Members guide
The AeH2 Members Guide provides information on many of the key companies, public and private institutions and organization active in Spain’s hydrogen and fuel cell sector. This guide includes the current AeH2 member list profile: useful information to facilitate cooperation between the hydrogen community. Edition: December 2020
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- GENERACIONES FOTOVOLTAICAS DE LA MACHA S.L
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- H2B2 ELECTROLYSIS TECHNOLOGIES (H2B2)
- H2GREEM
- HASKEL SISTEMAS DE FLUIDOS ESPAÑA, S.R.L
- HIDRÓGENO VERDE RENOVABLE
- HIDRONA GEA, S.L.U
- HIPERBARIC, S.A
- HISPALYT
- HOLTROP S.L.P. TRANSACTION & BUSINESS LAW
- HYDROGREEN ENERGY S.L
- HYUNDAI MOTOR EUROPE IN SPAIN
- IBERFLUID
- IDOM
- IGNIS ENERGÍA
- INAEL ELECTRICAL SISTEMS
- JC FÁBRICA DE VÁLVULAS S.A.U
- JUMO CONTROL S.A
Companies

- KING & WOOD MALLESONS
- MESSER
- MOTUSA
- MOSTOS, VINOS Y ALCOHOLES, S.A.
- NARA SOLAR
- NATURGY ENERGY GROUP S.A.
- NEUWALME
- NIPPON GASES ESPAÑA S.L.U.
- PACIFIC GREEN SOLAR TECHNOLOGIES, Inc.
- PASCH Y CIA.
- PRODUCTOS DE INSTRUMENTACIÓN S.A.
- REDEXIS GAS
- REPSOL
- ROVIRA I VIRGILI UNIVERSITY
- ROSETTA TECHNOLOGY SOLUTIONS
- ROXTEC S&P
- S.E. DE CARBUROS METÁLICOS, S.A.
- SENER
- SIEMENS
- SOLARIG
- SOLUCIONES CATALÍTICAS IBERCAT, S. L.
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- TCI GECOMP
- TECHNIP ENERGIES
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Companies

- TÉCNICA DE FLUIDOS S.L.U
- TÉCNICAS DE CONTROL Y ANÁLISIS S.A
- TOYOTA ESPAÑA
- TRANSPORTES LASARTE, S.A
- TRESCA INGENIERÍA
- TW SOLAR
- URVA FLUIDOS INDUSTRIALES S.L
- WATER2KW
- WHITE CAPITAL SUMMIT
- X-ELIO
- ZIMA Equity Investments
Research centers, public organizations and non-profit organizations

- ARAGON HYDROGEN FOUNDATION.
- CENTRO NACIONAL DEL HIDRÓGENO (CNH2)
- CIEMAT
- Economy, Industry and Employment Department, Aragón Government
- ENTE VASCO DE LA ENERGÍA (EVE).
- Fundación CIDAUT
- INSTITUTE IMDEA ENERGY
- IUI CMT-Motores Térmicos (UPV)
- Spanish Confederation of Gas Station Owners (CEEES)
- Spanish Institute for Aerospace Technology (INTA)
- TECNALIA RESEARCH & INNOVATION
The Spanish Hydrogen Association (AeH2) is a non-profit organization that has as main aim 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 the energy systems.

AeH2 members have developed strong capabilities in hydrogen and fuel cell technologies.

The AeH2 has shown itself as an important and visible actor in the hydrogen community in Spain and abroad and will play an important role in this emerging industry.
AeH2 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.
Moreover, the AeH2 pursues the following specific goals:

**GROUP:** be a meeting point for the sector, gathering Companies, Institutions, Research Centres and Universities with activity in hydrogen and fuel cells.

**R&D:** foster research, development and innovation in hydrogen and fuel cells, and boost startups and technological knowledge.

**DEVELOPMENT:** support development, promoting hydrogen production, storage and distribution, and fuel cells applications.

**TRAINING:** offer specialised academic training through consolidated courses.

**LEGISLATION:** promote laws and regulations for the use of hydrogen as an energy carrier.

**DISSEMINATION:** bring the hydrogen energy closer to the society.
How we work:

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

- Information and dissemination.
- Expertise and promotion.
- Organization and participation in conferences, seminars and meetings.
- Promotion and education.
- Lobby work for hydrogen and fuel cells.
- Facilitates contacts to 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”.

AeH2 actively cooperate with other Associations from Europe and abroad such as:
Representation

The Association plays an important role promoting activities for the hydrogen community and its relations with organizations or authorities, either international or Spanish, 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 Platform works on the national strategic policy in technological fields for hydrogen and fuel cells with the main goal of promoting and accelerating 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& Technological Innovation chain.

More than 180 Spanish entities, with activities related to hydrogen and fuel cell technologies, participate in the PTE HPC. This entities contribute with their experience, knowledge and opinions in the elaboration of documents, making possible the establishment of the scientific, industrial and technological guidelines which should be adopted to promote the incorporation of these technologies, giving energetic solutions and stimulating a new industrial and technological services sector.
Abei Energy

Iván Barahona  ivanbarahona@abeienergy.com  https://www.abeienergy.com/es/

@abeienergy  https://es.linkedin.com/company/abei-energy

Abei Energy is committed to the energy transition, towards a power generation with zero emissions, with the challenge of reducing generation costs and developing an industry that generates employment.

Abei Energy controls each part of the Project, starting with the development, getting the financing, making the most appropriate engineering for the construction of each Project, closing the process with the total management of the assets.

With an experience in the sector of more than 15 years in Europe and America.
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.
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.
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 AlterEco brand to other markets like Latin America and countries where Wolfank 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.
ARIEMA Energía y Medioambiente S.L.

Juan Valera | juan.gomezvalero@ariema.es | www.ariema.com

@AriemaEnergia company/ariema-energia-y-medioambiente/

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:

- **Equipment supply, 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’.
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.
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
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.
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 promotors 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

@canaryoil_ | www.linkedin.com/company/gasolinerascanaryoil

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.
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....
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.
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.
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.
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
- Is ISO 9001, ISO 14001 and ISO 45001 certified
- Offers unlimited life-time guarantee for its tools
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.
Enerfin Sociedad de Energía S.L

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


Enerfin, 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.
ENGIE Hydrogen Business Unit

Olivier Machet | Olivier.machet@engie.com | www.engie.com

@ENGIEnrgr | company/engie

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.
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.


**EXOLUM**

*Patricia Prieto Liguori  patricia.prieto@exolum.com  www.exolum.com*

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**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.
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.
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 in the cryogenic equipment design.
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.
Grupo Energy Lancuyen

Andrea Moraga Paredes  andrea.moraga@grupoenergy.cl  www.grupoenergylancuyen.cl
H2 Director

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)

Javier Brey | info@h2b2.es | www.h2b2.es

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 Global Solutions SL

Fernando Agudín Muñoz
fernando.agudin@h2greem.com
www.linkedin.com/in/h2greem-global-solutions-9a55891b3/

H2GREEN 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.

H2GREEN’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. H2GREEN will be a Spanish benchmark that offers turnkey customized solutions to projects around the world.
Haskel 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.
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.

Igor Jaumandreu | igorj@cringas.com | www.grupogeaperona.com
Adela Robles | adela@nafran.com | www.grupogeaperona.com

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

Javier del Val - Nexo Model Specialist | jdelval@hyundai.es
Javier Arboleda - Service Senior Manager | jarboleda@hyundai.es
Eugene Sullivan - Product Senior Manager | esullivan@hyundai.es

Hyundai Motor Europe in Spain is the Spanish Susidiary 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
Iberfluid Instruments

Oscar Royuela  Oscar.royuela@iberfluid.com  Iberfluid.com

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.
IDOM Consulting Engineering Architecture

Juan Carlos Sanz Urdiales | jsanzurdiales@idom.com | idom.com

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.
INAEL Electrical Systems, S.A

Angel David Lara  adlara@inael.com  www.inael.com

https://twitter.com/Inael  https://www.linkedin.com/company/800296/admin/
group

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.
JC Fábrica de Válvulas S.A.U

Arnau Carbonell  sales@jc-valves.com  www.jc-valves.com

https://www.linkedin.com/company/jc-valves

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.
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 360º 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.
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.
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 España S.L.U
José Vicente Sánchez  Info.spain@nippongases.com  nippongases.com/es
@NipponGasesESP  linkedin.com/company/nippon-gases-iberia/

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.
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.
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 gas

Javier Crespo | Javier.crespo@redexisgas.es | www.redexisgas.es

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.
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.

@h2valleycat
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.
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.
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.
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 4435 MW 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.
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…
Técnicas 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 Técnicas 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 japonesse technology multinational HORIBA, named TCA-HORIBA Sistemas de Testes Automotivos Ltda located in Diadema – Sao Paulo (Brazil)
Toyota España

Rebeca Guillén | rebeca.guillen@toyota.es | www.toyota.es  www.prensa.toyota.es

@Toyota_Esp  @ToyotaPrensa  company/toyota-espa-a-s.l.u.

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.
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 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.
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.
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.
White Summit Capital

Alexander O'Rourke | Alexander.orourke@whitesummitcap.com / www.whitesummitcap.com

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 Energia, Nortegas and SENER.
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-Ello 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
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.
Research centers, public organizations and non-profit organizations
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.

It 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 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, CO\textsubscript{2} capture using solid sorbents and novel catalytic and electrocatalytic technologies for CO\textsubscript{2} conversion to fuels using renewable H\textsubscript{2}.

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 APUs and RAT 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 H₂ at IUI CMT-Motores Térmicos (UPV) can be divided into two lines: combustion and fuel cells.

- **Combustion**: we see H₂ as a transitional fuel to reduce the current emissions if blended with other fuels such as CNG, Diesel, gasoline or NH₃, or as a long-term solution for long-range transport if used to produce e-fuels whose CO₂ 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 H₂ 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 Spanish Confederation of Gas Station Owners (CEEEES) 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.
Spanish Institute for Aerospace Technology (INTA)

Jesús Maellas | maellasbj@inta.es | www.inta.es

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 in 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

Jon Zúñiga | jon.zuniga@tecnalia.com | https://www.tecnalia.com

@tecnalia  
company/1281275/

TECNALIA RESEARCH & INNOVATION is a private, independent, non profit 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
Promoting hydrogen and fuel cell technologies since 2002

Research & Development
Public-Private Collaboration

Employment

Improvement

Promotion

Renewable Energies & Integration

Oil&Gas, Coal Gasification and Industrial Gases

Equipment, Engineering and Facilities