

## How everyone benefits from world-class research

Technological breakthroughs such as the discovery of graphene at the University of Manchester or the development of vaccines and lifesaving new treatments for Covid-19 led by researchers across the Russell Group rightly grab the headlines. However, high-quality research touches all parts of society and the economy, and it is not just about high-tech products and advanced medical treatments. The innovation and problem-solving skills nurtured in our research-intensive universities can also help to transform sectors like social care and mental health or boost industries like construction and advanced manufacturing. In fact, they have a positive impact on everyone.

Research has never been more important in driving innovation and productivity than now as we deal with the post-Covid-19 economic recovery. The challenges we face with the global pandemic, climate change and other major issues will only be addressed through multiple disciplines working together in every region and nation of the United Kingdom. To change lives and renew the economy it is important to understand the value of research from the most fundamental experiments to application-specific advances – and to recognise that what we often take for granted can only be achieved through the dedication of individuals and teams, who are often working over many years, and frequently collaborating across borders. As we look to the future, it is vital for this work to be funded sustainably and for the UK to build on its strengths as a global science superpower.

### Stimulating the economy

For every £1 of public research funding they secure, Russell Group universities deliver an average return of £9 to the UK economy. We produce 68 per cent of the UK's world-leading research, worth an estimated £34 billion a year to the economy, delivering benefits nationally and locally.

Recognising their success in compound semiconductor research, Cardiff University was [awarded](#) a government grant in May 2020 to develop new technologies in communications, med-tech and autonomous and electric vehicles that could transform the regional economy.

Six spin-out businesses based on research work from the University of Leeds are currently listed on AIM, with a combined value in excess of £500m. The [Nexus initiative at Leeds](#) aims to help businesses de-risk innovation and provide a clear route to access the university's considerable talent and research facilities.

### Making a difference to people's lives

Whether it is boosting opportunities to learn the unique skills a high-quality education at a research-intensive university can provide, addressing societal challenges that will close the opportunity gap or finding solutions to problems that affect us all, research undertaken by Russell Group universities has the potential to change lives.

A major new study from the University of Sheffield has found that using a technique of enhanced rock weathering – spraying farm fields with crushed basalt – can draw down up to 2 billion tonnes of CO<sub>2</sub> from the air, helping to [meet global climate targets](#).

At the University of Durham, scientists are developing new computer models which will help to [reduce racial bias in facial recognition systems](#) that are becoming an essential part of our daily lives, from their use in security and education, to virtual assistants and personal gym trainers. Their work has led to improvements in the reduction of racial bias across all ethnicities.

Researchers at the University of Edinburgh are leading work that will help people take control of their personal finances. Research into financial behaviours, their access to credit, property ownership and savings will increase understanding of the financial challenges facing individuals and families.

## Responding to public health challenges

Our research-intensive universities have been at the forefront of the UK's response to Covid-19, as they are with a wide range of health challenges from dementia to cancer.

Endocrine therapies [developed](#) at the University of Manchester are now helping over 1.5 million women with breast cancer around the world and the university has contributed substantially to Government initiatives that have helped 90,000 working people a year diagnosed with cancer return to work after treatment.

Backed by government support, the University of Glasgow is leading a [consortium](#) that is working to transform the way NHS doctors use precision medicine – the tailoring of medical treatments to a patient's characteristics – to minimise side effects, reduce waiting times for treatment and save lives.

In East London, Queen Mary University is leading a long-term study with 100,000 people of Bangladeshi and Pakistani origin. It will link up genetic information with GP records to increase understanding about health conditions affecting different communities.

## Creating high value jobs

In 2016, Russell Group universities supported a total of 261,000 full-time equivalent jobs, which is more than the entire population of cities like Aberdeen and Plymouth. More than 200,000 of these jobs were based outside of London – demonstrating the positive regional impact of our leading universities.

In 2018/19 University College London's graduate start-up companies employed 1,673 people and attracted £60m of external investment.

Newcastle University is developing Newcastle [Helix](#), a key regeneration project which will bring around 4,000 jobs to the area, with Newcastle City Council and Legal and General.

At the University of Exeter, researchers have collaborated with Devon-based business SC-Group to develop a new electric all-terrain vehicle suitable for construction projects and defence work. The project has been [shortlisted for a prestigious national award](#), helped SC-Group create new skilled jobs and the partnership has led to significant increases in collaboration between the University and businesses.

## Delivering sustainable regional growth

High-growth businesses are attracted into communities around our research-intensive universities such as Cambridge, Warwick, Edinburgh and Oxford because they know they can easily recruit highly-skilled graduates and tap into new and fresh ideas.

The University of Bristol's [Temple Quarter Enterprise Campus](#) is a £500m project that will bring together private and public investment to deliver 22,000 jobs and 7-11,000 homes for the South West. It will boost digital innovation, enhance the skills base and create green jobs through investment in low carbon industries.

Queen's University Belfast has been [ranked](#) as a top university for entrepreneurial impact and has supported the creation of nearly 100 technology start-ups, adding 2700 jobs to the regional economy. An additional 1800 roles have been created via a cutting-edge cybersecurity cluster based around Queen's Institute of Electronics, Communications and Information Technology (ECIT).

**High quality research based in UK universities provides a wide range of benefits for the whole of the country – levelling up opportunities and building a better future for all.**

**Stimulating the economy**  
**Responding to public health challenges**  
**Creating high value jobs**  
**Delivering sustainable regional growth**  
**Making a difference to people's lives**

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