



Creating a new hydrogen economy in the Midlands

Hydrogen services for businesses

HyDEX.ac.uk



Funded by



Research
England

Delivered by



Our partnership

Funded by



Delivered by



Supported by



International academic partners



HyDEX university partners



Heating partners



Manufacturing partners



Regional policy and skills partners



Production partners



Transport partners



About HyDEX

HyDEX offers a range of services to SMEs and large businesses.

We work with businesses to help accelerate the development of new hydrogen products and the transition from declining industrial sectors.

The HyDEX programme supports the training and re-skilling of staff and demonstrates the viability of new products. Also, by working with local government and local authorities, HyDEX is supporting the creation of a market for low-carbon hydrogen solutions as part of the net-zero transition.

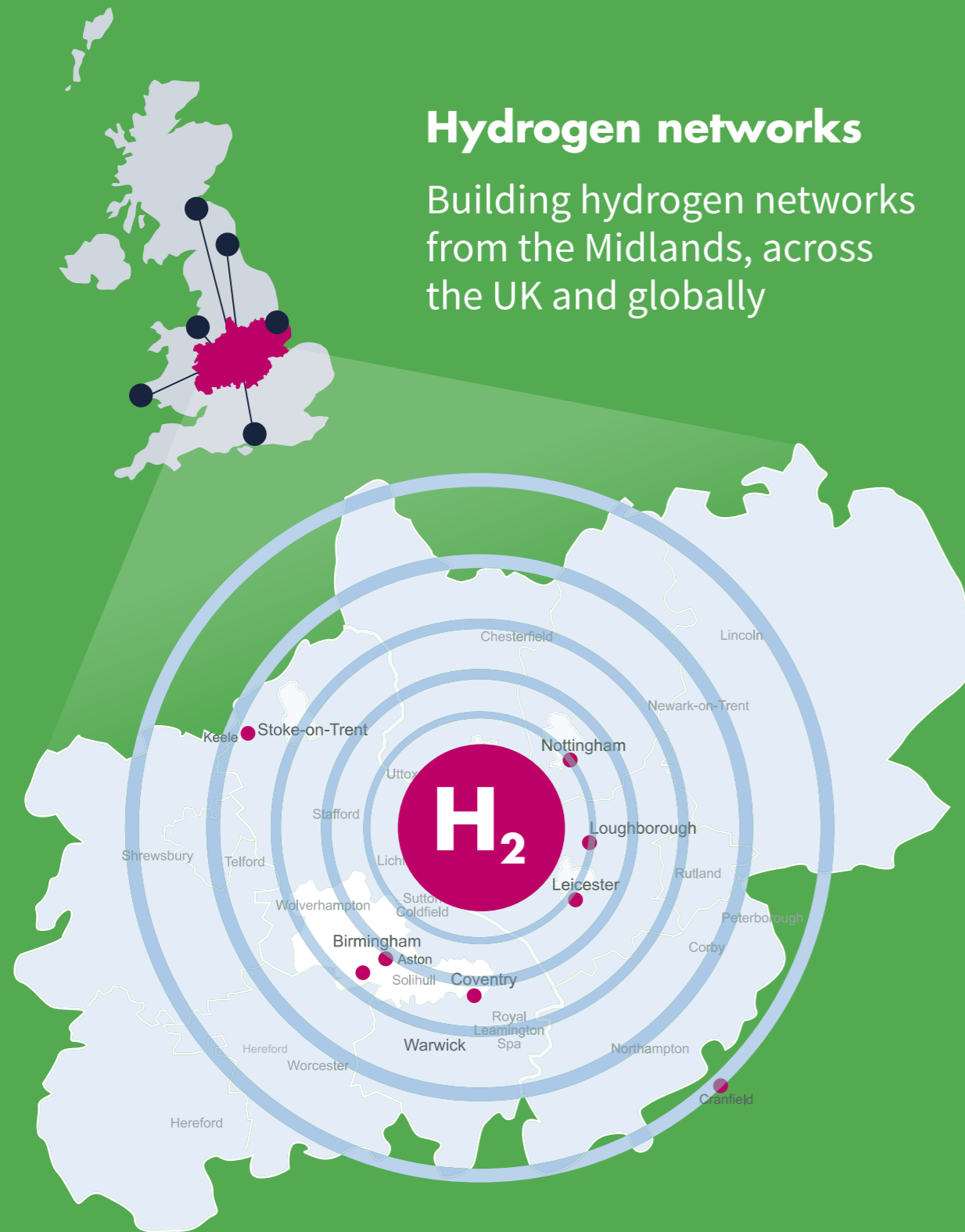
In addition, the HyDEX partnership is using its connections to link businesses with growing international markets in order to build commercial opportunities that reach beyond the Midlands and the UK.

Hydrogen is a rapidly emerging sector, but there has not been an established support structure for businesses, until now. HyDEX offers a range of services for businesses of all sizes, including technological development, demonstration and testing, skills, access to international markets and much more.

We are also working closely with the Midlands Engine and have supported the development of the Midlands Engine's Hydrogen Strategy, a part of their Ten Point Plan for Green Growth. The Strategy aims for the Midlands to become a centre for the production storage and supply of hydrogen, as well as a place where hydrogen is used for power and heating, and a region which leads in the use of hydrogen in transport.

Hydrogen networks

Building hydrogen networks from the Midlands, across the UK and globally



Why hydrogen?

Globally, hydrogen has become the hottest topic in terms of low-carbon energy, with the potential to simultaneously decarbonise both heating and transport.

Hydrogen is set to be a crucial vector in rapidly reducing the UK's emissions across a wide range of industrial processes.

The international Hydrogen Council suggests that by 2050 the establishment of a worldwide hydrogen economy would create a US\$2.5 trillion market for hydrogen and fuel cell equipment and provide sustainable employment for more than 30 million people.

Germany has announced a €9 billion hydrogen investment programme, Japan has set the target to have a complete hydrogen society by 2050, and countries such as China, South Korea and Australia have major ambitions association with hydrogen-based technology.

The UK has established a Hydrogen Advisory Council that is to inform the development of hydrogen as a strategic decarbonised energy carrier. The UK's Ten Point Plan for Net Zero aims to generate 5GW of low carbon hydrogen production capacity for industry by 2030.

The UK government has committed £1 billion to accelerate commercialisation of low-carbon technologies and systems for net-zero. Evidence suggests that developing a UK hydrogen economy will also support over 9,000 British jobs by 2030 and up to 100,000 jobs by 2050.

Developing a UK hydrogen economy

Support over
9,000
British jobs by 2030

Up to
100,000
Jobs by 2050



Support for acceleration of technological development

We are offering a comprehensive range of support for technological development and R&D, enabling businesses to launch new hydrogen technologies. Our services include:

Technological development acceleration services

Benefits for businesses

Intellectual Property

HyDEX will help businesses to get the IP support that they need by linking through the [MICRA network](#) with IP specialists at the [Intellectual Property Office](#) and the Midlands Innovation universities who can help to identify IP opportunities.

Knowledge Transfer Partnerships

[KTPs](#) provide businesses with the opportunity to solve problems by embedding a postdoctoral researcher into the business to solve a problem or develop a new product or service.

Consultancy

HyDEX can offer numerous specialist consultants from its network to businesses to help them to solve hydrogen related problems. Examples may be the provision of technical expertise or supporting the roll out a new product.

Market Intelligence

In addition, HyDEX can also provide Market Intelligence to businesses that are interested in exploring overseas markets and investment opportunities.

SME support programmes

HyDEX will help small businesses to access the support that they need via the various SME support programmes being run by the ERA university partners. This may be via programmes such as [ATETA](#) at the University of Birmingham or those run by the [Energy Innovation and Collaboration Team](#) at the University of Nottingham which supports business in Derbyshire, Nottinghamshire and Leicestershire.

Grants and funding

HyDEX can also help businesses to find the grants and funding that they need in order to undertake research and develop new innovations. This would typically happen following discussions between academics interested in the technology area working with the industrial partner putting in a funding application to [Innovate UK](#) or [EPSRC](#).

Demonstration and testing

HyDEX is enabling businesses to demonstrate and test new technologies at a large scale. Our specialists work with businesses to identify their needs and advise on the funding options.

Demonstrate and test services

Benefits for businesses

Large scale demonstrations and Test Bed Facilities

We have a number of hydrogen focused demonstration and test facilities. The Energy Research Accelerator universities are making their hydrogen research facilities available to businesses. For example Cranfield University has the [HYPER](#) facility, the University of Birmingham has the [Tyseley Energy Park](#) and the Birmingham Energy Innovation Centre and Keele University hosted the [HyDEPLOY](#) hydrogen trial at their site. In addition, HyDEX is also developing a number of new demonstrators as part of its programme. More details on these will be on our website.

Pathways for engagement

Our experts work with businesses to engage with facilities, and also identify funding initiatives to foster collaborative R&D.

Funding for demonstration projects

We can work with you to help identify the funding opportunities for your project.



Skills development

HyDEX skills will create hydrogen skills development pipeline for industry. We will seek to understand and address skills gaps and to deliver the necessary opportunities to upskill the current and future workforce required for the hydrogen economy.

Skills development services

Benefits for businesses

Re-skilling your workforce

HyDEX aims to understand the needs of industry for developing the skilled workforce for Hydrogen, developing a skills development programme based in the region. We will help to re-skill your workforce so that you can capitalise on the emerging Hydrogen economy. For example, by providing opportunities for your employees to access training from leading universities as CPD.

Centres for Doctoral Training

We are working with the Centres of Doctoral Training (CDTs) at our partner universities to develop the higher-level research and technical skills required

Placement, secondment and internship opportunities

HyDEX will also help businesses to get the people they need by providing students and researchers for placements and secondments. By combining the HyDEX Skills programme with our partner programmes ([ERA Skills](#) and [C-DICE](#)), we are able to offer a range of funded Placement, Secondment, and Internship opportunities.

Recruitment, retention, and work culture

HyDEX can provide a valuable route to support future recruitment for example by introducing you to potential future employees via our networks, placements, and skill development programmes, and help you retain staff by showing that you are committed to developing your employees' skills.

Engagement and networking opportunities

At HyDEX, we are also providing engagement and networking opportunities for business people, enabling them to meet with specialists, researchers and others that can support their organisations.

Engagement and networking opportunity	Benefits for businesses
Green Innovation Network	The aim of the Green Innovation Network is to provide a knowledge exchange network and a discussion forum to bring together businesses, researchers and others with an interest in green innovation.
Business Innovation and Collaboration workshops	Our partner, the Energy Research Accelerator is running a series of workshops, aimed at building partnerships and collaborations between businesses, researchers and public sector energy specialists.
Net Zero Heroes	Our Net Zero Heroes webinar series showcases the latest research, innovation, and commercial developments in green energy.
Dragons Den Events	We can run ‘Dragons Den’ style events allowing hydrogen innovators and entrepreneurs to pitch their hydrogen related business ideas.
Sandpits	Our sandpit events bring together academics and industry professionals for 3 to 5 days with a view to creating new projects around a given theme.

Access to international markets

What policy, commercial and cultural considerations do you need to be aware of to make the most of business opportunities in the international market? Understanding these considerations – and challenges – is crucial to your success. This is where the HyDEX international team come into their own.

Engagement and networking opportunity	Benefits for businesses
Performance acceleration	Our international team can provide invaluable insight, knowledge, and skills to help you succeed in the region. We can provide <ul style="list-style-type: none"> ■ Collaborative Research and Development ■ Executive Education and Continuing Professional Development programmes (CPD) ■ Intercultural advice ■ Talent pool with international experience ■ Market and country intelligence
Access to opportunities	As the biggest Energy Research Network in the UK, we have built a significant network internationally and enjoy strong partnerships and excellent links with government, industry, researchers, and institutions across the prioritised regions, such as German, China, South Korea, and Australia.
Developing international partnerships	We will support the development of international partnerships, including: <ul style="list-style-type: none"> ■ Arranging international Research and Knowledge Exchange Visits ■ Partnerships ■ Sustainable Hydrogen Innovation Twinning Centre in China/South Korea/ Australia





Contact us

To find out more about the services in this document, or to discuss any other ideas you may have, please get in touch

 hello@hydex.ac.uk

 hydex.ac.uk



 @HyDEXMidlands

Funded by



Research
England

Delivered by

