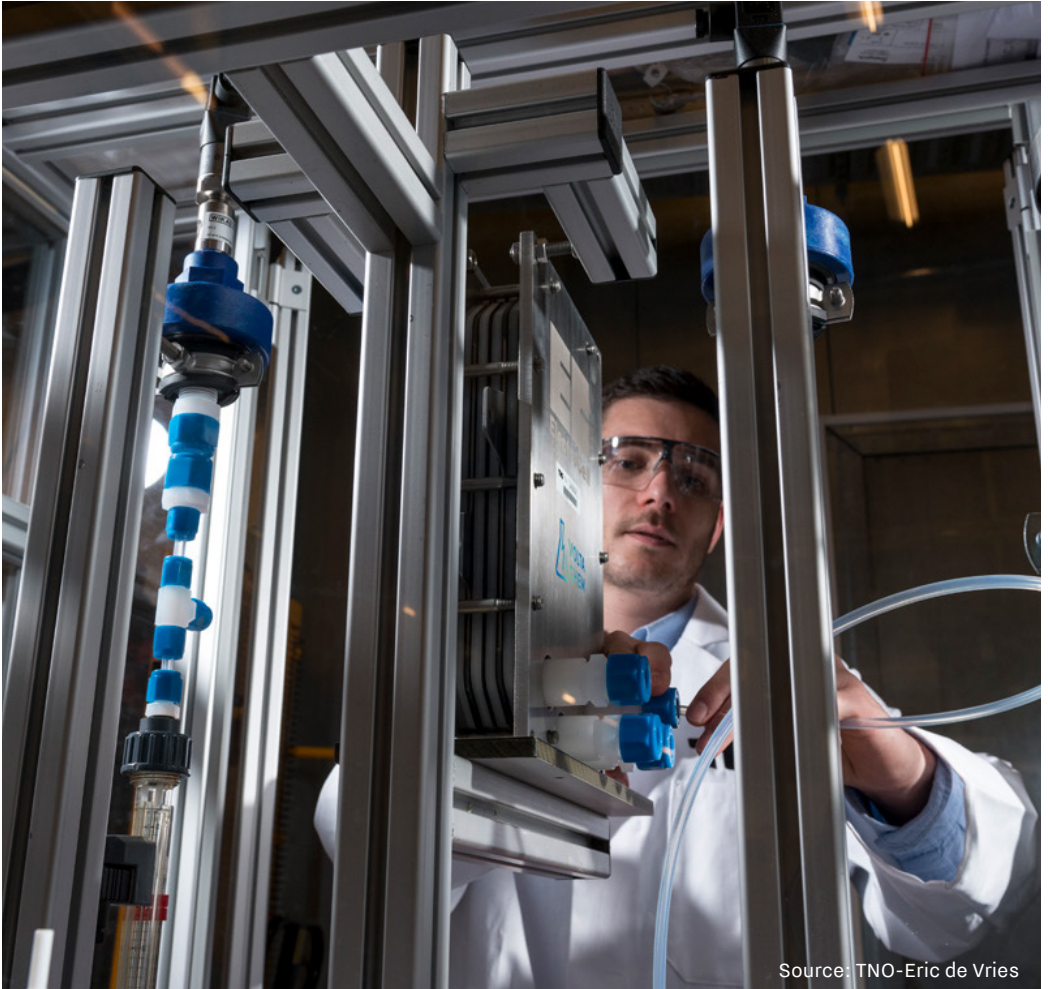


# PIB Hydrogen Japan

A Partnership for International Business



Source: TNO-Eric de Vries

# NL

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 CO<sub>2</sub> 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 CO<sub>2</sub>. 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](http://www.bronkhorst.jp)



**Duiker Combustion Engineers** is a truly global company with its technology extending to a wide range of processes and industries. Its roots are firmly embedded in the petrochemical sector, specifically manufacturing combustion equipment for sulphur recovery units. Safety, Performance and Reliability are its core values and expressed in all its products.

[www.duiker.com](http://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](http://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](http://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](http://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](http://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](http://www.kiwa.com)



**Prodrive Technologies** is a manufacturer of electronic, software and mechanical components. From R&D to end technology. Its portfolio ranges from embedded computing, motion & mechatronics, power conversion, automation control systems, vision & image processing systems and internet of things products, configurable to its customers' needs.  
[www.prodrive-technologies.com](http://www.prodrive-technologies.com)



**SoluForce** is a leader in the research, development and manufacturing of Reinforced Thermoplastic Pipes (RTP or FCP). The system has been certified for hydrogen applications up to 42 bar of operating pressure. This system offers many advantages over conventional pipelines because it is completely flexible and metal-free and an additional advantage is that it has a much lower energy footprint to reach the end product.  
[www.soluforce.com](http://www.soluforce.com)



**TES** is a producer of green hydrogen at scale. Its product is sold to hydrogen users in the mobility, industrial and power sectors. TES is developing energy supply and import hubs in Germany, Belgium, the Netherlands, France, Canada and the United States to integrate and optimise global supply chains, as well as production and export hubs in the Middle East and North America.  
[www.tes-h2.com](http://www.tes-h2.com)



**TNO** is one of the leading applied research institutes in the field of hydrogen, and is involved in over 50 hydrogen-related projects; from developing new materials to work on pre-feasibility and engineering studies for large-scale deployment in project such as North2 and the Gigawatt project.  
[www.tno.nl/en](http://www.tno.nl/en)



**Royal Vopak** is the world's leading independent tank storage company, storing vital products with care. Together with partners in various countries, Vopak aims to enable renewable hydrogen exports and imports, transportation, storage and transportation, using three technologies: Liquid Organic Hydrogen Carriers, Green Ammonia, and Liquefied Hydrogen.  
[www.vopak.com](http://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](http://www.newenergycoalition.org)



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