

THE
ROYCE
ACCELERATOR

THE ROYCE HYDROGEN ACCELERATOR

Connecting you with the UK material innovators
leading the hydrogen economy

GOVERNMENT SUPPORT FOR THE ROYCE HYDROGEN ACCELERATOR



Materials technologies are transformative, driving innovations in critical technologies and strategic industries. New innovations pervade most societal challenges in achieving net zero.

I welcomed January's publication of the Henry Royce Institute's National Materials Innovation Strategy and its call to drive investment to test, commercialise and deliver material solutions for hydrogen deployment and spur rapid technology translation into commercial applications.

Developing the hydrogen economy will contribute directly to economic growth, one of the UK Government's core national missions, and hydrogen will also be a critical component of our clean energy future. The technology's success hinges on the development of new materials for sustainable hydrogen production, storage, distribution, and use.

I strongly support the Royce Hydrogen Accelerator's objective in driving investment into the material innovations that will support the transition towards a clean energy future.

Lord Vallance

Minister for Science, Innovation, Research and Nuclear



Department for
Science, Innovation
& Technology



Department for
Energy Security
& Net Zero



THE GATEWAY FOR HYDROGEN INVESTMENT IN THE UK

The Royce Hydrogen Accelerator is a specialist body working to identify and verify high potential investment opportunities in hydrogen.

Developed by the UK's centre for advanced materials, the Henry Royce Institute, the accelerator connects investors with the materials solutions that will build the hydrogen economy.

Royce has extensively researched the hydrogen industry, uncovering the materials solutions that will unlock a key component of our future energy system. They have an unparalleled understanding of where potential lies.

The Royce Hydrogen Accelerator (RHA) is a specialist body, fully focussed on the hydrogen sector. It is specifically designed to address a gap in the market to connect investors with verified innovations that have real potential to deliver a functioning, productive hydrogen economy in the UK and internationally.

Solutions for scaling

Backed by UK Government, our mission is to accelerate materials technology translation, unlocking the hydrogen industry through materials solutions.

The RHA is a trusted, neutral source of insight into the role of materials in the hydrogen industry. We scan for solutions in the UK research ecosystem, before assessing them for their technical and economic viability.

Our market-driven approach and technical expertise has created a pipeline of compelling, de-risked opportunities that are ready to scale, with the right investment.

Who we are

Our team includes commercial and technical experts, all committed to finding and validating opportunities for you.



Scouts

First points of contact sourcing early technologies.



Analysts

Deep technical expertise and the tools to verify the market potential of a solution



Technology Advisory Group

Further expertise for de-risking and shaping investment opportunities.



Investor Group

A wide range of investors with different interests and capabilities.

The RHA is re-defining UK hydrogen materials technology translation by connecting actors and accelerating solutions.

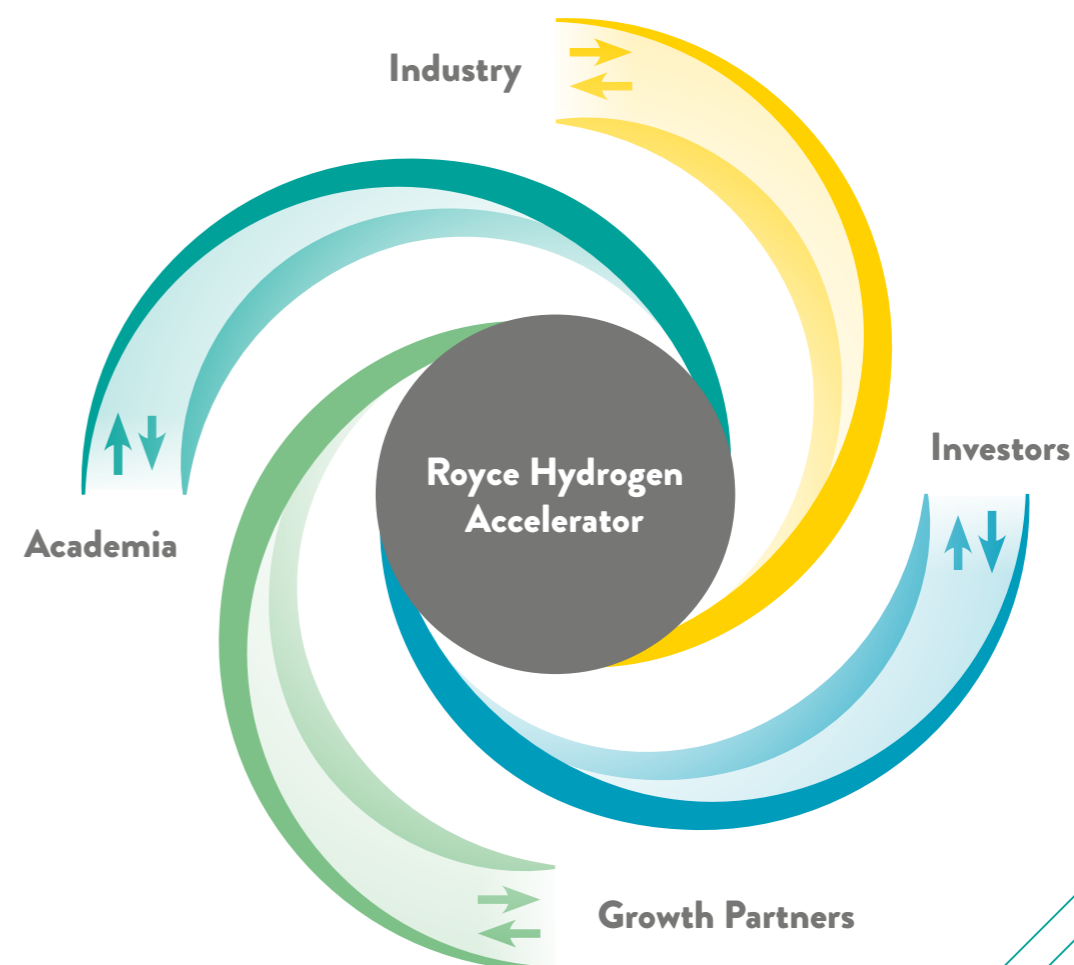
Improving the odds of success

We work hard to provide wrap-around services that enable innovators and their technologies to be investor-ready.

We are:

- Building a community of hydrogen innovators.
- Connecting start-ups to customers and partners.
- Coordinating different technology platforms.
- Introducing researchers to alternative commercial pathways that best suit them.
- Generating government support for the hydrogen market.

Get in touch with the RHA to find out more about our investment opportunities by emailing hydrogen@royce.ac.uk



OUR PORTFOLIO

The RHA's opportunities span the whole investment pipeline, includes all material types, and covers the whole hydrogen value chain, from production, storage and distribution, to end use and monitoring.

We are an independent source of opportunities. We work closely with these innovator teams to build them into serious start-ups that will lead the market in the future, via the commercial pathway that best suits them.

We have pre-qualified these opportunities and evaluated them for their potential, reducing your due diligence burden and accelerating your return on investment. We are able to provide tailored support and independent technical assessments to help you with de-risking.

The RHA connects you with the technologies of the future energy system.

The RHA works directing with innovators to identify the technologies that will unlock the hydrogen supply chain.

We have full sight of what this future industry needs, and we are cultivating the solutions to make it happen.

By working with us, you will be the first to engage with these opportunities, with the added confidence that their potential has been confirmed by our team.



You now know where to come to find opportunities in the hydrogen space!"

Jonno Evans
IQ Capital

The RHA are supporting the **creation** and **commercialisation** of emerging technologies



A HIGH POTENTIAL SECTOR

The hydrogen sector is a national priority. It offers a genuine pathway towards decarbonisation, and will build national energy resilience, deliver green jobs, and ensure that future emissions targets can be met.

Hydrogen supply chains will be key to the future energy system, given hydrogen’s ability to act as both an energy source and storage mechanism. Significant progress is already being made towards the adoption of hydrogen worldwide, but the UK needs to act now to capitalise on its particular strengths and ensure it becomes a key player in the industry’s future.

The UK has unique structural advantages that can drive the development of its hydrogen industry:

Research & Development

The UK is home to globally-leading R&D capabilities and has a long-standing history of research excellence. It hosts world-class universities, has robust IP legislation, and a highly-skilled workforce which can be leveraged for the development and deployment of hydrogen technologies.

Renewable energy

The UK has access to significant renewable energy resources. The seas around Britain are already home to the world’s largest offshore wind farms. An abundance of renewable energy is crucial for the sustainable production of green hydrogen through electrolysis.

Infrastructure

The infrastructure for the large-scale refining and chemical production processes required for hydrogen production already exists in the UK, much of which is concentrated in coastal industrial centres, such as in the North East.

Policy

The government policy landscape of the UK is also well-prepared for the future role of hydrogen. ‘The UK Hydrogen Strategy’ targets the installation of 10GW of low-carbon hydrogen production capacity by 2030.

Industry

The UK is already home to key players across the hydrogen supply chain, spanning the full range from SMEs to global industry leaders, including bp, INEOS, Rolls-Royce, Johnson Matthey, National Gas, AFC Energy, Ceres Power and ITM.

Strengthening the existing ecosystem

The UK Government has made significant investment in hydrogen research and the RHA has been carefully designed to complement and strengthen this established ecosystem.

Our support fills the gap between fundamental research support and funding for technologies already proven at scale. We are partnered with these existing initiatives to signpost innovators to the collaborators they need for their technology succeed, making the delivery environment less fragmented.



The UK has a strong experimental research infrastructure, underpinning early-stage hydrogen technologies. Research programmes of this kind are normally EPSRC-funded and university-led.

- **UK-HyRES** (the UK Hub for Research Challenges in Hydrogen and Alternative Liquid Fuels) is investigating the fundamental challenges hydrogen poses to infrastructure protection and monitoring requirements.
- **HI-ACT** is examining the challenges of integrating hydrogen into the overall energy system.

The RHA supports this ecosystem from within, bolstering the UK’s ability to pull hydrogen-related materials solutions through to market.

It’s not constrained by traditional funding boundaries and enables materials innovation across the entire TRL spectrum to support hydrogen deployment.

A wide array of commercial hydrogen demonstrators and industrial innovation projects in the UK support the introduction of new technologies to the fast-evolving hydrogen landscape.

- **The Hydrogen Innovation Initiative (HII)** promotes industry-led innovation across the generation, distribution and consumption of hydrogen.
- **HyNet** – the UK’s leading industrial decarbonisation project – is seeking pathways to net zero for hard-to-abate sectors including fuels, heating, and flexible power generation.
- **The Carbon Trust Clean Hydrogen Innovation Programme (CHIP)** is working with industry to accelerate green hydrogen deployment by reducing production costs of electrolyser components.

ENABLING THE HYDROGEN ECONOMY



“The Royce Hydrogen Accelerator has been a great partner to HICO in helping us spot promising hydrogen startups. Their sector knowledge and early-stage insights add real value to our pipeline and help us build confidence in the teams we engage with.”



Christopher Hartnell
CEO and MD, HICO

NEXT STEPS

Get in touch with the RHA to discuss how your organisation can invest and participate in scaling the UK's world-class materials research into hydrogen solutions.

Our investor group is available to discuss your needs, from access to investment-ready start-ups to co-investment in early opportunities.

Contact the RHA by emailing hydrogen@royce.ac.uk

For more information, head to www.royce.ac.uk/collaborate/hydrogen-accelerator/

RHA LEADERSHIP

The RHA board comprises a mix of sector leaders in industry, finance, academia, and government.



Professor Robert Sorrell
RHA CEO

Robert is the chair of the NPL Science and Technology Advisory Committee (STAC) as well as a non-executive Director on the NPL Board. He chairs the Campaign for Science and Engineering (CaSE) and is a Strategic Advisor to the National Centre for Universities and Business (NCUB). He also chairs the UK Research Partnership Investment Fund.

Prior to that he held various senior technology roles at bp, joining them in 1987 from Durham University. He served as bp's senior technology policy advisor for the UK and EU, and his final role at bp was as the Technology Vice President for Research & Innovation for its global Formulated Products (Fuels and Lubricants) Technology.

Robert has a chemistry degree from the University of London's Queen Elizabeth College and earned his PhD from St John's College, University of Cambridge. He is a fellow of the Royal Society of Chemistry.



Jack Boyer OBE
RHA Chair

Jack is Chair of the Board at the University of Bristol, is on the Board of Bristol Innovations and previously chaired the technology transfer office of the University of Southampton. He is a former board member of the Henry Royce Institute, Deputy Chair of the Advanced Materials Leadership Council (BEIS), a Council Member of the Engineering and Physical Sciences Research Council (EPSRC) and of the Innovate UK Energy Catalyst.

His career includes the spin-out and/or transition to IPO of Ilika plc (advanced materials), Elcogen plc (hydrogen fuel cells) and Seeing Machines plc (artificial intelligence). He has been the CEO of TCG AG (engineering) and an M&A banker at Goldman Sachs. He is currently the Senior Independent Director of TT Electronics plc, a NED at Ricardo plc and at the Department for Education.

He holds degrees from Stanford University (BA), the London School of Economics (MSc) and Insead (MBA). In 2015, Jack was awarded an OBE in the Queen's Honours for services to Science and Engineering.

HENRY ····
ROYCE ····
INSTITUTE

The Henry Royce Institute was established to ensure the UK can exploit its world-leading expertise in advanced materials and accelerate innovation from discovery to application. With over £200 million of facilities in dedicated state-of-the-art laboratories, Royce is ensuring that academics and industry in the UK's materials community have access to world-class research capabilities, infrastructure, expertise, and skills development.

ROYCE.AC.UK



Urban Foresight is a multidisciplinary innovation practice dedicated to accelerating the next generation of technologies, services and policy frameworks for places. We work with ambitious organisations around the world on projects that improve lives, protect the environment and boost local economies.

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For further information contact:
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