

The UKRI logo consists of the letters 'UKRI' in a white, bold, sans-serif font, set against a dark blue square background. To the right of the square is a green L-shaped graphic element.

UKRI

Engineering and  
Physical Sciences  
Research Council

A woman with dark hair and glasses, wearing a brown blazer over a white shirt, is seated at a desk and working on a laptop. The image is heavily layered with digital and scientific graphics. In the foreground and background, there are various translucent overlays: a large blue globe with a network of white dots and lines, several bar and line charts, a world map, and various icons representing technology and science. The overall color palette is dominated by blues, greens, and greys, with a red banner at the bottom.

# Spin-outs from EPSRC-funded research

1,000 stories of success



EPSRC invests over £800 million every year to support world-leading Engineering and Physical Science research, training and capability, and to enable researchers to translate the outputs of that research into tangible societal, economic and environmental impact.

The many outcomes and impacts highlighted by our research community every year through ResearchFish® usually include a number of spin-out companies established by researchers to commercialise the outcomes of their research. There are now more than 1,000 active companies transforming world-leading research into new products and services that boost our productivity, improve our lives, and protect our environment.

This booklet presents a snapshot of key facts about those companies, and a selection of profiles and case studies highlighting just some of the fantastic research and innovation being done by the UK engineering and physical sciences community.

## Ways in which EPSRC supports innovation

- **Impact Acceleration Accounts (IAA):** Strategic awards provided to institutions to support knowledge exchange (KE) and impact from their EPSRC funded research. IAAs allow Research Organisations to respond to opportunities in flexible, responsive and creative ways, aligned to their institutional strategies and opportunities.
- **Innovation and Knowledge Centres (IKC):** Co-funded by EPSRC and Innovate UK. These create early-stage critical mass in an area of disruptive technology. Based in a university, they are led by an expert entrepreneurial team and enable impact by enhancing wealth generation of the businesses with which they work.
- **Researchers in Residence:** These awards enable academics to work in the Catapult centres to address real world challenges.
- **Prosperity Partnerships:** bring together world-class expertise from a range of UK businesses and academia to develop technologies of the future and create new jobs by supporting existing academic-business partnerships. Businesses need to provide matched co-investment.
- **iCASE:** The iCASE scheme allows a PhD student to complete their studies in a non-academic setting, such as business or policy organisation, gaining access to facilities and training unavailable in an academic setting.
- **Knowledge Transfer Partnerships (KTP):** The KTP scheme enables businesses to work with academic researchers to bring in new skills and knowledge. They work together for up to three years on projects that are core to the strategic development of the business.



# Spin-out companies are a successful route for commercialising the outputs from EPSRC-funded research.



1,007 of 1,600

EPSRC spin-outs created in the past 40 years which are still active



86%

of the spin-outs founded in 2014 traded for over five years



48%

of the active spin-outs received subsequent Innovate UK funding, building on EPSRC investment



23%

of the spin-outs that ceased trading were acquired by other businesses

## EPSRC spin-outs



Found in all nations and regions of the UK



Active in major economic sectors eg. digital/comms/IT, healthcare and manufacturing



Collective turnover of more than £6bn



Employ more than 25,860 people



Raised £4.6bn in private investment

Data accurate as of May 2021.





# Highly successful companies from EPSRC research

Global DNA sequencing technology company Oxford Nanopore Technologies, valued at almost £2.5 billion, is based on novel DNA sequencing technology from EPSRC-funded research.

Fundamental research supported by EPSRC has underpinned innovation at medical spin-out Ziylo; a successful company bought for £623 million in 2018.

Spin-out company Intelligent Energy is using the outcomes from long-term EPSRC funding into fuel cell research to develop and refine innovative fuel cell technology that is being used globally.

EPSRC research underpinned the creation of spin-out Azuri, which has distributed 150,000 affordable solar power systems across 12 countries in sub-Saharan Africa to provide affordable energy to more than 750,000 people.

EPSRC-funded research at Imperial College London underpinned the creation of fuel cell spin-out company Ceres Power, which is now valued at almost £1 billion and employs 300 people.

## EPSRC spin-outs contribute to UK prosperity and job creation

Current turnover for the active spin-outs is

**over £6 billion annually\***

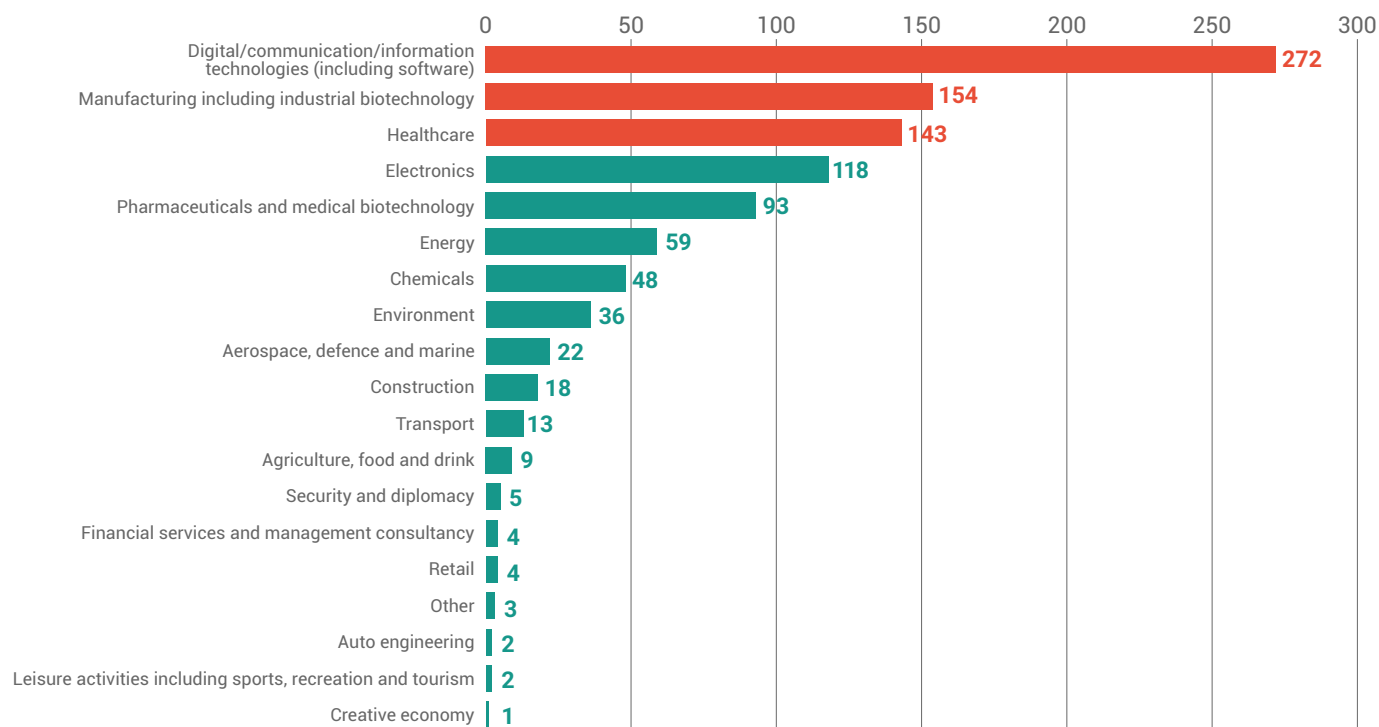
\*Based on turnover data for 176 spin-outs (17%). This is likely an underestimate. Companies beneath a certain size do not have to submit a full profit and loss account to Companies House, meaning this data is not available for many EPSRC spin-out companies.

Active spin-outs have created

**over 25,860 jobs\*\***

\*\*Based on data obtained for 806 spin-outs (80%). This is likely an underestimate.

### EPSRC spin-outs are active in major economic sectors\*\*\*

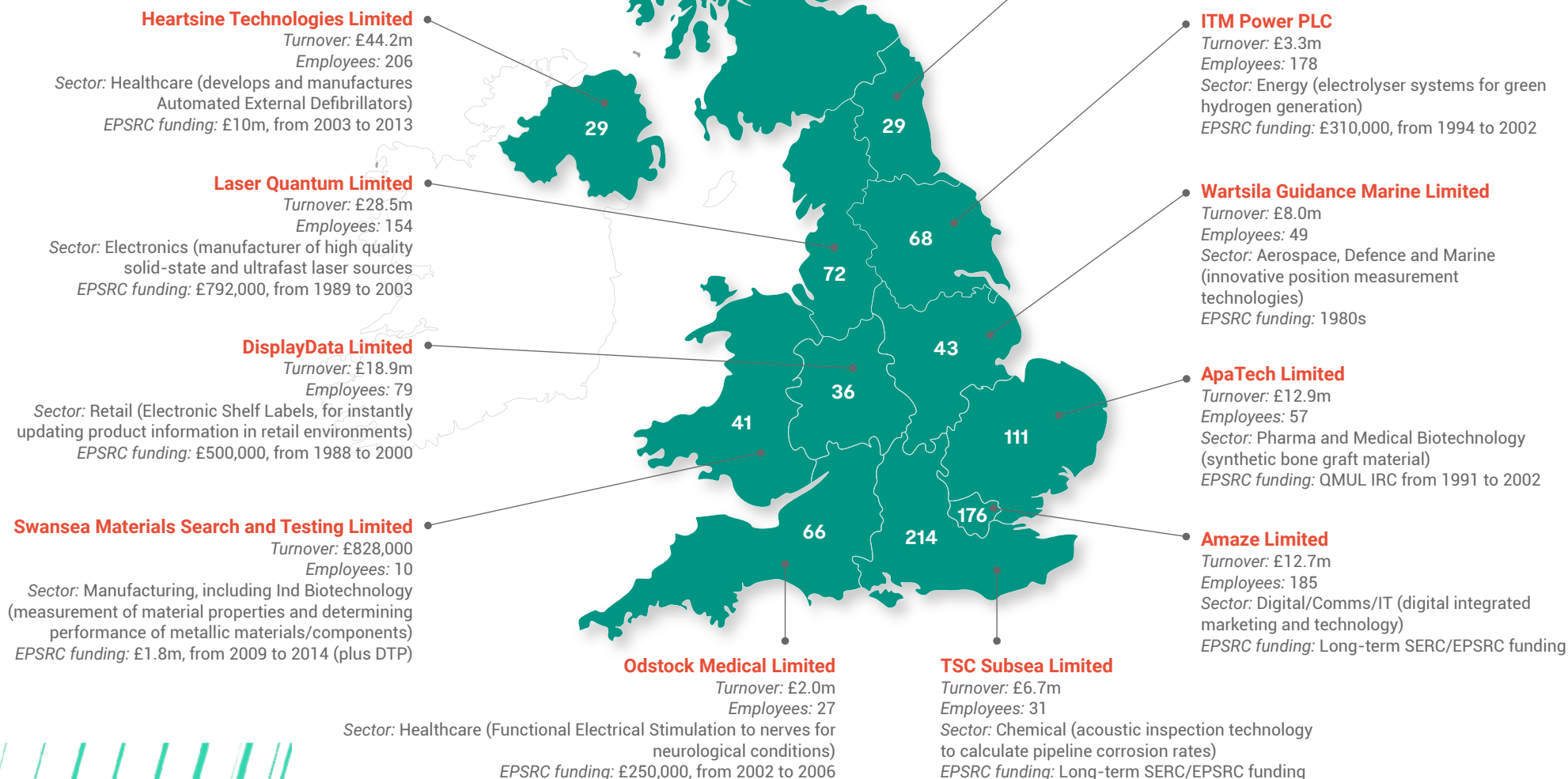


\*\*\*Note that for this analysis companies have been mapped to a single sector. However, many may be working across multiple sectors.

## Spin-outs from EPSRC-funded research are active across the UK

The 1,000 active spin-outs that have benefited from EPSRC support are spread throughout the UK. Often they are clustered around the research organisation from which they originated, located in cities and areas with high levels of research activity and expertise. Others are based in more rural areas. Collectively, the spin-out companies are boosting local economies by creating and supporting highly skilled jobs across all nations and regions of the UK.

Map shows number of spin-outs per region and nation.





## Case study: Future Worlds at the University of Southampton

Future Worlds is a start-up accelerator at the University of Southampton. Established with EPSRC IAA funding, Future Worlds is helping staff and students at the University to convert their research into successful start-up companies.

Formed in 2015, Future Worlds has since supported more than 500 aspiring entrepreneurs, with over 50 of them going on to launch successful start-ups and spin-outs. The accelerator provides workshops, mentoring and support to academics at the University of Southampton at any stage of their career, and can put them in touch with experts and potential investors via the Future Worlds network.

For instance, spin-out Aquark Technologies was founded in 2020 with support from Future Worlds. The company, which specialises in miniaturisation and portability solutions for quantum technology, arose from quantum physics research at the University of Southampton.

## Spin-outs from EPSRC research have excellent long-term survival prospects

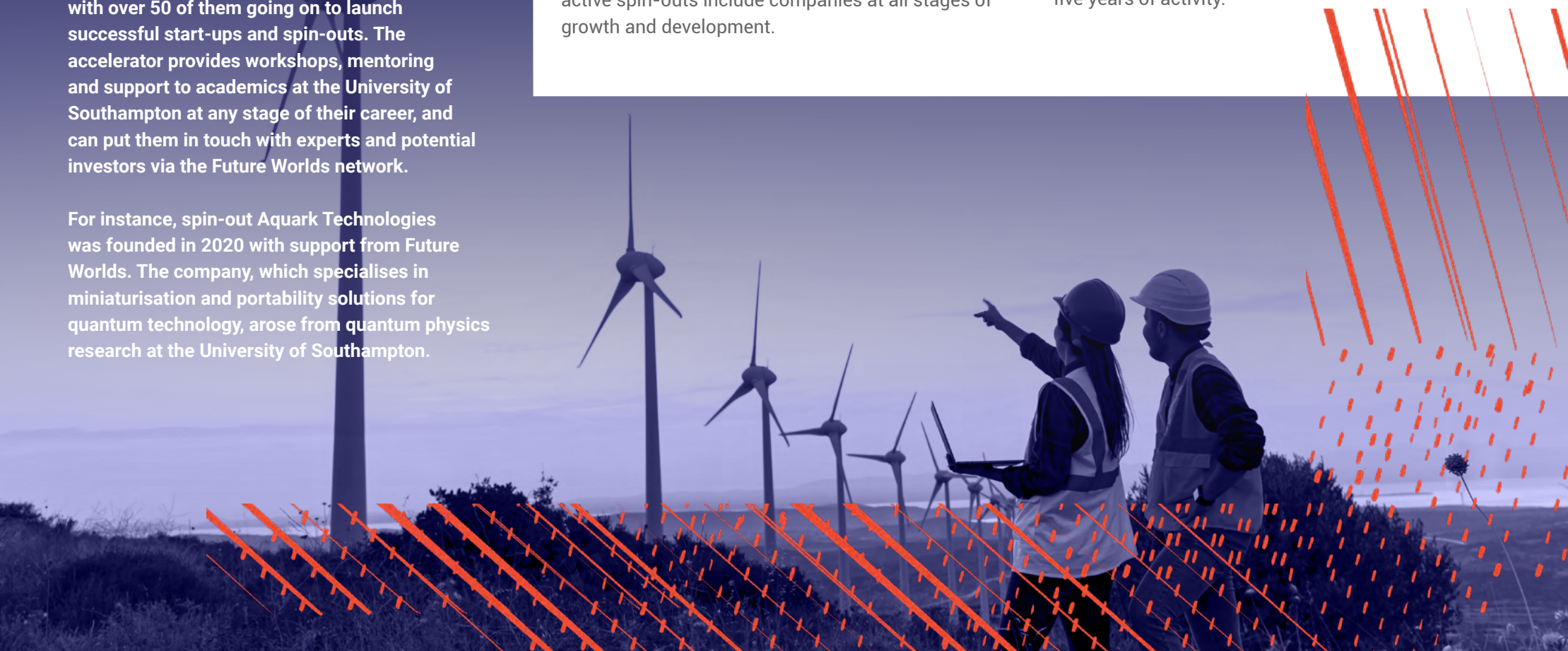
The 2019 publication 'Developing University Spinouts in the UK' prepared for UKRI, shows that 79% of university spin-out companies founded in 2014 survived for at least five years. The EPSRC spin-outs data shows a **five-year survival rate of 86%** for the 2014 cohort of companies.

From newly-founded companies such as Permia Ltd, to established organisations such as Artemis Intelligent Power Limited (founded in 1977), the 1,000 active spin-outs include companies at all stages of growth and development.

## EPSRC spin-outs grow with Innovate UK support

As the companies grow, many of them benefit from further support from Innovate UK, enabling them to develop and bring their products to market. 48% (479) of the active spin-outs have received funding from Innovate UK (IUK), with a **total value of £324 million**.

Spin-outs most often receive support from Innovate UK in their early stages of development. Around two thirds of EPSRC-supported spin-outs receiving IUK funding (290) were granted awards within their first five years of activity.



## Global businesses build on EPSRC spin-out innovation

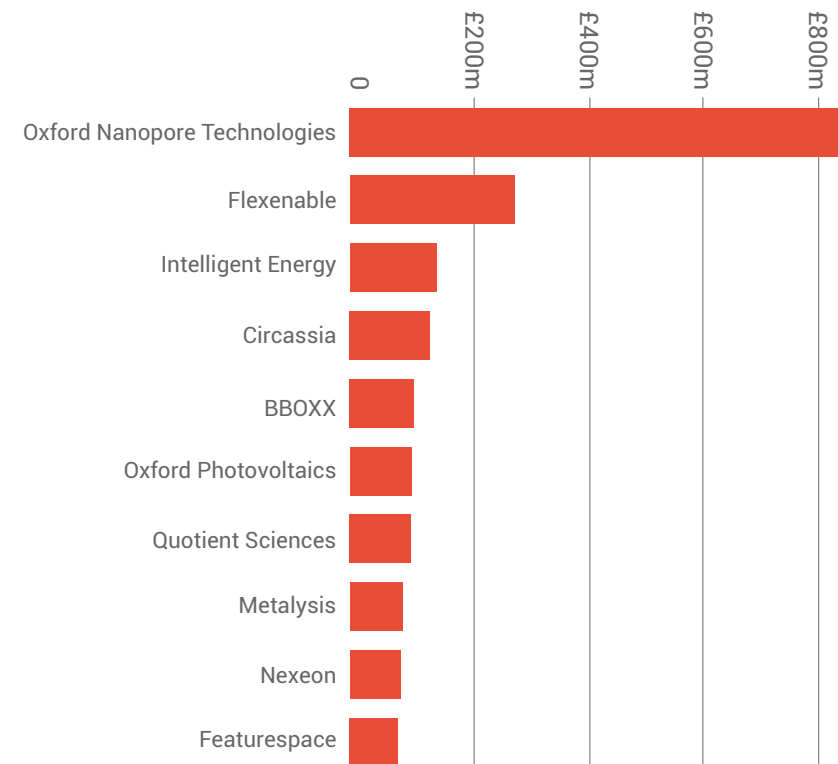
There are more than 1,600 spin-out companies linked to EPSRC investments, and more than 1,000 of those are still active. However even within the 600 companies that have been dissolved there is a positive story; **23% of the dissolved companies were acquired by or merged with another company**, ensuring that the public investment in research which supported the development of the company continues to enable and deliver impact.

## EPSRC spin-outs successfully leverage substantial private investment

473 EPSRC spin-outs have **raised around £4.6 billion** in private investment\*. That investment has come from **577 different sources**.

The UK Government has set a target of increasing public and private sector research and development expenditure to 2.4% of GDP to support the UK developing as a science superpower. Spin-out companies built on EPSRC-funded research are helping to leverage such funding and contribute towards that goal.

This chart shows the ten EPSRC spin-outs that have raised the most private investment.



Data in this chart from Beauhurst.com





Engineering and  
Physical Sciences  
Research Council

The Engineering and Physical Sciences Research Council (EPSRC), part of UK Research and Innovation, is the main funding body for engineering and physical sciences research in the UK. By investing in research and postgraduate training, we are building the knowledge and skills base needed to address the scientific and technological challenges facing the nation.

Our portfolio covers a vast range of fields from healthcare technologies to structural engineering, manufacturing to mathematics, advanced materials to chemistry. The research we fund has impact across all sectors. It provides a platform for future UK prosperity by contributing to a healthy, connected, resilient, productive nation.

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