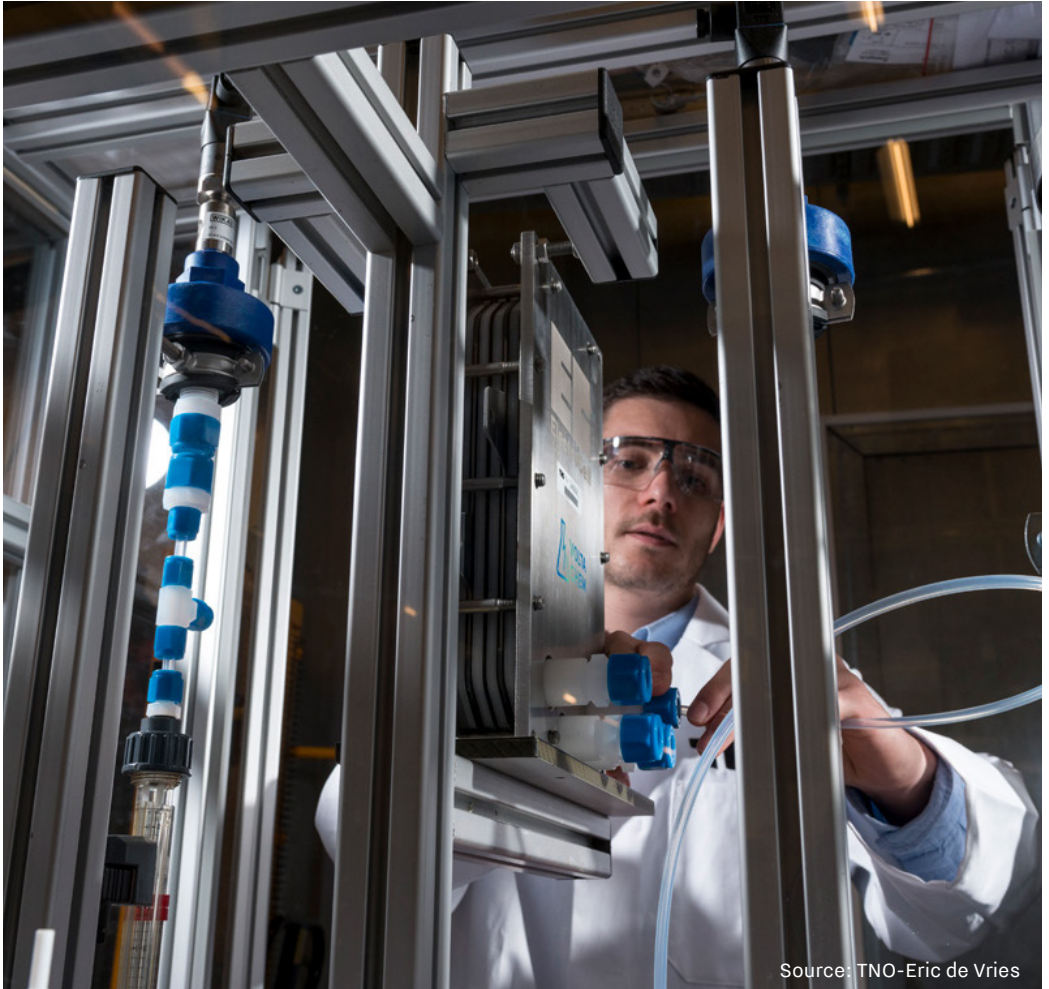


PIB Hydrogen Japan

A Partnership for International Business



Source: TNO-Eric de Vries



Netherlands

Japan and the Netherlands: realising a hydrogen economy together!

Climate change has an immense impact on people all over the world. And limiting its effects is one of the biggest challenges we face as a global community. The need to reduce CO2 to net-zero, together with the rapidly rising world energy demand, makes the acceleration of the energy transition more urgent than ever before.

Clean hydrogen has rightfully earned a significant reputation in being a key component in the global energy transition. When produced with green energy, hydrogen does not emit any CO2. With the potential to hold a significant share in the clean energy mix, green hydrogen is an optimal energy carrier for realising the UN's SDGs.

Introducing PIB Hydrogen Japan

With this cluster of Dutch hydrogen experts, forming the PIB (Partners for International Business) Japan Hydrogen, we move closer to realising a hydrogen economy together, which will have immense impact on the energy transition as a whole. Unique to this partnership is the ability to provide each other with knowledge and experience at every step of the hydrogen value chain. Opportunities lie in innovative solutions for hydrogen filling stations, new types of compressors, high pressure hydrogen technology, innovative piping techniques for hydrogen transport and distribution, applications for the built environment, fuel cell technologies, and innovative water electrolysis technologies.

Let's realise a hydrogen economy together!



Rangaku

Japanese and Dutch collaborations have an extended history, dating back to the early 1600s. Rangaku, also known as Dutch learning, is a testament of the Japanese appreciation to the Dutch way of learning and innovating. Originally referring to Dutch language learning, it has now become a synonym of western science. The long relationship between the two countries has supplied the space to further expand a trusting collaboration which contributes to solving global challenges, proving an excellent moment to team up in the worldwide priority of transitioning to clean energy.

Partners



Bronkhorst is leader in low flow fluidics handling technology and offers an extensive product range of thermal, Coriolis and ultrasonic flow meters and controllers for low flow rates of gases and liquids. Its flow instruments are used for a variety of applications in laboratory, machinery, industrial and hazardous areas.

www.bronkhorst.jp



Duiker is an engineering company that provides thermal process solutions, related equipment and after-sales services for sulphur recovery, ammonia to hydrogen and ammonia to heat conversion. Duiker's solutions are designed to reduce emissions in an environmentally sustainable manner, while supporting well-thought technical & financial decisions. Duiker's clean energy solutions, built on over a decade of experience with ammonia, play a pivotal role in supporting the transition to the hydrogen economy and the shift to clean energy.

www.duiker.com



FUJIFILM Manufacturing Europe produces separation membranes and modules for purifying natural gas and water. These are used in renewable energy generation and hydrogen production processes. The company has contracts to manufacture in hydrogen-related components in Japan and the Netherlands. FUJIFILM also promotes decarbonisation for total lifecycle decarbonisation, with its Netherlands' plant achieving 100% renewable energy use.

www.fujifilm.com



Holthausen Clean Energy is a hydrogen vehicle manufacturer for heavy duty trucks and light commercial vehicles. Holthausen is specialised in manufacturing hydrogen vehicles for the global market. The company looks to connect with companies that provide automotive H2 components as well as with companies and persons who need hydrogen-based vehicles such as trucks and company cars.

www.cleantechnology.nl



Howden is a global leader in manufacturing air and gas handling solutions. Its equipment plays an integral role within our customers' processes, which provide safe and reliable solutions that are both sustainable and efficient. Howden supports multiple sectors including infrastructure, power generation, oil & gas, wastewater, metals, mining and transportation.

www.howden.com



Hydrogen Architects BV is a specialized consultancy firm focused on energy transition, with an emphasis on the development of hydrogen ecosystems and Hydrogen Valleys. We bring extensive experience in energy and transition sectors, along with a refined network of partners, to drive impactful change. We have spearheaded game-changing green Hydrogen value chain initiatives. Experienced in supporting, defining, and designing novel hydrogen projects, covering the spectrum from innovation to investments, nationally and internationally.

www.hydrogenarchitects.org



KIWA is a knowledge institute, and international quality authority, aiming at creating trust in products, services, processes, systems and employees, by assurance of safety and efficiency, also in the application of H2 and other gaseous energy sources. Kiwa is involved in gas infrastructures from production till the consumer.

www.kiwa.com



SoluForce offers a safe, sustainable, cost-efficient and quickly deployable infrastructure for local hydrogen distribution. The non-metallic and flexible pipelines are pivotal in various hydrogen projects, ensuring minimal TCO and CO2 emissions. With over 4000 km installed, the SoluForce system is trusted for reliable energy infrastructure worldwide. Certified and based on proven technologies, it can be the perfect accelerator to achieve local hydrogen distribution in a fast, flexible and cost-efficient manner.

www.soluforce.com



TES is a global green energy company developing giga-scale projects to produce hydrogen-based e-fuels like e-NG (electric natural gas from green hydrogen and CO2). Based in Europe and operating worldwide, TES uses renewable energy - solar, wind, and hydro—combined with climate-neutral CO2 to create e-NG, a scalable, cost-effective drop-in fuel replacing fossil gas. TES aims to accelerate green molecule adoption by making them easy to transport and use, supporting genuine net-zero targets, and driving progress in the fight against climate change.

www.tes-h2.com



TNO is an independent research organisation. More than 15 research departments spread over 6 units are collectively working on innovations along the entire hydrogen value chain from production to infrastructure, storage and final applications. TNO is involved in over 50 hydrogen related projects. From developing new materials in its Faraday lab to work on prefeasibility and engineering studies for large scale deployment in project such as NorthH2 and the Gigawatt project.

www.tno.nl/en



At ports around the world, **Vopak** provides storage and infrastructure solutions for vital products that enrich everyday life. Together with partners and customers, Vopak is accelerating the development of infrastructure solutions for hydrogen, ammonia, CO2, long-duration energy storage, and low-carbon fuels & feedstocks – paving the way to a more sustainable future.

www.vopak.com

Curious to learn more? Get in touch!

This partnership is coordinated by New Energy Coalition. New Energy Coalition is a network and knowledge coalition that is committed to a smart and successful transition to the sustainable energy system of the future, in the Netherlands and the rest of the world.

New Energy Coalition is the catalyst behind the first hydrogen valley in Europe in the north of the Netherlands, a six-year European programme in which more than thirty public and private parties are contributing to the construction of a hydrogen network in the Northern Netherlands. From large-scale production of hydrogen to the expansion of the number of hydrogen vehicles and refuelling stations, and from underground hydrogen storage to hydrogen heating in residential areas.

www.newenergycoalition.org



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