

A unique industry, with unique companies and unique news

# Elements

# H2

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# Chemistry innovation hub NextGenChem helps Lancashire's chemical-using companies tackle innovation challenges

The NextGenChem Hub will support 300 local businesses with the development of next generation technology solutions, improved products and novel materials. Participating companies will get access to scientific workshops, expert services as well as state-of-the-art equipment and facilities.

Support is available free-of-charge for eligible Lancashire based SMEs, who use or produce chemicals. Examples of applicable sectors include chemical formulators, manufacturers and service providers as well as companies operating in the aerospace, automotive, energy, health care, life science and food and beverage industries.

By joining the NextGenChem Hub, businesses will have an opportunity to:

- Learn about the latest developments in chemistry to create efficiencies and develop new products/processes
- Access scientific expertise to help solve business challenges

- Access specialist equipment and laboratories worth over £45 million
- Collaborate on the development of innovative products, processes and services to increase competitive advantage
- Use low-risk methods for exploring new ideas whilst continuing to focus on core business

The NextGenChem team's current projects include developing catalysts with raw materials to produce basic chemicals, conducting product life cycle assessments (LCAs), developing substitution strategies to replace substances in a product with safer or more environmentally benign alternatives, and designing novel techniques to develop next generation composite materials.

Companies interested in collaborating on new innovative products, formulations and chemical processes with top-of-the-range scientists can join the **NextGenChem hub by visiting [www.nextgenchemhub.org](http://www.nextgenchemhub.org), emailing [info@nextgenchem.org](mailto:info@nextgenchem.org) or calling 07815582102.**

*"NextGenChem is part funded by the European Regional Development Fund and benefits from a team of leading experts in chemistry and chemical engineering from Lancaster University, and dedicated scientists and sustainability professionals at Yordas Group."*

## MCE Group PLC - Hydrogen Process case study using metal-seated, zero-Leakage ball valves

**Industry:** Downstream

**Plant type:** Chemical

**Application:** Hydrogen Isolation

**Product:** ValvTechnologies V1-1 Ball Valves



**Success summary:** Our customer had a long-standing leakage history while using "Y" pattern globe valves for isolation in hydrogen service. After re-viewing the benefits of the ValvTechnologies' zero-leakage design, the customer changed their specification to ValvTechnologies' zero-leakage, metal seated ball valves.

**Challenge:** Achieving tight shut off on high-pressure hydrogen (1,160 psig) service in a single direction, much less on a bi-directional valve, is very difficult for plants to realize. However, ValvTechnologies were able to custom engineer a perfect solution to not only meet but exceed the customers' requirements and expectations.

**Solution:** ValvTechnologies supplied V1-1 zero-leakage, A105 seat supported valves with Colmony® 69 coating on the integral seat and an Inconel® 718 ball also with Colmony® 69. The valves were tested to zero-leakage in the primary direction and class V in the reverse direction.

These were the first valves installed in high-pressure hydrogen service at this customer's plant.

**Benefit:** The customer will recognize repeatable, long-term, reliable tight shut off, allowing for a longer run time with significantly reduced maintenance and lower total cost-of-ownership.

**Future projects:** ValvTechnologies will replace the existing installed base of "Y" pattern globe valves throughout the plant with V1-1 zero-leakage ball valves.

MCE Group Plc primarily offer valve maintenance and overhaul services from our workshops based in Warrington and Stockton-on-Tees, maintaining Control, Relief and Isolation Valves including actuation.

We are also stockists of the ValvTechnologies range of zero-leakage isolation valves.



**For more information, contact Selwyn Jones (Business Development Manager) on 07718 560214, or call the MCE Group Plc offices on Warrington 01925 202399 or Stockton-on-Tees 01642 8822**