen trade.

We offer bespoke, predictive analytics, together with our knowledge of market instruments, policy frameworks and infrastructure.

We are members of the European Clean Hydrogen Alliance, the UK Hydrogen and Fuel Cell Association (UK HFCA), the Spanish Hydrogen Association (AeH2) and the EEX Working Group Hydrogen.
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.
Leading the way to greener and smarter mobility worldwide, Alstom develops and markets integrated systems that provide the sustainable foundations for the future of transportation. Alstom offers a complete range of equipment and services, from high-speed trains, metros, trams and e-buses to integrated systems, customised services, infrastructure, signalling and digital mobility solutions. Alstom, present in over 60 countries and employing 38,900 people, recorded sales of €8.2 billion and booked orders of €9.9 billion in the 19/20 FY.

Alstom Spain, present in 18 sites with more than 2,000 employees, is the second employer in the sector. Our local roots go as far as 165 years back in time, when in 1855 the company La Maquinista Terrestre y Marítima S.A. was founded. After its acquisition in late 80’s great milestones and innovations followed, like the first AVE trains in 1992; modern tramways and light metro systems in Barcelona and Madrid; or the first driverless metro in Spain in 2010.

About e-road: Alstom is deploying its long experience in electric traction with solutions like Aptis, an innovative and accessible e-bus with four steering wheels. Also conductive ground charging systems, static SRS or dynamic APS.

About Hydrogen: Alstom has deployed the first passenger train in commercial service in the World powered by Hydrogen Fuel Cell. The Coradia iLint, in service since 2018, is a silent and zero-emission train, with exhaust of only steam and condensed water. Other projects are following like in UK or France.
In AlterEco we are working for more than 10 years dedicated to engineering services, installation, building and distribution for service stations and fuel silos all around the country. Our high competence, solvency and leadership in Spanish market has brought us to participate in national and international Regulation Committees. We are also technical advisers for Spanish Confederation of Services Stations: CEEES (DOCO, DODO).

We are a modern, dynamic and a pioneer company which always move in advance in a changing market using the newest technologies available. Thanks to all this we can stay as a leader in our field. Since November 2018, after 2 years of negotiation, we started to be part of the Wolftank Adisa holding, company present in over 20 countries and a huge technology basement in environmental care and remediation with a great view on this field.

We are expanding AlrerEco brand to other markets like Latin America and countries where Wolftank Adisa already works, including Spain, where hydrogen, CNG, LNG and hyper charger for electric vehicles and advance environmental services are being implanted.
Andersen is an international firm that offers legal and tax services in more than 250 locations from over 130 countries worldwide through Andersen Global. Andersen in Spain has offices in Madrid, Barcelona, Valencia and Seville.

The specialized group of Energy and Natural Resources in Andersen is composed by a team of professionals from the different practice areas that involves these sectors, such as regulatory, M&A or tax. Our professionals have wide experience advising clients from the industrial and energetic fields, in their projects of introducing hydrogen technologies. This expertise focuses, among different things, in (i) environmental regulation of the facilities; (ii) applying the current regulation on industrial safety, from the perspective of both the fabrication activity and the substance itself, and (iii) the tax framework.

This experience is strengthened by the firms’ ongoing advice in project financing, refinancing, and the sales and purchase agreement of different industrial and energetic projects in our country. Combining this experience (regulatory, tax and transactional) allows the team and the firm to offer a fully guaranteed and secure service in HPA contracts and the development of Green hydrogen comprehensive projects.
Applus+ is committed to the development of green hydrogen and has a broad portfolio of services with which we can collaborate throughout the entire value chain of this resource, from its production with project management, CSS services, soil studies, predictive maintenance, to its use with Management, Quality Assurance and Control, Environmental and Safety or performing risk and hazard analysis, quantitative risk analysis, etc.

In addition, we have more than 20 years developing projects in the renewable sector with the aim of helping the client in all phases of a project to verify the correct installation of all its elements, offering solutions from the feasibility study, design and project development to the construction of a new site.

We are leaders in non destructive testing, industrial and environmental inspection, quality assurance and quality control, engineering and consultancy, vendor surveillance, certification and asset-integrity services.

We designs and deploys proprietary technology and industry know-how across diverse sectors, helping our clients to develop and control industry processes, protect assets, and increase operational and environmental safety. The services are provided for a wide range of industries including power, construction, mining, aerospace, telecommunications and oil and gas.
Arcamo Group is a private Spanish Company with two Business delegations, one in Portugal and the other in Mexico.

International Company dedicated to the distribution of material for Instrumentation, Valves, Service and Technical Support, with more than 30 years of experience.

At Arcamo Group we develop and are a provider of reliable and high quality fluid system solutions, which include products and services for instrumentation, chemistry, research, oil & gas, energy, petrochemical industries, alternative fuels and semiconductors, increasing the number of customers in our portfolio and adapting to new industrial movements around the world at all times.

At Arcamo Group we are in constant movement to continue growing in the industrial sector.

Our products portfolio covers specific equipment to work with hydrogen technologies such pressure regulators, tubing, fitting, valves and instruments for process control.
ARENA is an independent company focused on Renewable Energy and Mobility project Development, Construction and Operation. Our pipeline includes proprietary projects and development contracts providing turnkey development services for Clients from origination to Ready to Build Status.

ARENA team has broad international experience combining an extensive knowledge of the renewable power generation industry including different technologies like: Solar PV and CSP, Wind Power Plants, Battery Storage, H2 Generation and Hybrid plants combining different power generation and energy storage technologies.

ARENA works to introduce Power to H2 to Power techlogies in all its renewable energy projects under development.
Equipment supply, ARIEMA is a technological SME, spin-off from the Spanish Institute for Aerospace Technologies (INTA) founded in 2002. We count with staff with more than 25 years of experience in hydrogen technologies and R&D management.

We have been managing the Technical Secretariat of the Spanish Hydrogen Association since 2002. ARIEMA provides the following services:

- **Installation and O&M:** Electrolysers, compressors, fuel cells, system integration… Tailored engineer solutions and turnkey installations.
- **R&D Development:** Vast experience in hydrogen technologies, manufacturing pressurized, highly efficient electrolyzers from 1-50 kW.
- **Energy Consultancy:** Specialized in green hydrogen as enabler to decarbonize multiple sectors in the energy transition.
- **R&D Consultancy:** As Energy Innovation Unit and having participated in over 35 R&D national and international projects we offer our services in the preparation of sustainable energy proposals.
- **Training and Dissemination:** We offer custom-made hydrogen courses, since 2004, available in several formats: in person, on-line and ‘in-company’.
Gracias a sus 130 años de innovación, 110.000 empleados en más de 100 países y más de 50 años en el sector de la energía, ABB aporta a la industria del hidrógeno una combinación única de experiencia, conocimientos especializados y visión de futuro:

• Tecnología pionera que permite realizar operaciones energéticas eficientes y con bajas emisiones de carbono en industrias tradicionales.
• Experiencia demostrada en la integración y ejecución de proyectos, echando mano de tecnologías y socios de ingeniería en proyectos complejos por todo el mundo.

• Nuevos modelos, apoyo al desarrollo de modelos de energías nuevas y renovables
• Apostando por un futuro de energías limpias, con fuertes aptitudes para culminar proyectos de energías renovables y un sólido compromiso en ayudar a todos nuestros clientes en la transición hacia un futuro de energías más limpias.

ABB es una empresa líder global de ingeniería que estimula la transformación de la sociedad y la industria para lograr un futuro más productivo y sostenible. Conectando software a su cartera de electrificación, robótica, automatización y tecnologías de movimiento industrial, ABB empuja los límites de la tecnología para alcanzar nuevos niveles de rendimiento.
Atlas Copco is a Swedish multinational industrial company that was founded in 1873. It manufactures industrial tools and equipment.

The Atlas Copco Group is a global industrial group of companies headquartered in Nacka, Sweden. In 2020, global revenues totaled SEK 100 billion, and by the end of that year the company employed about 39,600 people. The Group has customer centers in 71 countries and sales in about 180 countries.

Atlas Copco companies develop, manufacture, service, and rent industrial tools, air compressors (of which it is the world's leading producer), construction and assembly systems. The Group operates in four areas: Compressor Technique, Vacuum Technique, Power Technique and Industrial Technique.

Atlas Copco's Compressor Technique area creates products such as industrial compressors, oil and gas treatment equipment, air management systems, and gas and process compressor/expanders. The products are mainly used in the manufacturing, oil, gas and process industries. Their compressor solutions are used in ships, trains and hospitals, and in other facilities and applications.
AVL is the world's largest independent company for the development, simulation and testing of powertrain systems (hybrid, combustion engine, transmission, electric drive, batteries, fuel cell and control technology) for passenger cars, commercial vehicles, construction, large engines and their integration into the vehicle.

The company has decades of experience in the development and optimization of powertrain systems for all industries. As a global technology leader, AVL provides complete and integrated development environments, measurement and test systems as well as state-of-the-art simulation methods.

As a pioneer in the field of innovative solutions, such as diverse electrification strategies for powertrains, AVL is increasingly taking on new tasks in the field of autonomous driving, especially on the basis of subjective human sensations (driveability, connectivity, ADAS, etc.). In the competition of technologies – ICE-based engine, battery and fuel cell electric drive – and their combinations, AVL is working intensively and with the same priorities.

AVL has digitized the vehicle development process with state-of-the-art and highly scalable IT, software and technology platforms, and creates new customer solutions in the areas of big data, artificial intelligence, simulation and embedded systems in an agile and integrated development environment.
BASE SISTEMAS Y SUMINISTROS, S.A.

Abel Batalla  abel.batalla@basesistemas.com  www.basesistemas.com

https://www.linkedin.com/company/base-sistemas/

BASE SISTEMAS Y SUMINISTROS, is an engineering company specialized in automation and control systems integration, which develops all phases of a project with its own technicians; engineering, design, electrical diagrams, manufacture of control panels, automation programming, commissioning, construction management, training, maintenance, etc. Adjusting the scope of our services to each customer needs.

We supply instrumentation and control equipment, analyzer systems, detectors, valves, fittings, pressure reducers, etc. for the process industry, as well as associated services such as instrument specification, valve automation, calibration, maintenance and technical services.

We have more than 10 years of experience in hydrogen process industry and renewable energy plants, as well as chemical, pharmaceutical, paper, and food sectors.
Benbros Energy was founded with the aim of becoming a leader in the renewable energy sector, helping to create a more sustainable planet, contributing to its decarbonisation 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 activity, including the highest standards of transparency and ethics.

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

With the support of the CPPIB (Canadian Pensión Plan Investment Board) through its European investment platform, Renewable Power Capital.
BIROU GAS S.L. (LoGOs Energía)

Jose Carlos Perez Josecarlos.perez@logosenergia.es www.logosenergia.es

Logos Energía es una compañía energética que opera en el ámbito de la comercialización de gas y electricidad, en la generación eléctrica renovable.

Logos Energía trabaja en el desarrollo de proyectos de energía renovable, plantas de Biogás y de Hidrógeno.

La compañía está comprometida con el medio ambiente y el desarrollo de las energías renovables, actualmente cuenta con un equipo de 25 profesionales altamente cualificados y con presencia en España y Portugal.
BSE is a company with experience, motivation and a clear vocation to promote renewable energies, contributing to a sustainable development of energy from an economic point of view.

A Company started by a group of professionals, with motivation and a clear vocation to promote exclusive environments, with high added value, energy saving and environmental protection, contributing to the paradigm shift that is yet to come in which design will prevail. , the energy savings and the respect for our environment.

Our Solutions:
Photovoltaic Solar Gardens
Industrial Photovoltaic
Residential Photovoltaic
Energy Rehabilitation
Aerothermy
Geothermal

Commercialization
Components
R&D
Engineering
Consulting
Training
Production
Storage
Distribution
System Integration
Control systems
Applications
Blue Tree es una empresa de servicios de gestión de activos especializada en la gestión integral de proyectos de energía renovable. La fuerza de la empresa surge de la experiencia de las personas dentro del equipo. Nuestro negocio principal es la prestación de servicios de gestión de activos para proyectos solares y eólicos en Europa, África y Latinoamérica.

Al ser accesibles y estar en contacto continuo con nuestros clientes, podemos comprender y abordar sus necesidades, manteniéndolos actualizados sobre la legislación, las tendencias y los puntos de referencia de la industria, lo que ayuda a que sus negocios y ganancias crezcan.

¿Qué ofrecemos?
Gestión técnica de activos renovables en operación
Gestión legal y financiera de activos en operación
Monitorización y análisis de datos
Servicios de consultoría (energía solar y eólica, movilidad eléctrica, hidrógeno)
Supervisión de construcción
Asesoramiento en desarrollo y tramitación administrativa
Autoconsumo
BOLL & KIRCH is one of the world’s leading filter manufacturer and filtration specialist for liquids and gases. As a global leader, it is our mission to fulfil and exceed the requirements of our customers to the greatest possible extent. With the experience of our inhouse research & development experts, we offer exactly what you need: efficient and long-lasting products which meet the highest quality standards. As an independent family-run company with a long tradition and state-of-the-art facilities we have been a strong partner for our customers for more than 70 years. As filtration experts for advanced and customer-oriented solutions, our goals are customer responsiveness, innovation, operational excellence, partnerships and added value. Our core product line spans across three generic filter groups - simplex, duplex and automatic self-cleaning, all supported by replacement BOLLFILTER Genuine Parts. Each filter group is comprised of an extensive range of design variations to suite the specific industry and application where it will function.

BOLLFILTER products find potential applications throughout the complete hydrogen lifecycle, from renewable energy generation to logistic, storage and direct use, fluids filtration plays a primary role directly related to the efficiency and reliability of the overall process. Pre-electrolysis water filtration, heat exchangers protection, auxiliary compressors fluids filtration are just a few examples.
The Bosch Group is a leading global supplier of technology and services. It employs roughly 395,000 associates worldwide. The company generated sales of 71.5 billion euros in 2020. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. 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.” Bosch has been present in Spain since 1908 and currently has about 20 locations in the country. In 2020, Bosch achieved consolidated sales to third parties of more than 2.2 billion euros in Spain, and total net sales of all Bosch Spanish entities also being roughly 2.2 billion euros. As of December 31, 2020 Bosch Spain employs around 8,600 associates.

As part of Industrial Technology division, Bosch Rexroth supports machine and plant construction efforts around the world, with cutting-edge technology and unique knowledge in the industry. Our innovations represent multi-dimensional improvements for machine manufacturers and users. Bosch Rexroth's extensive experience with drive, control and regulation systems enables us to support the design and construction of more cost-effective and efficient hydrogen recharging stations. With innovative services such as state-based maintenance over the Internet, Bosch Rexroth optimizes the availability of these stations. In a unique way, Bosch Rexroth always stands by its customers throughout the life cycle of charging stations: both as long-term development partner, global supplier and local service provider.
Bureau Veritas is a “Business to Business to Society” services company. Our mission is to shape trust between businesses, public authorities and consumers. As a world leader in testing, inspection and certification services, we support our 400,000 clients to be more efficient, more methodical and more trustworthy in their journey towards more sustainable business and a more sustainable world.

With our expertise, we serve our clients to meet the challenges of safety, environment, social responsibility and product or service quality all along the chain. We support our clients in their selection of resources and during production. We offer expertise at every point in the supply chain, from raw materials sourcing to product use. Bureau Veritas strives to accompany all clients in delivering their sustainability strategy, and meet the expectations of their employees and stakeholders.

Bureau Veritas has an 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 the authorities the necessary benchmarks and standards in order to face the development.

Being fully aware of the current scenario and its importance, we propose to the different stakeholders to collaborate along the hydrogen value chain, with the main premise of innovating and with the fundamental objective of helping to ensure safe and efficient production, shaping a world of trust with the highest standards of quality and protection for the society and the environment.
Bürkert Fluid Control Systems was founded in Germany in 1946 by Christian Bürkert and over the years the company increasingly focused on valve technology and soon became an international benchmark for industrial solenoid valves.

Bürkert has been involved in many innovative fuel ideas from biofuels to wind energy and we have always been closely involved in fuel cell technology. Our isolated solenoid valve technology was at the heart of the first solution to successfully tackle harsh water conditions. Both inside the automobile industry and out we have dealt with the demands of reformers and uninterruptible power supplies, deionized water and high-pressure gases to meet our clients’ next generation requirements.

We work with engineering consultants, integrators, contractors, original equipment manufacturers, and end users in a spectrum of industries from analytical devices to metal treatment. We offer expertise in optimized system solutions for fuel cell technologies, hydrogen injection, inert gas welding, glass forming, and gas blending ... in your application language. Speaking a common language eases communication and lays the foundation for your success.
CADE is a consulting, engineering, and technology company founded in 2003 with offices in Madrid and Albacete (HQ). The company develops its activities in the power generation domain (renewables and conventional) as well as Process industries (Oil refineries, petrochemical plants, etc.)

Specifically within the H2 field, CADE delivers the following activities:

**Applied Engineering and consulting services** for production, separation, and storage of high-pressure hydrogen, as a vector of energy storage, as well as its integration with renewable energy generation, and industrial processes.

**Owners’ engineering services** for promoters and end-users of Electrolysis Commercial GREEN H2 plants, including technology consultancy, conceptual engineering, Permitting – Ready to Built projects.

**Technology and know-How**: Production, separation, and storage of renewable gases at high pressure – Hydrogen, Methane, and CO2, based on supercritical water gasification technology (SCWG). CADE’s proprietary technology is aimed to produce Hydrogen and other renewable gases from wet waste biomasses (sewage sludge from UWWTP, farming slurries, among others). SCWG is an integrable technology to be used as energy storage for renewable generation (Power to Gas). SCWG technology is currently under development (industrial DEMO plant stage).
CANARY OIL, S.L.

Enrique Moreno | info@canaryoil.com | www.canaryoil.com

CANARY OIL, S.L. is an oil wholesaler based in the Canary Islands.

With work centers both in Tenerife and Gran Canaria, our main objective is the satisfaction, efficiently, of the needs of our customers improving the service, attention and quality in our professional relationship.

We can identify 3 big lines of business.

Service stations: we have our own network of gas stations both in Gran Canaria and Tenerife with competitive prices and quality fuels. Recharge points for electric car and laundry of vehicles with osmotized water.

Manufacture and sale of Urea AUS Aqueous Solution 32.5% under our Krillblue brand. We supply the main fleets of the eight Canary Islands.

Sale to end customer of fuels through supply with own fleet and personalized attention and adaptation to the needs of customers.
The National Renewable Energy Centre of Spain (CENER) develops applied research in renewable energies, and provide technological support to companies and energy institutions in six areas: wind, solar thermal and photovoltaic solar energy, biomass, smart and efficient buildings and districts, and grid integration of energy.

The activities related to HYDROGEN are part of the Energy Grid Integration Department, Hydrogen Area. This area focuses its activities on the development of hydrogen production technologies, mainly through high temperature electrolysis (SOEC). R&D activities include all stages of technological development, from the optimisation of new functional materials to their implementation at cell level and their scaling up to prototypes in the kW range. The area is also active in multi-scale modelling of electrolyzers (cell, stack and system). Other lines of action include the development of fuel cells, the hybridisation of H2 production and storage technologies or the coupling with Power-to-X processes.
Cepsa

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@Cepsa

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Cepsa is a leading international company committed to sustainable mobility and energy with a solid technical experience after more than 90 years of activity. The company also has a world-leading chemicals business with increasingly sustainable operations.

In 2022, Cepsa presented its new strategic plan for 2030, Positive Motion, 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 heart of its business and will work with them to help them advance their decarbonization goals. ESG criteria inspire everything Cepsa does as it advances toward its Net Positive objective. This decade, it will reduce its Scope 1 and 2 CO2 emissions by 55 percent and its Scope 3 emissions by 15 to 20 percent, with the goal of reaching net zero emissions by 2050.
CLAN TECNOLOGICA S.L.

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Private Engineering Company focused on design, development, sale and comprehensive technical service of CUSTOMIZED on SITE GAS Generation SOLUTIONS.

Nitrogen, Oxygen and HYDROGEN are gases to be produced with our Solutions.

Clantech is specialized in HYDROGEN Production, Compression, Storage and delivery.

We have developed several Hydrogen Refuelling Stations for FCEV. We have developed our own HRS design, competitive and modular. With all items included, Turnkey installations:

- Dispenser with nozzles for 350 and 700 bar.
- Cooler for fast dispensing Hydrogen.
- Several Booster options until 900 bar.
- Storage.
- Modular construction, scalable.
- Control, PLC, in containers, special installations…. 
Cetil Dispensing Technology S.L. (Cetil)

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Cetil Dispensing Technology S.L. is a privately owned company based in Spain with a technological vocation that allows us to offer innovative products in accordance with the demanding requirements of the market and society.

Cetil has been present in Spain since 1953 as a leading brand of fuel dispensers. Since then, we have produced thousands of dispensers for conventional fuels, LPG, AdBlue, CNG, LNG and now, hydrogen.

Thanks to decades of experience and a multidisciplinary development team we can develop highly complex products such as hydrogen dispensers, implementing the new functions, controls, and safety systems in our advanced EAS2 electronic calculator, entirely designed and programmed in Cetil. Its modularity and connectivity make our dispensers very easy to integrate in extremely complex installations.
Asociación de Acción Ferroviaria, Cetren, was born as a response to the need generated in the railway sector to bring together in a single entity all companies directly or indirectly involved in this sector.

Attributes that characterize us as independent, impartial, competent and experienced, among others, led us to be notified by the Spanish Ministry of Public Works to the European Commission and to the other Member States as the Spanish Notified Body for “EC” conformity and suitability assessment to use interoperability constituents and “EC” subsystem verification according to Directives 96/48/EC and 2001/16/CE first, and Directive 2008/57/EC after, and currently, Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union. These same attributes have allowed Cetren to be the Designated Body by the National Safety Agency, in the framework of that Directive.

In 2019 we have expanded the traditional activities with the Testing Laboratory, equipped with qualified professionals and the latest technologies necessary to carry out the tests required in the Technical Specification for Interoperability persons with disabilities and persons with reduced mobility.

Cetren is a Certification Body and Independent Safety Assessor accredited by the National Accreditation Entity, ENAC.

We have maintained our pioneering nature and after railway training was liberalized in our country in 2007, Cetren was established as the first Private Center approved by the National Safety Agency under the Spanish Ministry of Public Works to impart all Railway personnel certificates according to 2872/2010 FOM Order of 5 November.
It was 1960 when Gottfried Müller founded the company "Müller Steuergeräte" and developed the original coaxial valve.

Since then, the company has experienced an exponential growth of its valve technology and has become a benchmark for the entire industry.

We are synonymous with innovation and individuality, trust and quality, experience and reliability in valve manufacturing. This is how our dynamic development started and it will remain so.

The experience accumulated for over 50 years now has committed us to be at the forefront in the development and promotion of new technologies focused on 3 main product lines represented by the different subsidiary companies:

- co-ax: coaxial valves for all types of high-pressure fluids.
- m-tech: high pressure gas filling systems and cryogenic valves.
- Quadax: butterfly valves developed with the innovative quadruple (4 offset) design principle.
Comeval Valve Systems is a private company founded in 1975 and being member of the German Group ARI ARMATUREN since 2011. Its main activity consists of designing and manufacture of Valves and Flow control products for the industry and energy applications.

The broad manufacture range of Valves is comprehensive of isolation, pressure safety, control, check and energy saving applications. A wide diversity of industry applications are served such as heating, cooling, storing and mixing processes in the industry, power plants and renewable energies.

With ample experience supplying valves for steam reforming to produce hydrogen, Comeval Valve Systems have adapted the valve designs to suit clean hydrogen applications along the green hydrogen chain offering high quality and certified valves.
Comercial de Válvulas y Accesorios, S.L. (CVA) es una empresa comercializadora y distribuidora de válvulas industriales, pionera en su sector y reconocida a nivel mundial. Sus más de 35 años de experiencia, representando a importantes marcas del sector nacional e internacional, ofreciendo soluciones a medida e integrales con diversos tipos de valvulas industriales (Bola, Mariposa, Compuerta, GLobo, Retencion, Valvulas de Control, instrumentacon y accesorios para clientes de distintos sectores:

Sectores: Petroquimicas/ Oil & Gas / Energias renovables / Especialista en suministrho de valvulas para las termosolares/ Energia / Biocombustibles / Automobil (Proveedor Agrupador Homologado de SEAT , /grupo Wolskwagen , Proveedor homologado de REPSOL

Nuestro departamento tecnico Comercial esta trabajando actualmente activamente en proyectos para el suministro de Valvulas de Bola para servicios de Hidrogeno, como el proyecto hidrogeno verde de Puertollano (Iberdrola) ofertando y aportando la experiencia tecnica, cooperando de cerca y activamente con fabricantes reconocidos como JC Fabrica de Valvulas en el desarrollo de nuevas lineas de producto innovadoras para el sector del Hidrogeno.
Credit Agricole, as one of the largest banking institutions in Europe, is supporting its corporate clients in their development by providing the necessary financings and the associated advisory services. The Bank is a pioneer in the area of climate finance and is currently a market leader in this segment with a complete offer for all its clients.

For many years Crédit Agricole CIB has been committed to sustainable development. Thanks to our strong footprint in the energy and industrial sectors, we identified in 2019 the important role of hydrogen in both, the development of renewables and the decarbonization of hard- to- abate sectors. CACIB is willing to support the development of new usage of hydrogen and the decarbonization of existing usages via the full scope of banking products, notably:

- M&A advisory for equity search or IPO;
- Structuring Green financing solutions (Bank debt or bonds);
- Advisory and lending for non-recourse financings;

As a bank, we already supporting several of our large clients worldwide in their hydrogen strategy and we are member of the Hydrogen Council.
Cummins Inc. is a global technology company designing, manufacturing, distributing and servicing a broad portfolio of reliable, clean power solutions; including diesel, natural gas, hybrid, electric and other alternative solutions.

Established in 1919 and headquartered in Columbus, Indiana (U.S.), Cummins serves customers in more than 190 countries and territories around the world.
DEKRA’s main purpose for the past 97 years has been to ensure the safety of human interaction with technology and the environment.

DEKRA aims is efforts to have a reliable supply of green hydrogen so that in the future companies, consumers, and countries can enjoy an uninterrupted access to sufficient amounts of hydrogen. Always keeping in mind that safe production, storage and distribution systems, and operations are imperative to generate the necessary trust in the Hydrogen Economy.

DEKRA’s expertise in process and chemical safety management, engineering and testing makes it a globally recognized hydrogen specialist and trusted advisor in the process safety arena for all industries.

DEKRA’s “partners” have attained safe and sound facilities where hydrogen is already being produced as well as used. Proving to be the perfect partner for companies willing to improve their carbon footprint and social responsibility.
DH2 Energy is a developer of green hydrogen electrolysis plants and an independent producer. DH2 Energy focuses on large-scale plants where its electrolysers are powered by captive solar plants thereby ensuring the hydrogen is 100% renewable.

DH2 Energy is a pioneer in the green hydrogen sector after its creation in 2018, initially as a dedicated business unit within the Dhamma Energy solar development group and now run as a stand-alone group. DH2 Energy is headquartered in Madrid and is one of the largest green hydrogen developers in the Iberian Peninsula. With a team of over 30 highly skilled people, the company’s core markets are Spain, Portugal, France and Mexico.

In Mexico alone where it is one of the leading developers, DH2 Energy has already developed 470 MWp of solar and has over 3 GW solar and green hydrogen under development.

DH2 Energy is also a founding partner of the HyDeal Ambition initiative that aims to provide competitive green hydrogen in Europe on a massive scale, starting with HyDeal Spain which targets total installed capacity of 9.5 GWp of solar power and 7.4 GW of electrolysers by 2030.
DISA Group is the largest independent service station operator in Spain and leader in the Canary Islands. It has more than 86 years of experience in the field of energy, acting with the commitment, quality of service, and closeness that characterizes it. DISA has always stood out for its capacity for innovation and continuous adaptation to changes in the energy needs of society with sustainable criteria.

In the last decade, it has diversified its activities in the energy sector. DISA has become a comprehensive provider of energy products and services. Its offer includes traditional fuels, the commercialization of electrical energy of 100% renewable origin, and other alternative fuels, such as LPG and Natural Gas, being a pioneer in the introduction of both in the market of the Canary Islands, where, besides, DISA is the largest private producer of renewable energy.

At the same time, it is expanding its geographical scope, entering in Uruguay and Portugal retail market recently. Consistent with the change that society and the economy are experiencing, DISA is in continuous internal transformation, promoting innovation, digitization, and the energy transition to continue improving people’s lives. DISA actively participates, 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 archipelago, with the expectation of expanding with this activity also to other parts of Spain and the world.
Dhamma Energy develops, finances, builds and operates solar powerplants, which include Hydrogen production, in Europe, Latin America and Africa. The company initiated its activities over a decade ago in France and in Spain, where it developed its first solar photovoltaic (PV) projects.

In 2013, Dhamma Energy opened a subsidiary in Mexico, which has become one of its core markets and in 2015 Dhamma Energy commissioned its first solar PV plant in Africa, a 2 MW park in Mauritius.

During this past decade, Dhamma Energy has fully developed more than 650MW of PV plants and currently has a pipeline of 3GW, essentially in France, Spain and Mexico.

In 2018, Dhamma Energy launched the development of green Hydrogen production plants based on PV-generated electricity and water electrolysis.

Having already been dedicated to promoting a green economy for more than a decade, Dhamma Energy is committed to decarbonizing key sectors such as transportation and heavy industry by supplying CO₂-free hydrogen.
DURO FELGUERA GREEN TECH, S.A.

Alvaro López Durán

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a-Diseño, fabricación, suministro, montaje, operación, mantenimiento, promoción, desarrollo, gestión, explotación y comercialización de instalaciones, productos, soluciones técnicas, obras y servicios en el sector de las energías renovables, tanto para la generación como para el transporte, distribución, importación, exportación, reciclaje, extracción, compraventa y distribución o almacenamiento de energía a partir de fuentes renovables, incluyendo concesiones, instalaciones para la producción de electricidad, hidrógeno, biodiesel, hidrocarburos, biocombustibles, etc.

b-Investigación, desarrollo e innovación en todo lo relacionado.

c-Formación relacionada con el sector de energías renovables.

d-Tratamiento de materias primas para la producción de biocombustibles, electricidad, hidrógeno e hidrocarburos.

e-Elaboración de mezclas de aceites, mezclas de biocombustibles y mezclas de biocombustibles y combustibles de origen fósil.

f-Producción de biocombustibles a partir de aceites y grasas.

g-Procesos para el aprovechamiento de los subproductos derivados de la producción de biocombustibles.

h-Procesos de recuperación energética.
EDP España is the Spanish branch of EDP, a leading company in the energy sector present in 19 countries with more than 11 million customers, which integrates in its culture sustainability values and commitments with its stakeholders. EDP España performs several activities in the electricity value chain (generation, distribution and retail).

EDP group is already promoting hydrogen projects in Portugal and EDP wants to develop hydrogen projects also in Spain. Focus on hydrogen production and utilization.

Our view regarding hydrogen:

Renewable H2 should complement the electrification of the economy, supporting decarbonisation in those uses where the use of renewable electricity is not feasible or is economically inefficient

Electrolizers should be located near hydrogen demand and export ports, taking advantage of the already existing electricity grids to use renewable electricity

Electrolizers should be located by the coast, to use sea-water and to avoid taking drinking water away from water-stressed areas

The use of existing natural gas infrastructure for the progressive incorporation of renewable H2 must be carefully analysed so that it does not entail extra costs for consumers
EGA Master is a European manufacturer of Premium industrial tools for the most demanding industrial users. It offers a complete one-stop solution based on continuous innovation that significantly improves safety and efficiency.

The range currently includes Industrial tools, Pipetools, 1000V Insulated tools, ESD Electro-Dissipative tools, Non-sparking tools, Titanium non-magnetic tools, Anti-drop tools, Stainless steel tools, Pneumatic tools, Hydraulic Tools, Underwater tools, ATEX-certified Intrinsically-Safe Explosion-Proof Instruments and Tool Control Systems.

EGA Master products and solutions are used by the most demanding industries such as aerospace, military, automotive, shipbuilding, railway, power, construction, oil & gas or mining.

Some end users of EGA Master are companies and institutions such as Exxon Mobil, Shell, Airbus, United Nations, NATO, Coca Cola, Audi, Volkswagen, Nissan-Renault, Mercedes-Benz, Siemens or Philips. You can find a list of our most important end users, as well as some case studies in the following link (https://www.egamaster.com/en/references). Key figures:

- Exports around 90% of its production to over 150 countries
- ISO 9001, ISO 14001 and ISO 45001 certified
- Offers unlimited life-time guarantee for its tools
Elecnor is one of the leading global corporations in the development and construction of projects through infrastructures.

As part of the Elecnor Group, Elecnor promotes its purpose by generating change and well-being, bringing infrastructures, energy and services to territories all over the world so that they can develop their potential, placing engineering and technology at the service of people’s well-being.
Electro Drives S.L. is an independent Spanish manufacturer of large power electronics systems for two main sectors: renewable energy and industry.

Electro Drives S.L. manufactures high efficiency AC/DC converters (rectifiers) and DC/DC converters (regulated power supplies) and its ancillary electrical equipment for hydrogen electrolyzers for power rating from 250kW up to 50MW.

There are different topologies to be used in Proton Exchange Membrane (PEM) electrolyzers depending on the integration with the grid and other sources of renewable energy (photovoltaic, wind and hydro generation). ElectroDrives offers the complete electrical package solution including energy conversion, MV switchgear, e-house, auxiliary supplies and plant controls.

Our developing team has long experience in international projects, with dynamic requirements that requires a close collaboration with OEMs. In fact, ElectroDrives was one of the pioneers to develop large power converters for the first variable pitch and variable speed wind turbines.
EA is a world-leading engineering company, committed to innovation and to providing creative solutions to our many customers.

Averaging 15 years of experience each, our more than 1000 engineers bring to the table the knowledge gained in 62 GW of power projects carried out in over 40 countries. As a company, EA strives to stay at the forefront of engineering, focussed on the future and eagerly tackling new technological challenges from the solid foundations we have built on more than 50 years of success.

Early on, our commitment to R&D&I led EA to develop its own simulation software (EcosimPro®). This tool provides added value to our work and differentiates us from our competitors. EcosimPro® is now used by companies worldwide in a range of industrial applications and is an excellent tool for studying the behaviour of hydrogen injection into gas networks.

Over the years, EA has participated in many R&D&I programmes, both national and international, which has allowed us to apply everything we have learned as the engineers of renewable energy projects to cutting-edge hydrogen production projects. To tackle these and future projects, EA set up a specific section in our company staffed with a group of multidisciplinary engineers expert in H2 technologies.
Enagás is an international standard bearer in the development and maintenance of gas infrastructures and in the operation and management of complex gas networks. It is accredited as an independent TSO by the European Union and carries out its activities in eight countries.

Enagás is Spain’s leading natural gas transmission company and Technical Manager of the Spanish gas system. It has around 12,000 Km of gas pipelines, three underground storage facilities and four regasification plants in Barcelona, Huelva, Cartagena and Gijón. It also owns 50% of the BBG regasification plant in Bilbao and 72.5% of the Sagunto plant. Enagás is also present in Latin America (Mexico, Chile and Peru) and Europe (Sweden, Italy, Greece and Albania).

Leveraging the similarities between its core businesses, the company is capable of fulfilling one of its aims: to lead the development of innovative technological solutions using CO₂ and hydrogen transport technologies that mitigate the impact on climate change. Enagás takes part in an increasing number of initiatives undertaken in these fields.
Endesa is the leading company in the Spanish electricity sector and the second largest operator in the gas market in Spain and in the electricity market in Portugal. It has nearly 10,000 employees and provides services to more than 10 million customers.

It carries out its activity mainly in the Spanish and Portuguese markets. To a lesser extent, it sells electricity and gas in other European markets, as well as other value-added products and services related to the core business.

Endesa wants to contribute to creating a new energy model based on clean energy, respect for the natural environment and sustainable development. It works to lead the technological transformation in which the sector is immersed. For this, it has the solid industrial position and the strength that comes from belonging to a large multinational group, the Enel Group, which it joined in the first quarter of 2009.

The development of the renewable hydrogen market is one of Endesa's main objectives, as an essential lever for the decarbonisation of energy consumption that cannot be replaced by electrification and also to provide renewable hydrogen to the industries that need it in their processes as feedstock.
ENERFIN SOCIEDAD DE ENERGÍA S.L.

Valeria Basterra vbasterra.enerfin@elecnor.com https://www.enerfin.es/

Enerfín, which belongs to the Elecnor Renovables Group, began its work in the wind energy sector more than 20 years ago as a comprehensive manager of wind energy projects.

ENERFIN promotes, develops, builds and operates renewable energy investment projects both in Spain and abroad. ENERFIN operates 1,003 MW of wind energy in Spain, Canada and Brazil with a production of 2,300 GWh/year, supplying energy to some 830,000 homes.

It is currently working on various projects for the generation, storage and supply of green hydrogen from the renewable energy generated in its windfarms, in with diverse lines of research being involved.

https://twitter.com/GrupoElecnor https://es.linkedin.com/company/enerfin-sociedad-de-energia-s-l
ENGIE HYDROGEN BUSINESS UNIT

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ENGIE Hydrogen is a specialized business unit created by the ENGIE Group. ENGIE Hydrogen is a global, zero carbon solutions provider that designs, develops, builds, operates Hydrogen systems throughout the value chain using renewable sources to deliver a comprehensive roadmap to decarbonization.

We serve customers in diverse sectors including industry, mining, energy systems (gas, electricity, storage), heating & cooling, mobility and logistics in many regions around the world.

Our Vision of the Market
We see Hydrogen, as the missing link that will produce a completely decarbonized world.

Hydrogen solves the problem of how to deal with intermittent renewable energy because it can be stored and transported over long periods of time. Renewable Hydrogen is seen as an enabler to decarbonize diverse industries in regions around the world.

We see ourselves at the heart of this global transformation...providing Hydrogen based solutions powered by renewables to develop carbon-free eco-systems around the world.
Energía Aljaval is a Spanish Company with international presence and a large team of experienced professionals who have developed their careers with in the renewable energy industry. During the last years of professional activity we have consolidated our three main lines of business: Project Development, Engineering and PPA (Power Purchase Agreement) negotiation for various technologies, mainly Photovoltaic Solar Power.

We are currently developing over 50 photovoltaic solar power projects, which together add up to over 4GW in many countries, always operating with local partners.

Energía Aljaval is active in LATAM (mainly in Mexico, Argentina and Brazil) and Europe (Italy, France and Spain).

In Spain, Energía Aljaval bases its strategy on the Promotion and Development of energy generating projects electricity from renewable energies for the production of Green Hydrogen.
EnerHi Hydrogen

Lucas Monsalve Cadena  l.monsalve@enerhi.com  www.enerhi.com

EnerHi is a global renewable energy management group.

Our mission is to improve people’s lives by generating clean, sustainable and accessible energy.

Committed to their socio-economic development. To the rural world and its needs.

EnerHi Hydrogen is a subsidiary company of EnerHi, created to promote green hydrogen research and production projects.
Esindus, since 1953, has stood out for seeking innovative solutions in all sectors of the industry, from basic engineering, supplies and assembly, to the end of life of its projects in refrigeration systems, gas treatment and instrumentation.

The trust placed in us by our clients and partners has allowed us to become the market leader in industrial projects. In addition, the need to provide solutions to the complete cycle of the facilities, from the origins in basic engineering, execution and maintenance, to their renovation, have materialized in a Latin American and international subsidiary project.

Creating a good atmosphere

Esindus, in gas cleaning and purification systems, brings together the 100-year knowledge of its licensee Hamon (and Hamon Research Cottrell) and the engineering and assembly experience of more than 50 years.

Every process has a solution

Esindus has both specialized products and customized solutions for each process. In addition to supporting us in our engineering team, we have our references. Our systems provide the highest reliability and performance in gas treatment.
EVARM INNOVACIÓN, S.L.

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EVARM is a company based in Sant Boi, Barcelona, which converts vehicles to run on electric and Hydrogen, and as OEM is providing its own H2 FCEV medium duty truck.

Born in 2015 by a group of renowned engineers with long experience in OEMs is developing projects at international level, with activities in South America (Chile), Asia (Turkey), Spain, Portugal, and other countries.

Thanks to the experience and capabilities, EVARM has already been granted with 2 projects of the Innovation and Networks Executive Agency (INEA), and is working on international projects with international partners for the development of H2 solutions.
EVECTRA MOBILITY SERVICES S.L is a consulting and engineering company specialized in e-mobility projects mainly in the conceptualization, design and dimensioning of charging stations and infrastructures for electric vehicles located in electric stations, public roads and companies.

In EVECTRA, as specialists in electric mobility, we develop studies and projects for the installation and management of every kind of electric vehicle charging infrastructure. We have a large experience developing projects that encompass the fields of action set for this offer.

We offer assessment to our clients by means of reports and research studies were the best suitable electric mobility solutions are defined in accordance with the client’s requirements. In addition, EVECTRA also offers advice in the prevailing grants connected to the strategic electric mobility measures offered by governments and private entities. EVECTRA’s consultancy team work also includes in the projects a technical and economic viability study, detailing the Pay-Back of the investment.
Evos is an international and independent energy storage company. We operate a network of premium tank terminals with a combined storage capacity of 2.5 million m³. With a strong heritage and supported by our shareholder’s vision of long-term value creation, we have the ambition to continuously develop our business.

Our commitments:

Facilitating critical connections

Leveraging and developing our unique infrastructure and expertise for storing and handling crucial goods, to seamlessly connect people and resources

Building strong and lasting relationships

Collaborating in meaningful and responsible ways with customers and other stakeholders over time, integrating our know-how and practices to reach further together

Delivering flexible and sustainable solutions
Proactively and swiftly responding to changing needs and expectations, helping customers seize opportunities and supporting the transition to cleaner, more renewable resources
Exolum is the new subsidiary of the CLH Group dedicated exclusively to the identification and development of new business opportunities, with the aim of contributing to the development of the society and the sustainability of the planet, through innovation and diversification.

The creation of Exolum is part of the strategy that the CLH Group has designed to face the challenge of climate change and energy transition with guarantees, contributing to the progress of the state of the art in terms of infrastructure sustainability and creating new business that integrate this innovative added value and provide it to society.

We were born to efficiently apply CLH's skills, experience and resources to new opportunities, including the hydrogen value chain as a zero-emission energy solution.
FBB PARTNERS

Borja López García | borja.lopez@fbbpartners.com | www.fbbpartners.com

https://www.linkedin.com/in/borjalgz/

FBB Partners is a legal boutique specializing in energy and infrastructure, created by Borja López in 2019.

Lawyer with more than 14 years of experience in large developers and international law firms, who has led development, construction and commissioning deals of photovoltaic, wind, cogeneration and waste to energy projects (among others) totalling more than 3000MWs in more than 15 countries; in the areas of M&A, Finance, Contractual and Regulatory.
Fondon Redes y Fluidos, founded more than 40 years ago, develops its activity in the field of Fluid systems, Instrumentation, Automation and process control.

The main value that our company provides is the optimization of processes based on advice to our clients. The experience acquired in the energy field over all these years has helped us direct efficiency towards technologies that are committed to the future, as is the case of hydrogen, where the proposals we handle allow hydrogen to be stored and conveyed at very high pressures, with certifications such as EC-79.
A passion for new technologies, intensive research and revolutionary solutions have been shaping the Fronius brand since 1945. As the technology leader, we find, develop and implement innovative methods to monitor and control energy.

Our mission is to achieve 24 hours of sun. Day after day, we are hard at work turning this vision of a future in which 100% of the world’s energy needs are covered by renewable sources into a reality. We are therefore concentrating on solutions to intelligently, efficiently and economically generate, store, distribute and consume solar energy.

At Fronius we believe that green hydrogen represents both a sustainable alternative to fossil fuels for mobility and a potential long-term storage solution for renewable energy. It’s with this conviction that we have been researching and developing hydrogen solutions for two decades to become the innovation leader in solar hydrogen.
FRP Advanced Technologies Aerospace & Defence

*Francisco Requena*  *hola@frp.technology*  *www.frp.technology*

FRP Advanced Technologies Aerospace & Defence SL is a Spanish Consulting Company provider hydrogen and green mature technologies solution for unmanned aerial systems (UAS).

FRP commercialize hydrogen fuel cells from Doosan Mobility Innovation, develop new airframes, asset for flight operations and planning, make procedures and Golden rules and offer pilot training under EASA regulation in specific and certified categories.

FRP distribute hydrogen tanks for UAS and their refuelling, recharge from comercial cylinders increasing the pressure from 200 bar until 350 bar with hydrogen refuller facilities.

FRP develop AI integrated solutions for inspection in Industry, Construction, Engineering, Coast Guard and onshore enviroment patrol.
GAEVE is a distribution company and exclusive agent for equipment and components for key Spanish industrial sectors such as energy, petrochemical, chemical, gas and nuclear, among others. We combine with engineering and construction companies, valve manufacturers and valve repairers. In the innovative field, we collaborate with conceptual entities in product development and R&D.

GAEVE has been since 2006, always providing European solutions, to these sectors with their challenges with high demand of quality products, being GAEVE recognized in these sectors fields for it. The products we sell are special valves for critical classified areas, quick shutoff valves, PSA Control valves, custom made skids for solid, liquid and gaseous fuel fluids according to EN161, mixing and injection skids. Tax measure trains, gas ramps, gas conditioners, and hydrogen skids. – With a number of references worldwide. -
Gecrio is a company whose mission is to provide solutions in cryogenic applications.

Core competences:
- LNG, L-CNG, CNG Fuelling Stations.
- LNG Process Engineering, Control Engineering.
- Cryogenic road tankers with optimized performance.
- Vacuum insulated pipes.
- Trun key projects delivery

Solutions: Design and integration of cryogenic applications, solutions focused on energy optimization using Natural Gas such as portable power generator sets with solar applications.

Services: Consulting, Maintenance, Repair, Training.

Gecrio has developed a product line of LNG Modular Solutions according to R+D project and intend to apply our solutions to the world of hydrogen.

Our team has an experience over 25 years ins the cryogenic equipment design.
Our activity focuses on the promotion of H2 production plants as well as the marketing, storage and distribution of H2, for this we work in the fields of process engineering to obtain H2 from different elements, hybridization studies of sources of alternative primary energy.
GFM Fotovoltaica is a pioneer company in the Renewable Energy sector, with more than 20 years of experience.

It offers different solutions, such as Solar Self-consumption, both residential and industrial, Charging Points for Electric Vehicles, Solar Carport, Solar Pergola, Portable Energy Solutions, Solar Pumping, Energy Consulting Projects, Energy Efficiency in Industries, or Innovation Projects, among others.

At GFM we have a team of highly qualified and experienced people in the development of the most efficient renewable energy products and solutions. Therefore, our teams are continuously creating customized solutions for each type of situation and customer.

We are currently in a process of internationalization having presence in four of the five continents. With our solutions, we provide better living conditions to people in countries such as Ethiopia, Jordan, Senegal, Chile or Dominican Republic, among others.

GFM is an innovative company that offers the customer a comprehensive service, from the engineering process in which we develop the solution that each customer or situation needs, complying with all safety, health and environmental quality measures to the commissioning and final maintenance.

GFM has been recognized with several ISO standards, being also leaders in the promotion of the SDGs and climate change.
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 company 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 500 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 Thermosolar), 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.
Grenergy Renovables is a Spanish company founded in 2007, is an independent producer of energy from renewable sources, mainly wind and photovoltaic, which has been listed on the Continuous Market since 2019. Its business model covers all phases of the project, from development, through construction and financial structuring to the operation and maintenance of the plants.

The company has a global pipeline of more than 6 GW in various stages of development in the eight countries where it operates in the European market (Spain, Italy, and the United Kingdom) and Latin America (Chile, Peru, Mexico, Argentina, and Colombia).
Energy Lancuyen Group has a vast experience in areas such as development, research, innovation and construction with photovoltaic and wind power.

We have an experienced team in Ready to Build (RTB) of renewable energy projects, PMGD, PMG, Utility Scale, solar and wind power. This year more than 400 MW are under development to bring to RTB status.

We are committed to safety and care of the environment, generation, research, development and innovation in projects such as floating PV, hydrogen and other renewable energy pilot projects.
H2B2 ELECTROLYSIS TECHNOLOGIES

H2B2 is a technology-based company (SME), incorporated in 2016 and present in the United States and Spain. Brings two decades of experience in hydrogen production, processing and technology development.

Provides Innovation, Design, Engineering, Manufacturing, Integration and O&M for modular hydrogen production systems, using water electrolysis.

Not only a product company, with flexibility and Ad Hoc solutions capabilities. Strong engineering and financing project backgrounds.

H2B2 provides the following products and services:

- Sale of PEM electrolyzers in different sizes.
- Sale of large integrated hydrogen plants (EPC Contractor).
- Development of hydrogen production plants.
- Provision fully integrated projects for hydrogen production.
- Provision of O&M services.
- Marketing hydrogen for integrated projects.

Focused on high demand markets, providing a sustainable solution for energy storage, transportation fuel and industrial applications.
H2GREEM is a Spanish startup company created to lead the electrolyzers manufacturing market, with products ranging from industrial output to high production for gas networks in accordance with international standards.

H2GREEM’s business is focused on the development of PEM hydrogen production systems, from design, construction and integration, to operation and maintenance needs, providing financing to guarantee the viability and success of each project.

H2GREEM will be a Spanish benchmark that offers turnkey customized solutions to projects around the world.
Haskell manufactures a full range of Hydrogen handling equipment, including hydraulic and pneumatic-driven gas boosters, high-pressure valves and fittings, and system components.

We specialize in high-pressure technology and offer an extensive background of knowledge and experience with Hydrogen applications, backed with a solid reputation for providing a superior product, known for quality and reliability.

We use specific materials designed for Hydrogen use based on pressure and flow requirements to address embrittlement issues metals face when exposed to a hydrogen environment. Embrittlement can be aggravated by high-pressure and hydrogen purity, leading to loss of ductility, and component failure at much lower stress levels than would normally be expected.

Capacity Range – Hydrogen Refueling Designed for flows from 25kg/day up to 1000 kg/day. Flow rate is nominal, dependent on inlet and outlet pressures.
Flow capacity dependent upon application
Range models allow compression up to 14,500 psi (1,000 bar)

For more information on our high-pressure products, visit Haskel.com or contact your local Haskel representative. Haskel is a brand of Accudyne Industries.
HAFFNER ENERGY develops and manages turnkey solutions for renewable energy projects for industrialists and local authorities (municipalities, large cities) and for transport and logistics companies on the biomass sector or others transports sectors.

A long-standing specialist in recycling biomass into carbon-free energy, its HYNOSCA® process, protected by 14 patent families, is a unique innovation to date for producing 100% renewable and affordable green hydrogen from solid lignocellulosic biomass.

The HYNOSCA® station is part of the territories, it uses local biomass from the circular economy to locally produce green hydrogen for local use for mobility or local industries and the creation of non-exportable local jobs.

Biomass can be the result of the local collection of the lignocellulosic part of forest wood residues, the woody part of green residues (hedge carvings), hedge wood, class A and B wood, vineyard pruning, sawdust and wood chips, hemp and linen by-products, energy plants such as Miscanthus, Igniscum plant, Silphium perfoliatum, etc. all collected and supplied by a local company. This develops the circular economy and create local jobs, even in isolated areas.

Our goal: to make green renewable hydrogen accessible to the local economy of the Spanish territories, and to preserve the environment.
HEROSE Ibérica is a subsidiary of the HEROSE Group. Associated with the leading corporation in cryogenic solutions, we have two main business lines: cryogenic and industrial valves.

Knowledge is our main goal as we have experience selling valves to different clients such as: manufacturers, end users, gas companies, engineering companies and contractors.

Our hydrogen portfolio is so broad that we can provide material for different applications such as filling stations, electrolyser, bottle racks, among others, being able to reach pressures of up to 1000 bar.

Thanks to constant product progress, check valves, needle valves, changeover valves, globe valves, ball valves and safety valves are suitable to meet the needs in gas and liquid phases.
Our mission is to produce green hydrogen from renewable energies (PV, wind and hydraulic).

We develop and operate projects to generate, produce, storage and distribute green renewable hydrogen which is used mainly for mobility solutions.

As we are an independent company, we are flexible in the design and the approach of our projects to find the optimum solution to each case partnering up with different players in the hydrogen value chain when required.

HVR energy brings more than 20 year of renewable energy experience.

We are committed with the decarbonization of the transport industry and of the economy in general.
Hidrona Gea, S.L.U. (Hidrona) is a new company of the Gea Perona Group (FGP Group).

It emerges as a result of the FGP Group's commitment with a sustainable environment and a decarbonized society.

Our objective is to participate in the entire hydrogen (H₂) value chain, from its generation, through transportation, storage, to its use as fuel or raw material for other compound elements.

In the last years the FGP Group has been specialized in sustainable mobility solutions. We firmly believe that H₂ will become one of the best alternatives in this sector in the near future.

We have the experience and synergies among all the FGP Group companies, to position Hidrona as a benchmark in the design and construction of facilities for the emerging hydrogen sector.
Hiperbaric, a Spanish company with headquarters in Burgos, is a global reference for high pressure technologies. With more than 20 years of experience, it has more than 300 high pressure units installed in 45 countries around the world. Hiperbaric is currently the global leader in High Pressure Processing technology for food, HPP (water compression up to 6,000 bar). In 2019, it launched a new business line of technology and equipment for Hot Isostatic Pressing, HIP (involving argon gas up to 1,400°C and 2,000 bar) and in 2021 has opened the first HIP Innovation Center in Spain.

Backed by its long history in R&D and thanks to its in-depth knowledge of high pressure technologies, Hiperbaric has launched its innovative 1,000 bar hydrogen compression technology. It can be applied to various different sectors, particularly to new means of sustainable mobility (H₂ fueling stations) and hydrogen storage. Hiperbaric develops hydrogen compressors and offers engineering and technical advice service.
HISPALYT, the Spanish Association of Manufacturers of Baked Clay Bricks and Tiles, is a non-profit organization that represents about 80 companies that manufacture structural ceramic products (pavers, facing bricks, bricks and blocks, tiles…), which manufacture 85% of the sector’s production in our country.

Since its creation in 1968, the main objectives of Hispalyt have been to defend the common interests of the companies in the sector, promote the recognition of ceramic materials and facilitate the implementation and development of innovative technologies for associates, which make associated companies more competitive, sustainable, contributing to the fulfillment of the emission reduction targets.

In the current context, both internationally and nationally, of decarbonization of the economy, with the long-term goal of being a climate-neutral continent by 2050, Hispalyt has among its main aims informing its partners about development and evolution. technology of hydrogen production systems, from renewable energy sources, and create alliances that allow in the future the use of this energy source in the thermal processes of manufacture of ceramic products and in cogeneration facilities with the their factories count, actively contributing to the reduction of greenhouse gas emissions.
We are a law firm specialized in the energy transition. We are experts in the regulation of renewable energies and the electric sector, as well as in other areas related to the energy transition, such as energy efficiency, electric mobility, storage, system services and hydrogen.

Piet Holtrop, managing partner of the firm, publishes recurrently opinion articles and is a regular speaker at various events in the renewable energy sector.

Our firm develops a highly relevant litigation practice in the defense of renewable energies, being this circumstance decisive for our analytical capacity of the regulatory changes, both in the framework of Due Diligence, and in the negotiations of guarantees based on it.

We also have extensive experience in the provision of legal consulting services, particularly through the preparation of reports.

Renewables, electric mobility and storage are areas that lead us to think and want to have hydrogen for the energy transition.
Hydrogreen Energy is a company focused in the production and distribution of components for fuel cell and electrolyzer applications such as GDL (Gas Diffusion Layers).

Our company is the result of a mutual collaboration between the academic knowledge and the private enterprise. With the best professionals from both environments, to fix the need of the market with technological solutions through academic R&D.
Hyundai Motor Europe in Spain is the Spanish subsidiary of Hyundai Motor Company.

We sale cars in the Spanish local market in all main 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 their factory assembly lines in South Korea to our Hyundai national dealer network starting from Summer 2018.

www.hyundai.es
Iberdrola is the world’s largest wind power producer and one of the largest utilities by market capitalisation in the world.

The company will double its renewable capacity to 60 GW by 2025.

Iberdrola is a Leader in Green Hydrogen production with 2 real projects under construction that will start production in 2021. Its 2030 model focuses on promoting decarbonisation through electrification of energy uses and Green Hydrogen.
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.
IDEA ENERGÍA S.L. is a company based both in Spain and México willing to contribute to the transformation of the energy model, opting for a new era which targets latest generation clean energy auto-consumption facilities which are based on natural and inexhaustible resources.

Our Outlook is to become a Service Company which specialises in renewable energy, which is customer-orientated and which offers guidance and advice on integrated solutions which allow for the achievement of low-cost business objectives.

Our main values are those of Integrity, Respect, Trust, Commitment, Quality, Independence and Social Responsibility.

IDEA is a multidisciplinary company which specialises in the renewable energy sector. Their main projects focus on wind power, photovoltaic solar energy and electrical infrastructures as well as offering consultancy, engineering, environmental, technical building assistance and O&M services.

IDEA highest priority is to establish a lasting relationship with their customers. A relationship based on trust and common objectives in order to provide an overall outlook of a sector that can successfully achieve its project aims.
IDOM is an association of independent professionals working in the fields of Consulting, Engineering, and Architecture. IDOM is wholly owned by the people who work in the firm, creating a culture of engagement, resulting in a strong commitment to the client, colleagues and work.

In 2020, over 3,800 highly qualified professionals have formed multidisciplinary teams to tackle complex projects in over 125 countries across 5 continents. The challenges of developing such projects in very different locations means that IDOM is constantly evolving, designing new solutions incorporating cutting-edge technology, expanding our range of services to meet the specific needs and objectives of the client.

IDOM has been an integral part of several large-scale projects in the energy sector, delivering a wide range of expert technical services, throughout the entire lifecycle of the project development. We have developed projects to generate grey H2 for use in refineries (EPCM contracts), drafted the specifications and completed the integration of electrolysis systems for H2 production in Combined Cycle Power Plants. Hydrogen must become a first-rate energy vector, and this is a challenge we are meeting, by providing services, undertaking studies in relation to the generation and distribution of Green H2 to be used for mobility or stored as excess renewable energy.
IGNIS ENERGÍA is an integrated energy company active in the areas of development, generation, energy services and operation & maintenance. Our company has one of the largest renewable energy development portfolios in Spain with more than 10,000MW and with an equally ambitious plan for international growth.

Grupo Ignis was born in 2015 with the aim of leading the ecological transition towards energy renewable. Since then, the company’s growth has been exponential, achieving in just 5 years more than 250 million euros in revenues and employing circa 250 people. With an international vocation, Grupo Ignis works in the development of renewable energy projects, and manages the O&M services (operations and maintenance) and commercialization of their energy production. Moreover, and to complete its offered services, Grupo Ignis is currently developing the area of construction for its own renewable energy plants (IPP); which will allow to position itself as a one of the few Spanish companies that participate in the entire value chain of the energy industry.
LEADERS IN THE ENERGY SECTOR

Developing, manufacturing and innovating electrical equipment in Medium and High Voltage, whereby have won public and private organizations awards in recognition of our quality and service.

INAEL is a strategic leadership company to face the challenges and transformations in the XXI century, therefore, our challenge is to expand our lines of business and R+D+I investment.
INERCO offers comprehensive solutions that promote sustainable industrial development. That 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:

- Feasibility studies and conceptual engineering.
- Basic and detailed engineering. Choice of technology.
- Supply of electrolyzers.
- Energy Management Systems (EMS) design and implementation.
- Biomass gasification technology.
- Specifications, purchasing management and property engineering.
- Construction and commissioning.
- Operation and maintenance.

In addition, 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.
JC FÁBRICA DE VÁLVULAS S.A.U.

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

The experience we have gathered for over 50 years designing, developing and producing ball valves mainly for the Oil & Gas, Petrochemical, Chemical and Energy sectors, give us the strength to continue innovating and investing in new products. Aware of the current scenario and its importance, our efforts and R+D strategy is focused on the new Hydrogen applications.

In JC VALVES we want to support the industries to overcome current challenges and to adopt as soon as possible the new and more demanding technologies for Hydrogen. For this reason, we have developed the most specific range of ball valves for this market.
Jolt focuses on the development, production and sale of electrodes, stacks and catalyst solutions coating for water electrolyzers and hydrogen fuel cells. Our technology can be applied in the future in other electrochemical processes such as chlor-alkali, ammonia and batteries.

Jolt’s technology consists of a new one-step, ultrafast and ultra-safe method to manufacture self-supported industrial electrodes. The process is based on "solution combustion" - ie the synthesis of metal oxides and alloys - and produces metal oxides with significantly improved performance at a reduced cost. It is a competitive catalyst coating treatment (50+ catalysts) which can be applied to electrode supports of any material (stainless steel, nickel, etc).
JUMO is a leading global supplier of components and systems for individual sensor and automation solutions. In addition to components for the measuring ranges temperature, liquid analysis, pressure, level, flow, and humidity the focus is also on automation challenges such as recording and monitoring as well as control and automation.

JUMO is considered a “Hidden Champion”. The second and third generation family business is the world market leader in the field of industrial temperature probes. As a high-tech company JUMO distinguishes itself by 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 their application.

JUMO specializes in meeting individual requirements quickly and flexibly. The wide product range offers components and systems for almost all industries that deal with machine and plant planning, construction, maintenance, and optimization. JUMO offers you the entire measuring chain from a single source.
King & Wood Mallesons (KWM) is a global and multidisciplinary law firm with more than 3,000 lawyers. With presence in Europe, Middle East, Australia, China, Singapore, Japan and U.S, King & Wood Mallesons is one of the biggest law firms worldwide.

With a track-record of over 20 years in Spain, King & Wood Mallesons has become a reference in the energy sector. Over the last 10 years, KWM has been consistently involved in the main energy and infrastructure deals taking place not only in Spain but in Europe. The legal firm can offer a 360° degree approach, having advised international and national industrial players, financial investors, financiers, equipment manufacturers, project developers, constructors, operations, off-takers and regulatory authorities.

Some main clients include, among others, EDP Group, Galp, First Sentier Investors, DWS, European Investment Bank, Finerge, Saggas, BBG, Macquarie, Santander, Abanca, BBVA, Capital Dynamics, Wulling Power Corporation and Chint.
Lean Hydrogen is an engineering and consulting company specializing in green hydrogen projects.

Our consulting firm meets the need for market knowledge and experience in electrolysis technology for companies in the renewable energy sector. We provide technical-economic feasibility studies of projects, support in the bidding phase, market studies, key player analysis and studies of industrial safety and standards. Design and development of hydrogen production plants by electrolysis and hydrogen refueling stations.

The idea of setting up the company was born in 2020 when its four founders, with extensive professional experience in hydrogen, detected the market need for a company specialized in hydrogen technologies and an agile work methodology.

Lean Hydrogen focuses on offering quality work based on a deep knowledge of technology and the experience of its human team.
At Sifónika Group we are experts in proposing and integrating solutions allowing your business to take the most of being sustainable.

For us, to help you is to make your business more profitable and resilient - now and in the future - thanks to the management and harvesting of rainwater and the self-consumption of Rainwater Green Hydrogen with our LogisGreen proposal.
M&M Procesos Finales

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Mecanizados y Montajes Aeronáuticos S.A (M&M Procesos Finales), is an aeronautical company specialized in the manufacture of metallic elements that meet the needs and requirements of the sector. This organization was founded in 2004 as an auxiliary company for the provision of services in the preparation of metal parts.

M&M Procesos Finales works with a wide variety of national and international customers and participates in the most relevant Airbus and Boeing programs, supplying parts to the main aeronautical firms such as Airbus, Aernnova, Aestis, Aciturri, Leonardo, etc.

R&D members in M&M are involved in the study of new technologies and developments, focuses special interest in the hydrogen community to be part of this developing industry.

Members have developed skills for hydrogen storage solutions according to the requirements just as the control systems involved.
MADRILEÑA RED DE GAS

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Madrileña Red de Gas, which operates in the Community of Madrid, is the third largest gas distribution company in Spain by number of supply points. It currently has more than 898,000 supply points spread over 61 municipalities and has more than 6,100 km of distribution networks. Through our networks, more than 10 TWh / year of natural gas are transmitted in different markets as residential, commercial, industrial, tertiary or Natural Gas for Vehicles.

Through Aliara Energía, a group company, Madrileña Red de Gas participates in the implementation of sustainable mobility solutions.

Currently, we work day by day with a strong commitment in innovative projects together with companies and associations in the search for transformative processes that increase the energy efficiency of end consumers and especially the future use of renewable energies. We are committed to the development of renewable gases such as Hydrogen and Biomethane.
The name Messer has been associated with expertise in industrial gases for more than 120 years. Messer manufactures and supplies oxygen, nitrogen, argon, carbon dioxide, hydrogen, helium, inert welding gases, specialty gases, gases for medicinal use and a wide variety of gas mixtures. This is how we have managed to become the largest family gas company in the world, present in more than 35 countries in Europe, Asia and America and with more than 11,000 employees around the world.

Messer has SMR plants in Europe and operates hydrogen filling stations for buses in the USA among other H2 production and supply facilities.

The Messer Group is currently a member of the European Clean Hydrogen Alliance and is present in various platforms and forums on the technological development of H2.

Messer Ibérica has been operating since 1970 in the Tarragona petrochemical complex, the largest in southern Europe, where it has air separation plants and supplies large customers in the sector through its own gas pipeline network.

Messer Ibérica is a member of the recently constituted Plataforma d’ Hidrogen Verd Catalunya Sud.
Montrel is a company implanted nationally and internationally, which develops its specific activities in the field of Electrical & Computer Engineering related with Energy Sector. Our scope includes Engineering, Electricity, Instrumentation and Control Systems, integrated all these services for solutions that can improve automation process for our clients’ facilities.

Founded in Seville in 1963 with the purpose of responding to the demand of the industrial sector to provide engineering facilities that are innovative, efficient, safe and highly technical, applying significant national and international standards of high technological value.
MOTUSA, is a boiler company founded in 1958 specialized in the manufacture and assembly of equipment, especially focused on special materials and pressure equipment. Our installation is 6,000sq situated close to harbor, airport, train station and highway what means we can supply as well small or big size pieces, there is no problem due transport.

MOTUSA has the possibility of design because we have a technical office where prepare calculations and documentation for construction in our workshop, legalize the construction in case needed and quality assurance of the works done taking specially care with safety, selection of raw materials, consumables and fulfillment of client requirements. Working under procedures and Making new if needed to comply with the good end of the products and avoid errors.

At the moment we are certified by Lloyd’s ISO 9001:2015 - EN 1090-1:2009 EN ISO 3834-2:2005 and Construction and installation of Pressure equipments.

Our purpose is to apply our knowledge in the manufacture of pressure equipment and welding of all types of materials to the world of new equipment for hydrogen.
MOVIALSA is a company with activity in the wine and the energy sectors with a track record in agriculture, winemaking and alcohol manufacturing dating back to 1940. The company’s traditional activity is winemaking. This activity is supported by 4 secondary wineries located in Ciudad Real and Cuenca, in addition to the main winery and its facilities in Campo de Criptana (Ciudad Real). More recently, the company has broken into the energy market. We currently own five industrial power generation and cogeneration plants.

MOVIALSA has been developing a circular economy model in the recent years. This model is based on the management and recovery of the by-products generated during the production of wines and musts and the distillation and rectification of alcohols and spirits. This model also aligns with recent trends toward energy conservation. As an electric energy production company that uses fossil fuels, we are conscious of the need to evolve towards other ‘cleaner’ fuels that contribute to reducing the carbon footprint of the economy to comply with the climate neutrality goals that are being adopted throughout Europe.

To achieve these goals, it is essential for us to work with institutions such as AeH2 that can help us to advance our knowledge and development of hydrogen technologies and that can guide us in future projects which will help the company adapt to this new paradigm and consequently move towards a business model compatible with the environmental care.
Nara Solar is a European company developing large-scale photovoltaic solar energy projects.
Naturgy, pioneer in gas and electricity integration, is a multinational group operating in more than 30 countries and with almost 18 million customers.

The company's core business lies in the regulated and liberated gas and electricity markets, with a growing contribution from its overseas activity.

Hydrogen is explored by Naturgy as an energy vector able to contribute to a sustainable development and therefore representing an important value to our energy supply chain, especially in the integration of electricity and gas grids.

Additionally, H₂ could play an important role in the development of a more renewable gas grid by direct injection of by metanation with CO₂.

In this sense, Naturgy maintain an important effort in exploring and developing the possibilities of hydrogen.

This effort is it is materialized by means of a continuous scouting and our participation in pilot projects with the aim of deploying the most promising technologies.
Founded in 1982, Neuwalme was born as a family company dedicated to sale components to pneumatic and oil-hydraulic applications.

Over the years, the company has grown continuously expanding the products and services portfolio to become a global provider of value-added solutions in the fields of oil-hydraulic, pneumatic and industrial control, to professional clients from different areas: automotive sector, shipbuilding, energy, equipment manufacturers, food industry, among others.

Operations cover the entire value chain: technical and commercial assessment, engineering, design, manufacturing, logistics and assembly; repairs, maintenance and technical assistance; and also sales of elements and components. In this field, Neuwalme is official distributor of reference marks in hydraulic and pneumatic components, and the only Parker Premier Distributor in Spain.

The human team is made up professionals with high expertise and skills, working 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.
Nippon Gases, part of the Taiyo Nippon Sanso Corporation - a consolidated subsidiary of the Mitsubishi Chemical Holdings Group -, is a strategic partner for industrial and medical gases in Europe.

Nippon Gases is the fourth largest industrial gas company in Europe with an overall market share close to 9% in the continent and is present in more than 13 countries, counting with a solid combination of onsite/pipping, merchant and package lines of business across key industrial zones.

Our technological offering span from the most efficient supply option to tailored applications technology solutions for every customer or partner.

Nippon Gases “lean” approach helps our customers in achieve safety and environmental sustainability standards, increase productivity, decrease energy consumption, develop greener energy solutions such as hydrogen and CO₂ application and produce higher quality products. Thanks to our services, equipment and innovative solutions, they obtain process improvements that allow the transition to a carbon-neutral economy.

Nippon Gases commitment to our customers, employees and associates and to the communities in which we operate is a reflection of our dedication to the environment and to sustainability. For us, a harmonious relationship between people, society and the planet is the way we want to work today and every day.
Following the acquisition of Acciona Windpower in 2016, Nordex Group has become a global player. 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.

Now Nordex is working to promote the market run-up for renewable hydrogen. It focuses on the hybridization of electrolyzers with wind energy to produce and export renewable hydrogen in regions with better sustainable resource conditions.
Pacific Green Technologies Group is becoming a world leader at providing sustainable cleantech solutions to help solve climate warming, green energy and resource scarcity challenges. Our vision is to build a new world in which these issues are addressed by technological innovation & engineering solutions.

Increasingly, the development of environmentally friendly answers for energy production, atmospheric emissions and clean water sectors has become a priority for most industrialized nations and will become more and more important for developing countries.

We are committed to managing the change to a cleaner more sustainable planet. Our aim is to help clean up emissions from fossil fuels as they are phased out and to develop and produce new green energy and renewable solutions.

Our mission is to design, promote and build innovative solutions specifically adapted to our clients needs. Our work is focused on excellence, honesty, social and environmental responsibility, long term sustainability, and financial strength; by combining the amazing economic strength and workforce capacities of leading Chinese engineering companies, together with the knowledge and experience of Western companies, we have found the best way to contribute efficiently to the future expansion of clean energy and emissions reduction all over the world.
Since its foundation in 1913, PASCH is a reference in the supply, installation and maintenance of industrial equipment and plants. PASCH represents in Spain and Portugal first-class manufacturers of industrial equipment, such as MAN Truck & Bus industrial engines, MAN Energy Solutions turbomachinery, Neuman & Esser compressors, Nikkiso Cryogenic pumps or Babcock -SPIG refrigeration systems. In addition to this representation activity, PASCH packages tailored solutions with different technologies such as steam turbines, cogeneration modules or emission control systems, among others.

Several of the technologies and equipment offered by PASCH are already present today in the new trends of the hydrogen market, facing this new energy era with different solutions as: compression and pumping equipment, electrolyzers, air fin coolers for electrolyzers, H2 purity analyzers or other components.

PASCH is also involved in other applications in fields as renewable power generation, energy storage, power-to-x, decarbonization, carbon capture and storage, etc.
pHYnix is an independent European company dedicated to the production, transformation and marketing of renewable hydrogen generation plants. With teams in France, Spain and Portugal, pHYnix is a subsidiary of EverWatt, an integrated player specialising in energy management and the decarbonisation of territories, whose majority shareholder is Transition Evergreen, the first listed investment fund in France dedicated to ecological transition and carbon footprint reduction. pHYnix’s mission is to contribute to its clients’ energy transition by helping them to decarbonise their activity and enabling them to become competitive on the market.

The services provided by pHYnix along the H2 value chain are:

- Promotion, financing, design, construction, operation and maintenance of green hydrogen manufacturing plants, supplying it on HPA contracts.
- Mobility and transport solutions for heavy-duty and long-distance vehicles; creation of refuelling infrastructures (HRS).
- Solutions for industry, both to supply hydrogen as a feedstock and to produce heat at high temperatures. And for the logistics sector in terms of the supply of trucks and forklifts that move goods in logistics centers.
- Export to the European market through injection into the natural gas network. A pioneering project in VITALE plant, since it will be the first time that a gas module will have been designed, manufactured and installed in Spain to serve this application.
In PISA, Productos de Instrumentación S.A., we have been dedicated since 1981 to advise, market and seek the best technical-economic solutions in the field of instrumentation, in all industrial sectors: chemical and petrochemical, refineries, engineering, nuclear, thermal and solar, oil & gas and alternative energies (H2, CNG, LNG).

With experience in different fields and markets of the industrial and research sector, we want to help our clients achieve the objectives of their project, committing to delivery in the shortest possible time thanks to our large stock.

In our catalog of Products and Instrumentation Materials you will find everything you need to carry out your industrial project, with all the guarantees, quality certificates and safety required.

The company and our team of engineers are looking forward to being part of your new projects. We will help you in the preparation of materials for engineering assembly by providing our training and experience in the sector.
Redexis is an integrated energy infrastructure company that is active in the development and operation of networks for the transmission and distribution of natural gas, the distribution and sale of liquefied petroleum gas and the promotion of renewable applications for natural gas and hydrogen. The Company builds infrastructure to transport this source of energy from the trunk or primary network delivery points to connection points reaching homes, businesses and industries throughout Spain, providing the best service in terms of safety and quality.

Redexis is present in 31 provinces of 11 autonomous communities: Andalusia, Aragon, Balearic Islands, Canary Islands, Castile-La Mancha, Castile and Leon, Catalonia, Community of Madrid, Valencian Community, Extremadura and Region of Murcia. The company provides access to a safe, convenient and efficient source of energy for homes, industries and businesses in over 488 municipalities. Redexis Gas has a license to operate in 582 municipalities. Redexis Gas has a robust network expansion plan which seeks to create sustainable socioeconomic value in the communities where it operates by providing access to a clean and efficient energy source, which furthers their development and social well-being. The company is adhered to the United Nations Global Compact initiative, as a part of its strategy and commitment to fight for human rights. Additionally, it undertakes to work in line with the 2015-2030 sustainable development goals approved by the UN in September 2015.
Repsol is a global, integrated company at the forefront of the international energy sector. We operate in more than 35 countries with a team comprising over 24,000 people representing 84 nationalities who work on building a sustainable future.

We are present across the entire value chain in a sustainable and competitive way: exploration and production, transformation, development, and marketing of energy that is efficient, sustainable, and competitive for millions of people.

At Repsol, we are resolutely committed to sustainability. It is essential to generate value today and in the future to society and, therefore, to our company. In the last four years, we have invested over 350 million euros in seeking new ways to generate sustainable and efficient energy.

We believe in technological innovation as a way to create a new energy model, in which growth and competitiveness coexist with emissions reduction. We are committed to a new model that will: 1) improve our energy efficiency; 2) find new ways to further reduce greenhouse gas (GHG) emissions; 3) enable the development of CO₂ capture, use, and storage (CCUS) technology; and 4) promote sustainable mobility projects, supplying power to different types of vehicles.
RIC Energy is a global company specialized in the development of photovoltaic projects and has extensive experience in the design, construction, operation, maintenance and financial structuring of large-scale plants.

Founded in 2005, RIC Energy was a pioneer in entering the Spanish solar PV market. Anticipation in identifying opportunities in new markets, as well as agility in strategic decision making has allowed RIC Energy to participate in the development of more than 4 GWp of PV assets in Spain and 500 MWp globally.

Because of this extensive experience, RIC Energy is determined to play an important role in the transition to clean energy by investing in new green hydrogen and storage projects.
Rosetta Technology Solutions is a company specialized in technology consultancy and supply of advanced, high-end instrumentation and measurement solutions, calibration standards including the associated commissioning, training and after sales services.

We aim to create value in the long term, advising and helping our customers to select the best and most appropriate measurement instrumentation that meets the specific requirements of their projects.

We have an extensive knowledge about the best practices of usage of measurement instrumentation in hydrogen industry: Test Benches, Fuel cells, Electrolyzers and dispensers as well as in applications of research, development and innovation. Our specialization in the technologies we handle and the industries we serve, allows us to help in every technological challenge, no matter how complex it may be.

We are firmly committed to our customer`s problems and needs, providing prompt and high-quality technical support, both in the supply process and throughout the product's life, facing each process with the maximum professionalism.
RP Global

Víctor Jiménez Domench | v.jimenez@rp-global.com | www_rp-global.com

RP Global is an Austrian private equity company that started its activity more than thirty years ago developing, building, and operating mini-hydro plants, although its main focus in the last ten years has been wind and photovoltaic projects. The company is present throughout the value chain of projects: development, construction, investment, and operation.

RP Global is currently developing green hydrogen projects, from green energy generation to hydrogen production and storage. In this regard, RP Global is working together with R&D and Engineering companies.

RP Global is headquartered in Vienna and currently operates in France, Germany, Italy, Portugal, Spain, Poland, Croatia, Serbia, Argentina, Peru and Africa (mainly Nigeria, Senegal and Tanzania).
ROXTEC develops, manufactures and sells complete sealing solutions for cable and pipes transits.

ROXTEC is a Swedish multinational founded in 1990 by designing sealing solutions adaptable to cable and pipes of different sizes. It is based on removable layer modules. Our goal is to protect people and assets by securing the input/output transits for cables and pipes against any kind of potential hazard: water, dust, vibration, rodents, fire, gas, smoke, blast, electrical hazards, EMC disturbances, high temperatures, noise... This enables to guarantee an operational reliability during the whole installation life.

ROXTEC mechanical seals are designed and implemented for all kind of highly demanding applications, and particularly, for H2 industry. We count on sealing solutions already implemented into electrolyzers and also into cables and pipes as part of different green H2 projects all across the world: H2 compressor stations, control buildings, H2 fueling stations, electrical substations, process plants ...

Some customer references: Acciona, SGRE, Repsol, Cepsa, Iberdrola, Dragados, Navantia, ABB, Siemens, EDP, Enercon, Eiffage... Our close cooperation with customer since the early design stages beside our worldwide presence lead to a continuous support for all our customer projects.
SailH2 is a company specialised in global solutions for the storage and management of renewable energies, in particular through the production, storage and distribution of green hydrogen.

SailH2 has a multidisciplinary team of specialist with an outstanding track record in renewable energy sector and more than 30 years of experience in green hydrogen and renewable energy storage projects, headed by two of his founding partners.

SailH2 is currently executing several renewable hydrogen projects, developing all possible hydrogen solutions. From the implementation of an electrolysis plant in a fertilizer factory, reducing it’s natural gas consumption by 20% in volume, to the development of a 1 MW Hydrogen Refueling Station in Seville. At the same time, a blending project is being developed together with a gas natural supplier company.
SCHLAICH DAUSS, S.L.P.

Olga Bello  info@schlaichdauss.com  https://schlaich-dauss.com/

SCHLAICH DAUSS provides legal advice in all matters related with energy and with renewable energies. Our main fields of specific expertise are as follows:

- **Green hydrogen**: We provide support to all gender of activities related to green hydrogen, in particular regarding regulatory matters issues linked to the development, construction and operation of green hydrogen projects, as well as their access to power and gas grids and construction of direct lines.

- **Support to investors and their energy projects**: We advise our clients at their roll-out in, conduct full legal due diligence and M&A processes.

- **Contract drafting and negotiation**: We have years of experience in drafting all gender of contracts related to power plants: PPA, EPC, O&M, LTSA, supply agreements and shared infrastructure agreements.

- **Contract & Claim Management**: We offer legal and technical contract and claim management during the pre-contractual and post-contractual phases of the Project agreements.

- **Energy communities** Schlaich Dauss is the reference law firm in Spain regarding energy communities. We have had the privilege of helping both public and private entities in the conceptualization, design and contractual structuring of their energy communities' projects.
The Schaeffler Group is a global leading 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, in addition to rolling and plain bearing solutions for a large number of industrial applications. Since its beginnings, the Schaeffler company has been characterized by groundbreaking innovations and global customer orientation.

Sustainability, and the extension of renewable power, are fundamental building blocks of the Schaeffler strategy. In Schaeffler’s strong commitment in this area, Hydrogen technology plays a central role.

Schaeffler considers the entire value chain of hydrogen – from the production of green hydrogen via electrolysis up to the end-utilization in applications like industrial processes or in stationary and mobile fuel cells.

Focussing on PEM technology, Schaeffler develops, manufactures and sells key components and sub-systems for PEM fuel cells and PEM electrolyzers.
Schwer Fittings, the specialists in products for stainless steel connection technology. Our wide product range includes stainless steel hydraulic fittings, threaded fittings, ball valves and valves, matching tube, stainless high pressure flanges and much more. Threaded fittings for fluid technology are just as much a part of our product portfolio as stainless steel compression fittings to EN ISO 8434 (DIN 2353), stainless steel threaded fittings, high-pressure fittings or stainless steel hose fittings.

Also you will find in our product range the u2-Lok twin ferrule fittings and the Clino Aseptic fittings suitable for use in Gas-Industries, H2-Industries, Bio-Industries, Pharmaceutical Industries and Chemical Industries.

The u2-Lok clamp wedge ring fittings ensure leak-free pipe connections in both high pressure and in vacuum.

Schwer Fittings meet the high demands of the processing industry and provides solutions that respond optimally to the complex requirements. The products of the company are subject to stringent quality standards, from the examination of the raw material, to checks between the various stages of production, to final inspection.

Thanks to our own assembly and final inspection the high quality standard of Schwer Fittings products is ensured.
Carburos Metálicos is a leading company in the industrial and medical gases sector. It produces, distributes and sells gas to multiple sectors: metallurgy, glass production, water bottling, food, medicine, energy, petrochemical, laboratories, freezing, refrigeration, wine, entertainment and drinks. The company provides a wide range of products, solutions and services to its customers as well as materials and equipment for the applications of these gases.

Founded in 1897, Carburos Metálicos has been serving the industry in our country for 120 years and has always maintained a strong bond with society. It is currently leader in the industrial and medical gases in Spain and a leader in the chemical industry in safety, innovation and sustainability.

Carburos Metálicos has a team of over 600 professionals in Spain, a daily production capacity of over 1,200 tons of liquefied gas (mtpd), 12 production plants, 14 packaging plants, two laboratories of high purity gases and a R&D centre located in Bellaterra (Barcelona), all serving over 100,000 customers. Since 1995, the company belongs to the US founded Air Products group (NYSE:APD).
SENER is a private engineering and technology group founded in 1956 with more than 2300 professionals around the world.

SENER covers the activities of Aerospace and Engineering, apart from industrial shares in other companies related to energy through SENER Renewable Investments.

SENER Engineering has become a world reference company in the sectors of Infrastructure, Energy and Marine. In Energy, SENER offers engineering and construction activities in power plants, termosolar plants, liquefied natural gas storage and regasification, underground gas storage, petrochemical plants and treatment and regeneration of solid urban waste. The scope of SENER services is flexible depending on client needs, it covers the entire project chain activities, from the conceptual phase to the engineering, purchase, construction, commissioning activities as well as operation and maintenance.

With the strength of a global leader, SENER looks to the future by leveraging innovation and reinventing excellence, adapting it to new demands. Our passion for technological challenge in the energy sector, drives us to develop our own technology for green H2 production, based on bioethanol reforming. Also, SENER provides the integration of innovative solutions for H2 projects related to electrolyzers, energy storage, H2 fuel cell applications and other technologies.
SERTOGAL is a Spanish company that provides consulting, engineering and surveying solutions for the energy and industrial sector.

- Professionals with more than 25 years of experience in the sector.
- Oriented to the services of Topography and Energy.
- Specialized in the energy transport and distribution sector.
- With great technical experience in the fields of civil works and renewable energies.
- Extensive work developed with BIM technology.
- Committed to the client, we always seek to give an excellent service to the client with the best final product: committed to each project, always providing the best technical and economic solution, responsible for meeting deadlines and working spirit.
- We integrate into our activity a policy committed to Quality, the Environment and Health and Safety at Work, with the aim of achieving a continuous improvement of all the services offered, improving environmentally and guaranteeing maximum safety working conditions.
- We comply with the requirements of the client, speeding up the response and obtaining a high degree of satisfaction.
Servicios de Hidrógeno Energético (SHiE)

Gonzalo Tuesta Guardiola | gtuesta@shie.es | www.shie.es

SERVICIOS DE HIDRÓGENO ENERGÉTICO S.L - SHiE is a Spanish company interested in the green hydrogen industry, as a key sustainable solution for the decarbonisation of the economy.

SHiE is a company owned 50% by ARPA Equipos Móviles de Campaña S.A. and Grupo Zoilo Ríos S.A., whose main activity is the manufacture of modular and scalable systems for the generation, compression, storage, transport and dispensing of green hydrogen.

Our team carry out the design, engineering, development, manufacturing, commissioning and maintenance of our solutions, offering turnkey projects tailored to the needs of the customer:

Main business lines for industries such as Service Stations, Private H2 recharging points and Renewable Energy producers, included:

- Modular green H2 generation systems
- Modular Green H2 dispensers and Hydrogen refueling systems at 350 and 700 bars
- Transportable or Stationary Green H2 Storage Systems
- Modular H2 Compression Systems from 60 to 900 bars
Design, installation and maintenance of gas facilities, refueling stations for natural gas vehicles (NGV), cryogenic (LNG), thermal and low voltage systems, pressure equipment and plumbing. Design and installation of water feeding systems against fire, fire hydrant systems equipped and fixed systems of extinction by powder. Installation and maintenance of gas and electric appliances.

Networks construction.
Installation and maintenance photovoltaic energy.
Siemens is a German technological group founded in 1847 by Werner Von Siemens. Siemens is a leading provider of efficient energy generation and transmission solutions and a pioneer in infrastructure solutions, as well as automation, drive and software solutions for the industry. Thanks to its subsidiary Siemens Healthineers AG, the company is also a leading provider of medical imaging equipment.

Siemens is present in 191 countries. The company arrived to Spain 120 years ago. It operates in the Industry, Energy, Mobility and Infrastructure businesses, divided into eight divisions and has about 3,342 employees (excluding 50% investee companies).

The enterprise has centers of global competence in Spain where it innovates, manufactures and exports as Cornellà (railway equipment), Getafe (portable radiodiagnosis equipment) or Rubí (electrical equipment).

Siemens is compromised with the decarbonization of the global economy. The company generates green hydrogen from renewable energy through PEM electrolysis, making an important contribution to the global energy transition. SILYZER technology integrates fluctuating energy sources such as sun and wind into its process.
SOLARIG is a global renewable energy integrator with over 16 years of experience. We currently manage 8.3 GW, and a recurrence rate of our customers of 90% this year. We have an EPC portfolio executed of 756 MW and more than 4435MW in our owned pipeline.

SOLARIG is an active player in development, engineering, construction and asset operation and maintenance spread out over more than 4 continents with solid infrastructure in key markets (Japan, UK, France, India, Australia, Brazil, Chile, México, Spain and Italy). We tailor our services to turn our clients and partners ideas into action through Flexibility, Transparency & Competitiveness.

Since 2020, Solarig has launched its development of Green Hydrogen production based on PV-generated electricity and water electrolysis. Solarig will take care of the generation, storage and supply of Green Hydrogen, and its involved in different lines of research.
"Soluciones Catalíticas IBERCAT S. L. is a Spanish company founded in 2011 created by members of the Energy and Sustainable Chemistry group from the Institute of Catalysis and Petrochemistry (CSIC, Spanish Research Council). The company apply catalytic technology solutions for industry applications.

The vast experience accumulated by the working team in heterogeneous catalysts allows the preparation of catalysts to solve specific customer problems. The manufacture of catalysts will be small and medium-scale (up to 50 kg). Special attention will be paid to the manufacture of fuel cells, heterogeneous catalysts for hydrogen production, biofuels and biomass products. Formulations of (electro) catalysts, methods of preparation and activation, deactivation and diagnosis of possible reactivation of catalysts are examples of on-going activities to be undertaken in connection with the industrial sector. IBERCAT also offers complete solutions that include catalyst selection, advice on the use of catalysts in the specific conditions required by the customer, and port-purchase service together with technical advice.

They have been developing tools and services while working on a per project basis, being able to design, characterize, test and produce novel products for optimize chemical reactions. IBERCAT is already involve in three EU-funded projects (numbered as 686163, 709493 and 779478), up scaling and developing catalysts for HDS, biomass valorization, electrolyzer electrocatalyst, and others.
Swagelok is a $1.8 billion, privately-held company. Headquartered in Solon, Ohio, U.S.A., Swagelok Company is a global developer and provider of high-quality and reliable fluid system solutions including products, assemblies and services for the research, instrumentation, process, oil and gas, power, petrochemical, alternative fuels, and semiconductor industries.

Its manufacturing, research, technical support and distribution facilities support a global network of more than 200 authorized sales and service centers offering support in more than 70 countries.

Swagelok Ibérica is the Sales and Service Center for Spain and Portugal.

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Company/3128304/
TaiichiO & Wolf Projects is part of the GreenSteel SL corporate group.

It is a company specialised in Steel Lean Supply Chain for renewable energy projects.

Taiichio & Wolf Projects, together with its Korean partner SeAH Steel, is currently developing technologically leading and productively competitive steel pipeline solutions for the transport and distribution of hydrogen.

Taiichio & Wolf Projects is currently the leader in Spain in the supply of steel for the offshore wind and solar photovoltaic sectors.
TCI GECOMP is a renewable energy engineering and construction company with presence in Europe and Latin America.

Recently, the TCI group started its investment business unit for the development of new energy generation and storage technologies, with special attention to the development of hydrogen from renewable energy sources.

We see hydrogen as a fundamental link in the development of new networks, in the use of existing ones through storage and fundamentally to make the growth of the electric car sustainable.

Through our historical activity in engineering and in the construction of photovoltaic and wind power plants, our presence in the lithium triangle in the Andes and the synergies with multinational companies from different industrial and financial sectors, we believe we are in a suitable position to collaborate in the proliferation of the use of hydrogen.

We wish to apply our international experience in the generation of clean energy for projects with the implementation of hydrogen technologies.
Technip Energies is an Engineering company with more than 60 years of experience and located in 48 different countries. We execute large and complex projects globally, where we combine our extensive Project management capacity with engineering and construction execution, with our technological knowledge to develop new solutions that support the energy transition in the world.

Our culture of innovation has always given us a pioneering and leading advantage 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 influence and encompass projects related to green hydrogen, key to face the energy transition. Together with this green hydrogen and our historical leadership in conventional hydrogen, we take advantage of our experience in technology, engineering and construction developing new projects based on Sustainable Chemistry (biochemistry / biofuels), as well as, in the capture and storage of CO2 (CCUS).
Tecnatom is an engineering international corporate group founded in 1957. Tecnatom’s core business in the energy sector, though it is present in other sectors as the industrial or the aeronautic ones.

Tecnatom’s aim is to develop solutions that support its clients with their processes, staff and assets management for achieving a safe and efficient operation.

Currently, Tecnatom is present in 10 countries with projects implemented in more than 40 countries.

Tecnatom’s products and solutions portfolio is supported by our vast experience in safety, training, operation and maintenance, inspection and testing, and processes digitalization. Within the hydrogen sector, Tecnatom provides solutions focused on maintenance and inspection, system and processes simulation, safety management and training for transferring and preserving the critical knowledge.

Tecnatom’s commitment to technology and innovation is ensured by an annual reinvesting of 10% of its income for technological developments to be up to date. Clear examples of that are the digital solutions such as the operating suite TecOS or the e-learning platforms SOUL and Hup.

Additionally, Tecnatom is an active member of several associations belonging to the energy sector and related sectors such as: AeH2, PTE HPC, AEE, Protermosolar, Sustainable Nuclear Energy Technology Platform (SNETP), Foro Nuclear, Materplat, Hisparob, Tedae, PAE, Futured…
Tecnica 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 have placed us in a leadership position in the manufacture, distribution and installation of pumping equipment, instrumentation products and related products.

In Tecnica de Fluidos we aim to offer a comprehensive service to our clients and that is why we have specialized technical departments based on both type of product: 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:

Chemistry, Research, Energy, Oil&Gas, Petrochemical, Alternative fuels and Semiconductors.

Our product range has a Mechanical instrumentation (valves, fitting, pressure regulators, accessories,…), Control products (pressure switch, flow switch, …) and different instruments in Flow, pressure, temperature and Level used in gas and liquid applications.
TCA TÉCNICAS DE CONTROL Y ANÁLISIS S.A.

Victor Pujadas Badell  victor.pujadas@tca.es  www.tca.es

TCA Técnicas de Control y Análisis, S.A. starts its activities in February 1986 exclusively dedicated to the supply of equipment and test installations for the Automotive Industry. In February 1995 started its activities in the Environmental field. The main objective of TCA is the project, assembly, supply, installation, commissioning and maintenance of control and test systems for the automotive industry, environmental field, aerosol technology and control systems. TCA has developed over the years a recognized experience in the field of gas analysers systems for the automotive, environment, industrial stack emissions and gas manufacturing industry.

TCA co-operates with several companies suppliers of equipment and services of recognised international prestige some of them leading in the areas of test systems as the company Horiba- FuelCon for fuel cells and gas analysers for H2 quality control at production level as the company V&F and JA-Gastechnology with high tech solutions for R+D for H2 applications.

TCA covers the Spanish and Portuguese markets from our facilities in Barcelona and Madrid and has a subsidiary company in Argentina (TCA Argentina- Buenos Aires) and a joint company together with the janesse technology multinational HORIBA, named TCA-HORIBA Sistemas de Testes Automotivos Ltda located in Diadema – Sao Paulo (Brazil).
Toyota España S.L.U. distributes and markets Toyota and Lexus vehicles in Spain.

One of the main aims of Toyota is the development of a sustainable society by developing environmental friendly automobiles. The development of the world's first mass-produced hybrid vehicle, on sale in 1997, and the world's first mass-produced hydrogen fuel cell vehicle, Mirai, reflect this goal.

Toyota is promoting the development of a hydrogen society and the expansion of the hydrogen infrastructure all over the world. To achieve this purpose the company is producing and improving fuel cell electric vehicles (FCEV) powered by hydrogen.

Recognizing hydrogen's vast potential as a clean energy source, Toyota believes hydrogen can help to reach a sustainable mobility.

Toyota España is actively helping to promote knowledge about hydrogen to facilitate its progressive introduction into Spanish society as an alternative and clean energy source.
Trafag España

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https://www.linkedin.com/company/trafag-espa%C3%B1a

Trafag is one of the world’s leading suppliers of high-quality sensors and monitoring devices for pressure, temperature and SF6 gas density. In addition to a wide range of standardised, configurable products, Trafag also develops tailored solutions for OEM customers. Trafag’s pressure transmitters, pressure switches, temperature transmitters and thermostats are used in shipbuilding, hydraulics, hydrogen, the railway industry, large engines, zones at risk of explosions (EX), water treatment systems, test benches, and more.

Trafag was founded in 1942 and is based in Switzerland. The company has an extensive distribution and service network in over 40 countries worldwide. This enables the company to provide individualised, competent customer support and guarantees fast service. High-performance development and production departments not only guarantee the fast and reliable delivery of our high-quality and high-precision products, but also ensure that customisations can be implemented in no time at all.
TRANSPORTES LASARTE, S.A.

Víctor Gutiérrez  victor@lasarte.com  www.lasarte.com

@lasartegroup  Linkedin.com/company/lasarte-transportes-logistica-e-ingenieria

TRANSPORTES LASARTE, S.A. is a transport, logistics and engineering company, with 70 years of dedication to abnormal transportation and large-scale project management.

In the field of renewable energy, LASARTE has played a very important role in the establishment of wind farms, with more than a thousand wind turbines delivered in Spain, Portugal, France and Morocco, where LASARTE has a delegation.

LASARTE offers a wide portfolio of services:

• Heavy and oversized transport
• Transport engineering and design
• Load-analysis and related advice
• Port operations
• Alternative handling methods
• Warehousing
• 24/7 service assistance
Engineering company entirely formed by independent capital, it does not belong to a business group.

Specialised in multidisciplinary engineering, in the areas of energy, oil & gas, plants and industrial facilities, mining, chemistry, pharmacy, railways and transport.

Established in León in 2001, and have a staff over forty employees.

We manage more than € 400M in projects in thirty countries.

**Services:**

- Civil engineering
- Electrical engineering
- Mechanical engineering
- Industrial architecture
- Research and development
**TW CONSULTORES EFICIENCIA ENERGÉTICA S.L.**

Carlos Gonzalez Medrano | cmedrano@twsolar.com | www.twsolar.com

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**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.
TYPSA, Técnica y Proyectos S.A.

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TYPSA is an independent consulting and engineering services group, and a leader in infrastructure, renewable energy, environmental and city solutions.

Founded in 1966, TYPSA has over 50 years of experience in assisting public, private and institutional clients in transforming concepts into reality. As a completely employee-owned firm with presence in 43 countries worldwide, we can leverage a wealth of knowledge and expertise to find the optimal solution for our clients.

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.

Clients and partners worldwide recognise our technical excellence. TYPSA Group's highly specialised multi-disciplinary teams form a staff of over 2,800 professionals, 70% of which are engineers, architects and other university graduates. TYPSA's services cover the full project cycle, assisting clients with the analysis of investments, project preparation, implementation support and capacity building. With our technical capacities, we can move forward even the most challenging projects.
URVA FLUIDOS INDUSTRIALES, S.L.

Víctor López  victor@urvafluidos.com  www.urvafluidos.com

URVA FLUIDOS INDUSTRIALES is a global company dedicated mainly to the industrial valves distribution with the added value of high-level technical support offered by our engineering team throughout all the purchasing process.

URVA work with a wide range of valves and accessories for fluid control, being the exclusive distributor of renowned international factories.

Specialists in valve automation, URVA goes hand in hand with leading brands in the supply of global solutions and fluid regulation.

Present in the different sectors, from water to waste, oil & gas, LNG, LPG NGL, hydrogen, energy, nuclear and industry.

Characterized by the constant growth, the great value of our human team, the strongly committed to the quality system, continuous training and technological updating.
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.

We are now immersed in the development of more than 400 MW of power in photovoltaic plants in Spain, some of them with the objective of generating energy for green hydrogen plants.

We are delighted to be part of the chain of this ambitious project.
VINCI ENERGIES SPAIN

VINCI Energies Spain makes innovation a reality in energy, transport and communications infrastructure, as well as the industrial sector. From design to maintenance and operation, we offer our clients support in the energy transition and digital transformation through 3 brands:

Omexom, specialized in offering services to companies that generate, transmit, transform and distribute electric power with a focus on Smart grids.

Actemium, specialized in the industrial sector that is evolving towards the smart industry and connecting with the factory of the future.

Axians, specialized in ICT that provides a wide range of solutions and services to organizations and entities.
Water2kW has a committed team with a long-term vision of its future positioning in the hydrogen market. We are backed by 25 years of professional experience in the energy sector and the previous experience of a large part of our team in senior management positions in multinational energy companies on a global scale.

We offer turnkey projects that include from consulting (legal, environmental, economic, commercial ...), to its technical design, development and commissioning. Having patented several systems for the 100% sustainable production of green hydrogen.

In order to deepen the technological offer that we currently offer, we maintain and promote collaboration agreements with different companies and technology centers, both in Spain and abroad. Within this line of innovation, Water-On, a sister company of Water2kW, contributes to our projects its patented solutions for the production and treatment of 100% chemical-free water. This, added to our solutions in electrolyzers and fuel cells, allows us to have a technological offer of the highest level and unique in the market for the production and end use of green hydrogen with a 100% sustainable process.
WSC is an investor and asset manager specialized in the infrastructure and energy transition sectors, with over €1.5 billion of AUM from institutional investors in infrastructure investments to date. Headquartered in Zug (Switzerland), WSC has offices in Madrid, Bilbao, London, and Mexico City with a total of 15 operational and transactional professionals. WSC is the manager of 1,135 MW of utility-scale operating renewable energy and CCGT assets across Mexico and Spain.

WSC’s team of professionals have a mix of backgrounds from the energy sector, investment banking, as well as consulting. This provides White Summit Capital with a unique approach to multidisciplinary analysis of investment opportunities.

White Summit Capital has launched BENORTH2, a pioneering 20 MW Green Hydrogen Project in the Basque Country, Spain, in collaboration with Castleton Commodities International, Bizkaia Energía, Nortegas and SENER.
Worley is a worldwide team of 48,000 consultants, engineers, construction workers and data scientists committed to solving 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 minerals 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 produce it, transport it, store it, process it 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:

- Market studies for green H₂ and its derivatives
- Technical advisory for green hydrogen programs
- Feasibility study (including Class 4 cost estimate) and concept design of green H₂ and green ammonia plants.
- Technical Due Diligence for green H₂/green fuels projects
- FEED and engineering services for green H₂ plants (e.g. a 10MW plant integrated in a refinery in Germany which is already in operation since 2021)
X-ELIO

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X-ELIO is a global leader in the industry of renewable energy with a firm commitment to greenhouse gases reduction and the fight against climate change. X-Elio is a leading large scale, vertically-integrated, global solar PV player focused on the development, construction, operation, finance and management of utility-scale solar PV plants in key geographies.

The Company has a successful long-standing track record, with 16 years of experience. It has developed and built +2.5 GW in solar PV plants since its foundation in 2005. The firm relies on a team of ~200 highly skilled professionals and currently has presence in 7 countries: Spain, Italy, Japan, USA, Chile, Mexico and Australia.

X-ELIO is a global leader in the industry of renewable energy with a firm commitment to greenhouse gases reduction and the fight against climate change. The company counts with 16 years of experience and has built more than 2,5 GW in solar photovoltaic plants.

Our main business lines are:

- The development, construction, finance and maintenance of solar PV plant
- Provide 100% renewable energy
Yokogawa Electric Corporation was founded in 1917 in Japan and now is a leading provider of 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.

Yokogawa Iberia was established in Spain in 1990 as an affiliate of Yokogawa Europe BV. Yokogawa Iberia has been operating as leading provider of Industrial Automation in Spain and Portugal participating in several local and international project.

Nowadays, Yokogawa Iberia headquarters are in Madrid with two operation and services offices in the Andalucía and Cataluña. And supported by the regional sales offices along the Iberian territory. Levering the capabilities of Engineering, Control System Integration, Advanced Solution, Cybersecurity and Field Instrument and Analyzers, fully coordinated supply chain for all portfolio’s products centralized in Yokogawa Europe.

In 2016, Yokogawa Europe established the advanced Analyzer Systems Integration center in Madrid specialized in tailor-made solutions and coordinated with the global integration centers’ structure.

Yokogawa Iberia is focused on the business segments of Energy and Sustainability, Materials and Life. Serving to the changing business environment and enabling the growth in those business areas where Yokogawa can leverage the technologies and expertise.
Zima is a leading Spanish engineering group of companies, focused on providing quality industrial and environmental services. With more than 40 years of experience in the industrial sector and in constant innovation. We continue to expand our horizons of action, expanding our services in naval technology and industrial robotization.

As we well know and promote in the Group, competing in industry involves a constant improvement effort in prevention, quality and efficiency that we implement in the all of our activities. That's why our basic priority is safety and innovation in our processes. To do this we use cutting-edge technologies that give us optimal results in all our performances.

In addition, thanks to our environment department, all companies in the Group have a nature-friendly management system. Our offer also incorporates all the capabilities included in the waste treatment value chain with a geographical focus on the Cantabrian Corniche.
6. Research centers, public organizations and non-profit organizations
• ARAGON HYDROGEN FOUNDATION
• CENTRO NACIONAL DEL HIDRÓGENO (CNH2)
• CIIAE
• CIEMAT
• ECONOMY, INDUSTRY AND EMPLOYMENT DEPARTMENT, ARAGON GOVERNMENT
• ENTE VASCO DE LA ENERGÍA (EVE)
• FUNDACIÓN CIDAUT
• INSTITUTE IMDEA ENERGY
• IUI CMT – MOTORES TÉRMICOS
• ROVIRA Y VIRGILI UNIVERSITY
• SPANISH CONFEDERATION OF GAS STATIONS OWNERS
• SPANISH INSTITUTE FOR AEROSPACE TECHNOLOGY (INTA)
• TECHNALIA RESEARCH&INNOVATION
ARAGON HYDROGEN FOUNDATION

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The Foundation for the Development of New Hydrogen Technologies in Aragon is a Private, not-for-profit entity, created to promote the use of hydrogen as an energy vector.

Promoted by the Government of Aragon it was founded in 2004 with the support of the administration, industry and the main society actors form different sectors of activity. Today has become a board made up of 70 members of key importance for the Aragonese economy.

With the support of the board members, the Foundation works day by day for the development of new hydrogen technologies integrated with renewable energies and the promotion of Aragon’s involvement in economic activities relating to the use of hydrogen as an energy vector.

The mission of the Foundation is to carry out the organization, management and execution of a wide range of actions with the purpose of generating, storing and transporting hydrogen, for its use in fuel cells, in transport applications or for the generation of distributed energy. In this way it aims to foment research, technological development, cogeneration and industrial adaptation, contributing to industrial modernization and improved competitiveness. We develop projects in a wide range of technologies, always related to renewable energy and hydrogen. We understand the economy of the hydrogen as an integrating and complementary vector to the existing energetic technologies.
The “Centro Nacional de Experimentación de Tecnologías de Hidrógeno y Pilas de Combustible” or Hydrogen and Fuel Cell Technology Experimentation National Centre (CNH2), is a nationwide research centre focused on promotion hydrogen and fuel cell technologies.

The CNH2 provides services to the entire national and international scientific, technological and industrial community.

The CNH2 has 13 laboratories and 5 support facilities in order to develop these services that cover the whole value chain.

The CNH2 coordinates and participates in many R&D projects related to the sector. Its main objectives are:

• To develop both basic and applied R&D projects.
• To test and validate prototypes and equipment.
• To develop and scale-up processes.
• To approve, certify and verify systems and components.

The CNH2 offers its experience and facilities to research and industry community with different types of added value services.
The Iberic Energy Storage Research Centre (CIIAE) is a centre of excellence in research, development and application of energy storage and hydrogen technologies to facilitate the integration of renewable energy and reduce greenhouse gas emissions. Research covers lab and modelling work at various scales and Technology Readiness Levels (TRLs), as well as innovative pilot plants. CIIAE provides a stimulating research environment to work on some of today's most pressing energy, environmental and societal challenges. CIIAE benefits from large network including research centres and companies in the Iberic peninsula and abroad.

CIIAE has three main lines of research, namely Hydrogen and Power-to-X, thermal storage and electricity storage. In addition to the corresponding laboratories, CIIAE has Pilot Plants for the advancement and scaling of technology developments.
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 Unit of Fuel Cells and System Integration (UPCIS) (http://rdgroups.ciemat.es/web/pilascomb), is the development and demonstration of fuel cells (PEMFC and SOFC) as efficient energy converters for stationary, mobile, and portable applications. Laboratories and facilities are available for materials synthesis and components development, including advanced techniques (electrospray, electrodeposition, screen printing, and tape casting), electrochemical studies (quartz crystal microbalance, impedance spectroscopy), components fabrication, fuel cell mounting, test benches for fuel cell operation (low and high temperature), and integrated systems demonstrators.
Aragón is one of the seventeen Spanish autonomous regions (communities). It is located in the northeast of the Iberian Peninsula, equidistant and close to its most developed areas (only about 75 minutes from Madrid and Barcelona, thanks to the high-speed train). With 47,724 square kilometers, this ancient kingdom, which was one of the oldest nations in Europe, today has more than 1.3 million inhabitants.

The Aragon Hydrogen Strategy: in this topic, the main instrument promoted by the Government of Aragon is the Foundation for the Development of New Hydrogen Technologies in Aragon (FHa), a private entity created in 2003, whose main objective is the development of the new hydrogen technologies integrated with renewable energies and the promotion of Aragon's incorporation into economic activities, especially the development of industrial technologies, related to the use of hydrogen as an energy vector.

The Aragon region is currently a member of the Board of Directors of HyER, the European Association of Hydrogen and Fuel Cells and Electro-mobility in European Regions (formally HyRaMP).

On 23 November 2016, the Autonomous Community of Aragon-Aragon signed a Memorandum of Understanding (MoU) with the Fuel Cells and Hydrogen Joint Undertaking 2 (FCH 2 JU).
The Ente Vasco de la Energía (EVE) is the energy agency of the Basque Government, and its mission is to propose energy strategies for the Basque Country and actively participate in their development and contribute to the achievement of their objectives.

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

EVE is currently leading the Basque 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.
CIDAUT (Centre for Transport and Energy Research and Development) was founded in 1993 as a non-profit organisation. The methodology developed by CIDAUT involves the meticulous development of each and every stage of product development, from the very first idea, materials selection, simulation activities, processing, prototype design and pre-industrialisation tasks, up to the final validation of the product.

CIDAUT works in a wide range of energy and environmental technologies. One of the most recognized expertise is the definition, development and validation of catalytic reactors to obtain hydrogen with fuel cell purity. This expertise includes design, calculation and construction of prototypes of fuel processors starting from diverse fuels (hydrocarbons and renewable substances).

CIDAUT has worked intensively in fuel cell integration in stationary applications in the residential sector with renewable energies and with reforming processes. In transport applications, CIDAUT has evaluated the use of fuel cells in the railway sector for different applications and has successfully integrated a hybrid power system based on batteries, fuel cells and supercapacitors in a tram. Moreover, CIDAUT has evaluated the use of fuel cells as APU systems in airplanes, developing scaled prototypes. Finally, CIDAUT has experience and extensive knowledge in the development of LCAs and in other transversal issues for the analysis of the social acceptance of hydrogen and fuel cells.
IMDEA Energy is a research institution aimed at the development of a low carbon energy system. Accordingly, a number of the activities and research lines active in IMDEA Energy are directly related with hydrogen as energy vector. Among them, the feasibility of hydrogen production is investigated using different processes:

- Water splitting by means of thermochemical cycles.
- Photocatalytic water splitting.
- Valorization of water and carbon dioxide into synthesis gas.
- Catalytic decomposition of methane.

In addition to the experimental work carried out at different scales (from laboratory to pilot plant), those processes are also studied conceptually by application of LCA tools in order to find the alternatives having a minimum environmental impact.
IUI CMT-Motores Térmicos (UPV) is a research and educational center fully involved in the development of future powerplants for mobility, incorporating more than 100 people. For more than 40 years we have conducted basic research for better understanding the relevant physical and chemical processes involved, and applied studies for optimizing the engine systems and assisting their development.

Research of H\(_2\) at IUI CMT-Motores Térmicos (UPV) can be divided into two lines: combustion and fuel cells.

- **Combustion**: we see H\(_2\) as a transitional fuel to reduce the current emissions if blended with other fuels such as CNG, Diesel, gasoline or NH\(_3\), or as a long-term solution for long-range transport if used to produce e-fuels whose CO\(_2\) emissions are neutral. The combustion research involves experimental and modeling activities, and it is mainly focused on the automotive and the aerospace sector, but we also support the used of H\(_2\) in industrial applications.

- **Fuel cells**: mainly based on the stack, system and vehicle levels, both covering modelling and experimental activities. Our main research include, but is not limited to, PEMFC system integration and optimization to maximize performance by means of improving the thermal performance, the flow dynamics or the control strategy.
The URV coordinates the Catalonia Hydrogen Valley, with more than 100 actors in order to generate sustainable social, economic and environmental value through the implementation of the new green hydrogen value chains in industry, mobility and services.

The objectives are:

- Promote the development of green hydrogen value chain projects.
- Create synergies between the transition to green hydrogen and the digital transition.
- Generate and transfer knowledge about green hydrogen.
- Train a skilled workforce around green hydrogen.
- Be present at tables and national and international green hydrogen networks.
- Raise awareness among citizens and socio-economic agents about green hydrogen.
The Spanish Confederation of Gas Station Owners (CEEES) is a national non-profit organization established more than forty years ago with the aim of being the meeting place for all Spanish filling station owners. CEEES, which defends the interests of thousands of independent gas station owners, focuses its activity on representing its associates before the different national, regional and local institutions and stakeholders, in defense of their professional activity and common action to obtain material, social and labor improvements for the sector, as well as for the whole of Spanish society.

CEEES is a signatory of the United Nations Global Compact and is committed to the United Nations SDGs, among which are ‘Affordable and clean energy’, ‘Sustainable cities and communities’ and ‘Climate action’. Hydrogen, and particularly 100% renewable green hydrogen, is called upon to play a leading role in achieving these goals.

CEEES tries to help its associates in the energy transition process of their businesses, informing, advising and training them about the different options and technologies available in the market.
The Spanish National Institute for Aerospace Technology (INTA) is a public organization for the aeronautical and space science research and technological development.

Nowadays INTA Energy Department focuses its activities on characterization of low and medium temperature PEM fuel cell prototypes in the power range from 10 W up to 30 kW as well as the design, installation and monitoring of energy systems prototypes ran with hydrogen and fuel cells, usually in hybrid power systems with batteries, for mobile (in particular unmanned vehicles) and stationary applications.

These activities have been carried out with financial support from INTA, Regional Governments within Spain, the Spanish National Plan for Research & Development, European Regional Development Funds and European Framework Programmes. INTA belongs to the Joint Undertaking Programme on Fuel Cells and Hydrogen (FCH JU) created by the European Commission as a joint technology initiative to develop FCH technologies in Europe.

INTA is the Spanish representative in the executive Committee of the International Energy Agency Program about Hydrogen Technology and chaired this Committee since June 2008 to June 2011. At National level INTA belongs to the Spanish Hydrogen and Fuel Cell Technological Platform and the Spanish Hydrogen Association that chaired since its foundation in May 2002 till May 2011, holding at present the vice-chairmanship.
TECNALIA RESEARCH & INNOVATION

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TECNALIA RESEARCH & INNOVATION is a private, independent, nonprofit applied research center of international excellence. Legally a Foundation, Tecnalia is the leading private and independent research and technology organization in Spain and one of the largest in Europe, employing around 1,400 people (225 PhDs) and with income of 105.2 Million € in 2017.

The whole team at TECNALIA has one GOAL: to transform technology into GDP, meaning wealth to improve people’s quality of life through generation of business opportunities for industry.

Tecnalia has developed strong expertise related to the production, purification, distribution and use of hydrogen. More precisely, the main topics of expertise are:

• Production of hydrogen from different sources: biomass, natural gas, biogas, methanol, ethanol,..
• Purification of hydrogen through advanced membranes or PSA
• Storage of Hydrogen through Metallic hydrides
• Development of components for fuel cells (PEM and SOFC) through advanced manufacturing technologies
• Safety in the use of Hydrogen as energy carrier (advanced characterization techniques for hydrogen embrittlement of materials)
• Hydrogen systems grid integration and operation in combination with RREE
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