

THIS IS EXPORT. **THIS IS WALES.**

WORLD HYDROGEN SUMMIT 2025

Export Market Visit

20-22 May 2025

tradeandinvest.wales



Rotterdam, Netherlands



This is Export. This is Wales.

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Pierhead, Senedd and
Wales Millennium Centre, Cardiff Bay

Wales is a self-governing constituent country of the UK and the Welsh Government is the devolved Government for Wales.

Devolved since 1999, the Welsh Government's decision-making powers within a small and joined-up country mean we can cut red-tape and act fast.

They also mean we are responsible for our own economic development, working with business to create a prosperous, green and equal economy.

Wales has a strong industrial heritage that has shaped our confident, creative and ambitious economy of today. We have strength in depth in advanced manufacturing, creative industries, energy and environment, financial and professional services, food and drink, life sciences, and technology.

Our commitment to sell Wales to the world has never been more focussed and this mission provides an ideal platform for us to build on established links and discuss future export opportunities.

Wales means business.

Established in 1979, **Afon Engineering** specialises in small to large scale heavy fabrication, welding and machining.



Afon continuously pushes the boundaries of innovation and capability, setting the standards for excellence, and being the go-to partner for sustainable, high-integrity solutions. Engineering Tomorrow, Built on 45 Years of Trust! Supporting a wide cross section of market sectors, including Hydrogen, Oil & Gas, Nuclear Power, Renewables, Steel Making, Marine and Structural, operating both nationally and internationally. Afon is an industry leader in heavy fabrication, delivering high-quality, sustainable solutions that meet the demands and expectations of our clients. Afon's recent Hydrogen projects included the design, engineering analysis, material selection, and precision manufacture of hydrogen fuel cell piping systems, engineered to withstand high-pressure hydrogen environments, minimise permeation and leakage, and ensure compatibility with a variety of system architectures. These solutions are tailored to meet specific client requirements for durability, thermal management, weight optimisation, and compliance with stringent industry standards.

Product/Service

Afon's capabilities include but not limited to:

- Plate Rolling
- Forming & Pressing
- High-Definition Plasma Profiling with 360° bevelling facility
- Gas Profiling
- Waterjet Cutting

- Machining
- CNC Milling & Turning
- Fabrication of Complex Assemblies & Vessels

Quality Standards:

- ISO 9001 / ISO 14001 / ISO 45001
- Welding standard: BS EN, ASME, ISO 3834 & CSWIP 3.2
- BS EN 1090 Execution Class 4 + Aluminium
- NDT & inspection to PCN Level 2 (MPI, DPI & UT)

Objectives

Afon's objective is to discuss new projects with current clients, meet with potential new customers and gain further knowledge in this rapidly growing sector.



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Established in 1956, **Carpenter & Paterson** are specialists in the design and manufacture of pipe suspension equipment.

They have worked with all of the EPC Contractors and End-Users in multiple industries including Oil & Gas, Power, Petrochemical, Chemical, Semi-Conductor Plants, Water.

Product/Service

Carpenter & Paterson supply a comprehensive range of pipe supports including (but not limited to)

- Spring Supports (Variable Effort and Constant Effort)
- Seismic and Anti-Vibration
- Pipe Shoes
- Ancillary Equipment (drop rods, pipe clamps, steelwork attachments, etc)
- Low Friction Sliders
- Load Bearing Insulated Supports
- Bespoke Fabricated Assemblies
- In House Shotblasting & Painting

Objectives

To gain more knowledge of the Hydrogen Market and meet new and existing customers.



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At **Clwyd Compounds** we have specialised for over 45 years in supplying high-quality custom rubber compounds to a wide range of different industries.

A family business, focused on building partnerships, we've been providing unparalleled quality and technical advice since 1979 and service customers around the world.

Leveraging our portfolio of formulations — rigorously developed and tested in the Oil & Gas industry — and through strategic collaborations with leading universities in the UK, we have engineered H₂-resistant materials suitable for a wide range of temperature (from -60°C to +300°C) and pressure applications > 1000 bar. These materials can be customised to meet your specific requirements.

Our hydrogen-resistant rubber solutions are designed for critical applications, including high-pressure seals, gaskets, O-rings, diaphragms, and hose linings used in hydrogen storage, transportation, fuel cells, and electrolyzers.

Whether you are in a design phase or have a rubber part that requires to be optimised for performance or processability, if its rubber we can help.

We work with both blue-chip engineering firms as their rubber experts and class leading rubber moulders and processors, as the supplier of choice. Contact our team for a free technical consultation.



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Compact Syngas Solutions (CSS) is a UK based waste-to-energy technology and service provider.

Product/Service

CSS have developed a modular gasification technology (MicroHub) for the production of syngas, hydrogen, heat, power, cooling media and biochar.

Their product has a small footprint of 50m x 40m, produces 30kg of hydrogen/hr, plus 600kW power and 750kW heat from 8,000 tonnes of Solid-Recovered-Fuel (SRF) or Waste Wood/Biomass feedstock per annum.

The hydrogen is separated from the syngas using CSS's in-house developed Pressure Swing Absorption (PSA) system.

The MicroHub uses downdraft gasification technology, one of the cleanest and most efficient methods of converting waste and biomass feedstock into valuable synthesis gas (syngas). It is capable of directly fuelling gas reciprocating engines to generate heat and power, and potentially cooling media.

The MicroHub can divert 50,000 tonnes of waste per year going to landfill and can scale from 1MW to 8MW.

An additional output from their gasification technology is Biochar which can contribute to environmental

restoration, carbon removal, soil regeneration, and the circularity of industrial and agricultural systems.

The MicroHub supports sustainability, decarbonisation and net zero goals for environmentally conscious organisations.

Objectives

CSS is ready for commercialisation and is looking to engage with investors and developers of global projects.



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For over 40 years, **Dulas** has been a pioneer in renewable energy. Their mission is to develop and implement renewable energy solutions that improve lives, help to combat climate change, and support communities in the most rural parts of the world.



Product/Service

Since 1982 Dulas has been at the forefront of renewables innovation, helping to plan and install some of the very first UK wind farms. To date, the firm's engineers, planners and consultants have worked on over 400MW of renewables projects across the UK.

Dulas provides services and products for the solar, hydro and wind sectors, including renewable energy consultancy, wind monitoring, hydro operation & maintenance, coanda screens, battery storage, EV charging and remote power systems.

We are looking to integrate hydrogen production with wind, solar and hydro in rural areas.

Objectives

- Gain a better understanding of the products and services in the hydrogen sector
- Look at the technological advancements and future trends of hydrogen production

- Get a better understanding of the science of hydrogen production
- Raise Dulas' brand profile within the global market
- Increase awareness of Dulas' innovative products and service



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Since establishment in the 1980's, **ESI Technology** has been at the heart of the pressure measurement industry, specialising in the design and manufacture of pressure transducers and pressure transmitters.



For more than thirty-five years focus has been on meeting the demands of specialist applications using ESI's innovative Silicon-on-Sapphire (SOS) strain gauge sensing technology. This ground-breaking pressure sensor has created opportunities for ESI to enter specialist niche markets as well as meet typical industrial applications. The experienced ESI team is able to interpret specific client requirements to create products that deliver high performance and reliable solutions that often exceeds expectations. One of the most outstanding developments in recent years has been the introduction of the USB powered GD4200-USB digital pressure transducer which comes complete with digital logging software for powerful and convenient pressure monitoring. Utilising Silicon-on-Sapphire sensor technology with its unique machined titanium pressure diaphragm ESI have redefined the performance capability of pressure measurement instrumentation. Standing alongside a comprehensive range of standard sensors and transducers, from very low pressures to 5000 bar, ESI can provide bespoke solutions particularly for demanding applications where performance is essential. Serving diverse markets, including hydrogen energy, subsea, marine, oil & gas, test and measurement, defence, and aerospace industries ESI has developed a reputation as a solution provider offering unbeatable customer service and technical support.

Product/Service

Designer and Manufacturer of Pressure transducers, transmitters and sensors.

Objectives

To build on its significant oil, gas and subsea experience and customer base, as well as welcome new customers.



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Harnessing the power of minerals to solve environmental and industrial challenges with innovative mineral-based solutions.



Develop a portfolio of value-added and sustainable mineral products, processes and applications to industry.

IONA Minerals is a company supplying 'natural volcanic minerals' with the aim to provide innovative solutions, to help mitigate vast environmental pollution challenges – land pollution, water pollution and air pollution.

Due to the minerals unique physiochemical, hydrophobic and absorbent properties, they provide economical and sustainable solutions to vast challenges faced across many of today's industries.

The minerals have proven applications across diverse and multiple-industry sectors:

- **Oil** – for use in environmental protection, remediation and pollution control to capture and clean-up oil and petrochemical spills;
- **Gas** – to capture various gases and emissions, such as Carbon Dioxide (CO_2), Ammonia (NH_3), Methane (CH_4) and Nitrous Oxide (NO_x);
- **Mining** – to capture various metal pollutants, such as Cadmium, Zinc, Lead and Copper that have leached from mines into water courses, lakes and rivers;
- **Wastewater** – to capture a range of contaminants and toxins from waste water and industrial waste streams, such as Ammonium NH_4 ;

Product/Service

Supply of an absorbent 'mineral spill product' for clean-up of oil and petrochemical spills.

Objectives

- Supply minerals for various environmental and industrial applications;
- Identify Research & Development collaboration opportunities to co-develop and commercialise novel products, processes and technologies.



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LTI-Vessco designs and manufactures pressure vessels, heat exchangers, columns, tanks, skid packages and specialist fabrications.



Our factory in Bridgend covers over 50,000 sq. ft., we are a supplier to the civil nuclear sector, water industry, hydrogen sector and chemicals industry in the UK, EU, MENA, Asia and North America.

We have manufactured vessels ranging from small heaters weighing just 200kg right up to just about the very largest pressure vessels in the sector, including a 330 tonnes deaerator vessel and a double skinned nuclear waste bowser.

Product/Service

Hydrogen – Storage
Hydrogen – Ammonia
Hydrogen – Prototype
Nuclear – Civil / Decommissioning
Water – Vessels & Tanks
Oil & Gas – Vessels & Heat Exchangers
Chemicals – Reactors, Process

Major customers include:

- Siemens Energy
- Balfour Beatty
- Ovivo UK
- Sellafield
- UKAEA
- ITER
- Rolls-Royce plc

Codes:

- RCC-M
- ASME VIII Div I, II & III
- EN13445
- CODAP

Objectives

To meet existing and potential new customers, suppliers and industry influencers.



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Menter Môn is a not-for-profit social enterprise which seeks to add value to the regions resources and maximise the economic benefit for local communities.



It employs 75 people and the portfolio includes business support, agri-tech, smart technology, conservation, and renewable energy. The company delivers across the whole of Wales; however the main focus is the north west of Wales.

Product/Service

Menter Môn has been developing renewable energy projects since 2013. The most significant is Morlais Energy, which has recently secured consent for the world's largest tidal stream development (240MW). Work has commenced to connect the seabed to the National Grid and the first developers will deploy devices in 2025.

The company is developing the Holyhead Hydrogen Hub, which will produce green hydrogen using power generated by Morlais. Planning has been submitted, land has been purchased, and funding has been allocated for the build via UK Government.

Objectives

The objectives of the visit are:

- Raise the profile of the developments in Wales
- Establish new relationships with relevant stakeholders
- Learn lessons from other regions that could benefit Wales
- Explore opportunities to collaborate and potentially identify investment opportunities.



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Petrostrat is a global leader in integrated geoscience solutions, providing best-in-class geological services to the energy industry.



On 1st February 2025, PetroStrat expanded its capabilities by acquiring Viridien's Geology division, significantly enhancing its laboratory facilities and growing its team to nearly 200 professionals. This included 18 new technicians, 42 scientists, 5 data engineers/scientists, and 4 business development specialists. PetroStrat offer comprehensive subsurface solutions in biostratigraphy, sedimentology, and reservoir geology enabling more accurate resource exploration, improved subsurface modelling, and real-time decision-making.

PetroStrat's services include quantitative biostratigraphy (in-house & wellsite), full-service palaeontology, reservoir assessment & characterisation, sample processing & analysis, multi-client studies, data optimisation, geochemistry, lead & prospect generation, seismic interpretation, structural geology, petroleum systems analysis, petrophysics, image log interpretation and facies & depositional modelling. PetroStrat is dedicated to supporting the energy transition, actively contributing to Carbon Capture, Utilisation, and Storage (CCUS) initiatives, helping reduce carbon emissions and drive more sustainable energy practices.

Product/Service

Applying Geoscience expertise to enable early exploration of Natural Hydrogen as well as O&G. Developing Natural Hydrogen play concept definitions.

Objectives

- Identify collaboration opportunities and meet new and existent clients
- Raise PetroStrat profile within the natural H2 exploration
- Gain a better understanding of the needs/services in the H2 sector



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Rhino HySafe (HySafe) was formed in 2021 as part of the Rhino Engineering Group. HySafe embarked on an ambitious R&D programme to provide a venting solution (fast acting explosion relief panels) that could mitigate against the challenging effects of hydrogen/air explosions.



This included the successful completion of full-scale explosion testing carried out at DNV Spadeadam, with Lloyds Register to acting as an independent witness.

Product/Service

The HySafe *Vertex* range of explosion relief panels have been specifically designed for venting hydrogen/air explosions and explosions involving other more reactive flammable gases. These vents provide a passive, rapidly acting and safe path through which blast overpressure, flame and combustion products may be directed before damaging levels of overpressure can accumulate within a piece of equipment or a building.

HySafe also designs custom-built explosion venting solutions to meet any project-specific applications.

Objectives

The primary objective for this visit is to introduce HySafe's new range of Explosion Relief Panels which were specifically designed to mitigate the effects of Hydrogen based explosions.

Despite being designed primarily for the Hydrogen Industry, the new product is also well suited to other energy sectors including Battery Storage Facilities, Transformer stations on wind/solar farms, and the Oil and Gas industry.



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THE STORY OF HYDROGEN ENERGY HAS ROOTS RIGHT HERE IN WALES.

In 1842, Welsh scientist, Sir William Grove, developed the first hydrogen fuel cell. His legacy lives on in the drive to deliver hydrogen energy and a greener, stronger Wales.

The Cluster has a solid base of members involved in the creation of the modern hydrogen industry, embracing research to application.

Meet us at World Hydrogen Summit 2025.

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Cymru Wales is the Welsh Government supported marketing initiative for Wales.

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