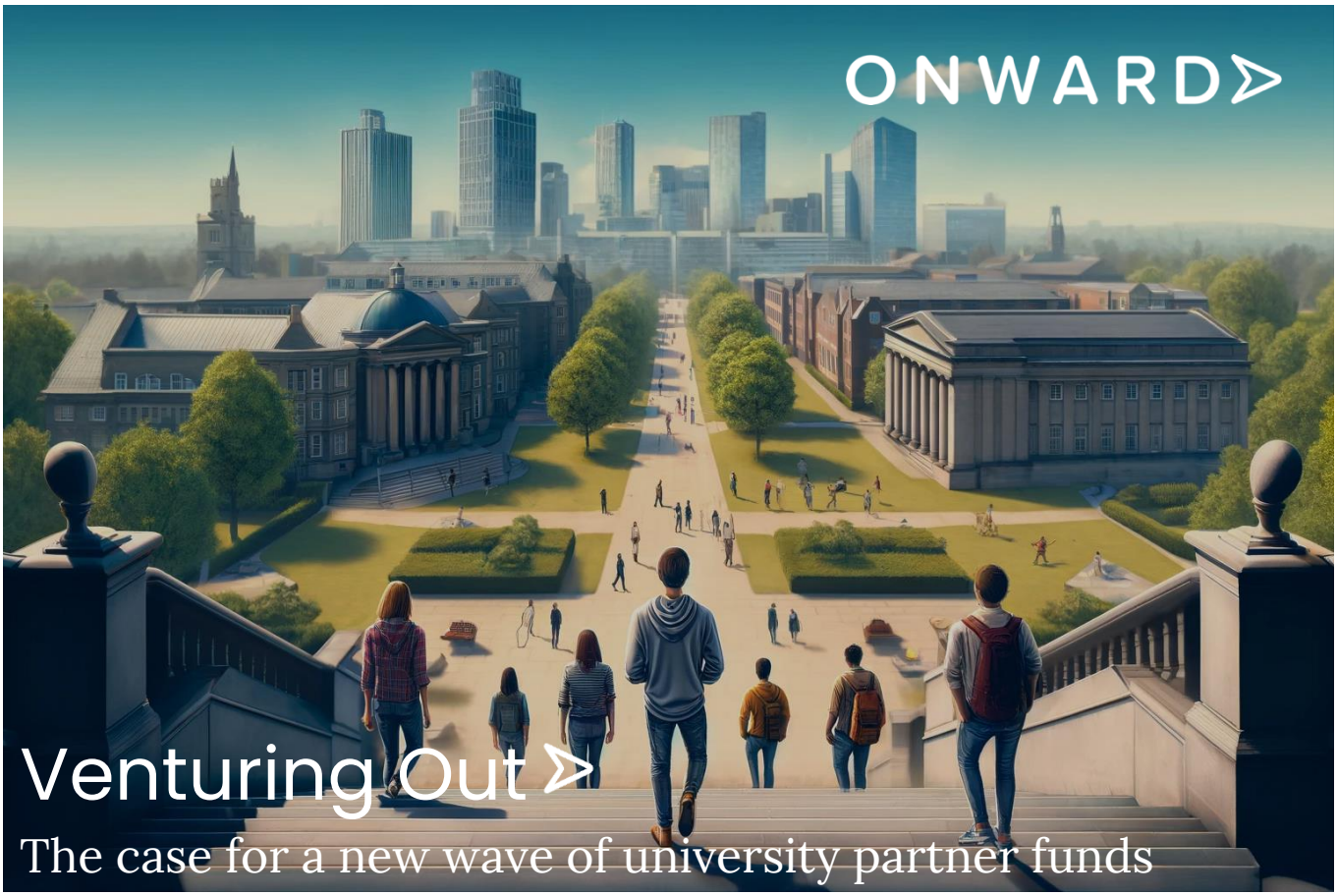


Image source: DALL-E

RESEARCH NOTE

Anna Dickinson, Edited by Allan Nixon

Executive Summary

Something interesting is happening in Oxford and Cambridge. Since 2015, Oxford University has seen a 166% increase in the number of new companies being formed out of its research each year and a 687% increase in capital raised. Cambridge University has seen a 60% increase in spin-outs formed and a 1,310% increase in capital. In the number of companies surviving at least three years, Oxford has seen an increase of 105% and Cambridge by 178%.

Oxford and Cambridge have historic strengths that are boosting their spin out potential. But key to their success has been their university partner funds (or partner funds): Oxford Science Enterprises and Cambridge Innovation Capital. Since their establishment, these funds have brought an influx of capital and a wave of talent who help find investable propositions and support them to become successful companies. And through their networks they help attract additional capital from other funds and investors, both home and abroad.

In recent years others have attempted to follow suit. New funds have been set up across the country, including the University of Edinburgh's Old Street Capital, Newcastle University's Northstar

Ventures, Northern Gritstone and Midlands Mindforge. Since the formation of Northern Gritstone, the University of Leeds has seen external investment increase from £2 million to £90 million. But there are still too few partner funds serving a narrow set of universities.

Many other universities across the country have the potential to commercialise their research and boost local prosperity but are unable to do so. Why? First, there is a capital deficit outside the Golden Triangle of London, Oxford, and Cambridge. Despite producing 17% of the country's spin-outs, London is home to almost 80% of the UK's venture capital and private equity firms and more than half of all investment deals. More than two thirds of all deals occurred in either London, the South East or the East of England in 2022.

Second, university Technology Transfer Offices (TTOs) are underpowered, lacking the funding, capacity, and expertise to drive spin-outs. British universities are in a deficit of £4.5 billion and have limited scope to invest in innovation. Support through funding pots such as the Higher Education Innovation Fund is insufficient, varies widely between universities and does not reward universities who spin out more companies than others: Southampton University received £5 million in 2023-23 but did not spin out any companies, whereas Imperial received the same and spun out 11.

Capacity at Technology Transfer Offices varies significantly. The TTO at King's College London has a dedicated team of 11, Leeds just two. Queen's University Belfast's TTO has less than 10% the staff of Oxford's.

University partner funds can play a critical role in addressing these shortfalls, a lack of investment and a lack of investible propositions, in two key ways:

1. **Providing capital.** Three universities with university partner funds have seen a significant increase in external investment since their partner funds were established: Oxford is more than six times higher, Cambridge 16 times, and UCL's 13 times. Since the establishment of Northern Gritstone in 2021, Manchester University has seen funding attracted more than double, and Leeds University a 50 times increase. University partner funds attract other investors too: OSE tops the list of investors by value of equity deal participation into spin-outs with £1.4 billion in value of deal participation, CIC over £450 million, and UCL £420 million in equity deal value.

2. **Providing expertise.** University partner funds bring with them an injection of people who are incentivised by returns on investments in a manner that universities are not. They therefore have a greater incentive to find investable propositions and opportunities and turn them into successful companies. Northern Gritstone adds an additional 29 staff dedicated to attracting investment across its three universities. Oxford Science Enterprises provides 60 extra people to support the Oxford innovation ecosystem. Between the TTO and the partner fund, Oxford is able to have over 130 experts supporting the spinning out of research - greatly increasing the commercialisation capacity of the city.

Too few places are setting up university partner funds. If the UK wants to deliver on its ambition to become a science and technology superpower their creation should be accelerated.

Ministers should introduce the University Partner Fund Accelerator, a new investment vehicle to support the establishment of four new university partner funds across the UK. The Accelerator can either support one singular university, like Oxford Science Enterprises, or a group of universities, such as Northern Gritstone. To attract funding from the Accelerator, universities will have to raise a minimum of £20 million which will then be matched with public investment. An initial funding pot of £88 million would support the Accelerator, resourced by redirecting three existing grants that are not delivering significant returns:

- **£20 million** committed for proof-of-concept by the previous Government following the 2023 spin-out review, which has not yet been allocated;
- **£49 million** from the Regional Innovation Fund, because while the fund does focus on diffusing funding beyond the Golden Triangle, it is non-recurrent and therefore benefits too few universities for too short a period;
- **£20 million** Business & Commercialisation Supplement which falls under the Higher Education Innovation Fund, but does not successfully incentivise universities to invest in innovation.

Alongside the fund, the Government should support making data on spin-outs more accessible and transparent. To do so, a University Innovation Dashboard should be established. This would be supported by the Department for Business and Trade's Office for Investment in coordination with the Department for Science, Innovation and Technology. The Dashboard would track and provide regular updates on the UK's spin-out landscape, making investable opportunities more accessible to investors, both domestic and foreign. It would also inform UKRI and supporting funding bodies in the awarding of commercialisation-focused grants.

The ideas that could power Britain's best new companies are currently trapped on campus. A wave of new university partner funds would bring together academic expertise with commercial insight, creating hundreds of new spin outs and bridging the gap between the classroom and the boardroom.

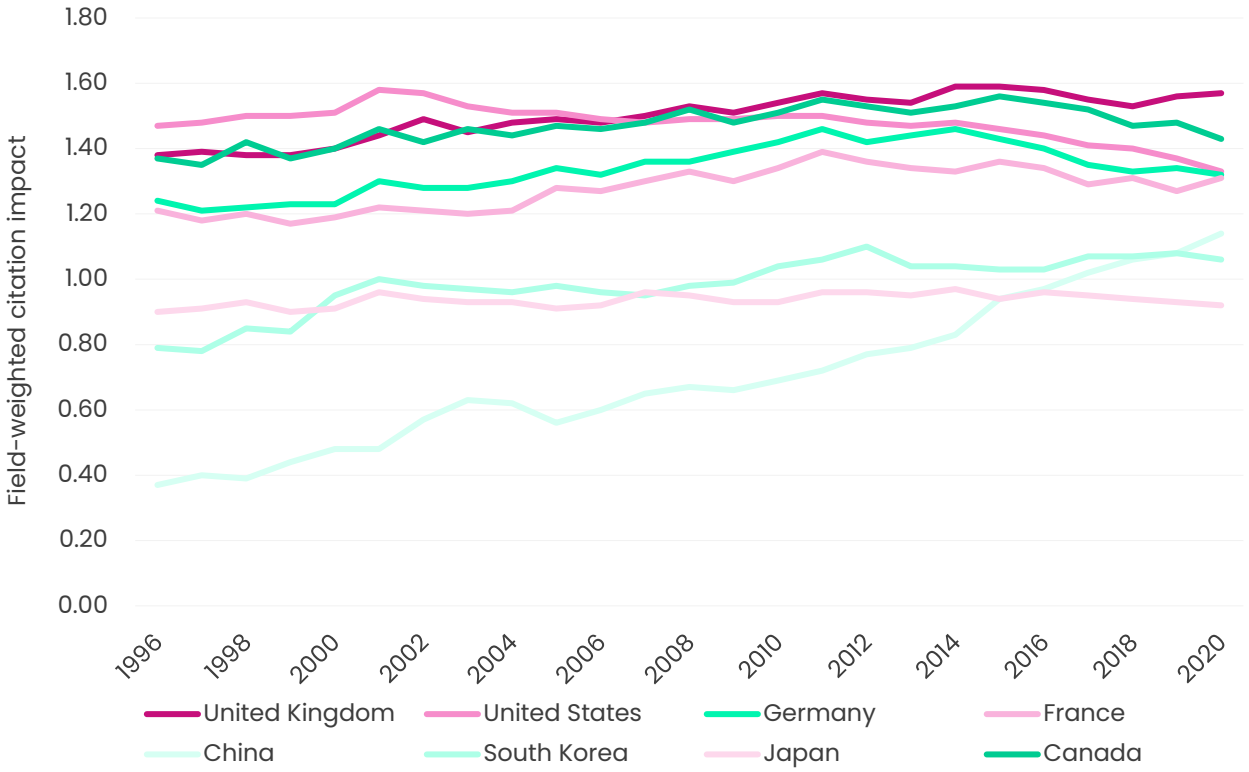
1. The University Innovation Gap

There are investable opportunities across the country

British universities are globally competitive. Across the country higher education institutions perform strongly in the number of publications and quality of their research outputs .[1] In 2022, more than 80% of research emerging across the country was rated at 3-star or above when assessed for grant funding awarding.[2,3]

Figure 1: International comparison of research output impact (2022)

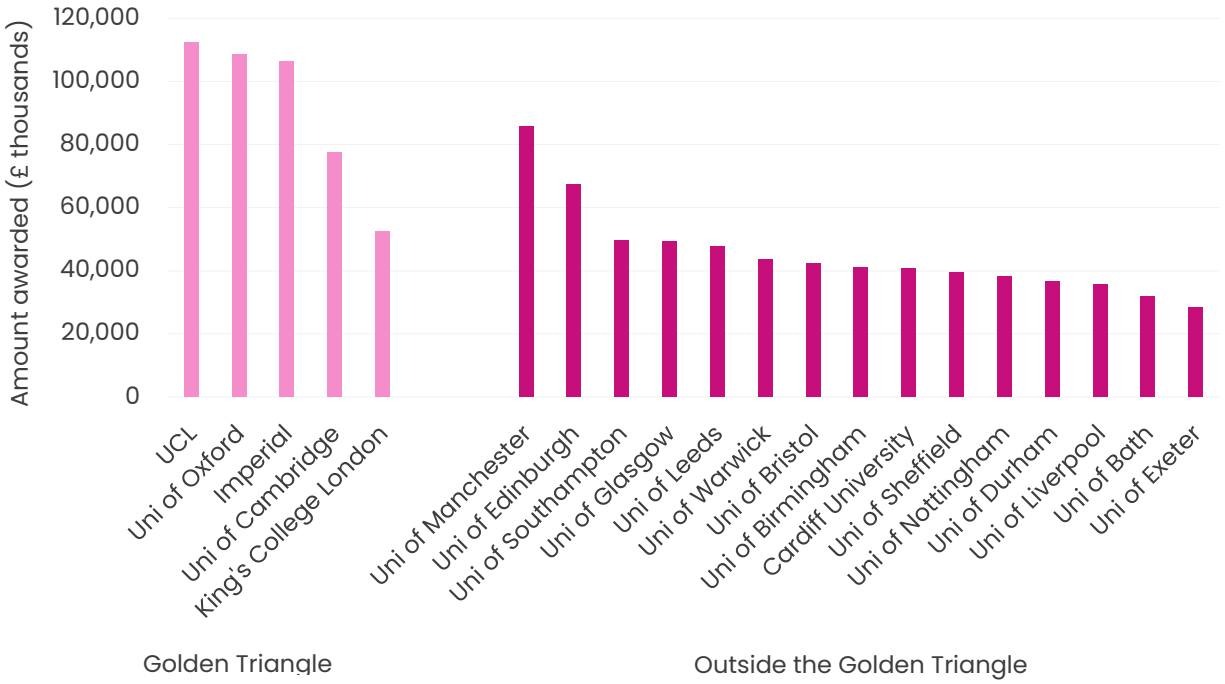
Source: UK Gov[4]



While universities in the Golden Triangle of London, Oxford and Cambridge dominate the league tables, high-quality research is happening across the whole of the UK. In 2022/2023, 75% of the universities in the top 20 for the amount awarded from the Research and Innovation grant – distributed by UKRI and the research councils – were outside of the Golden Triangle.[5]

Figure 2: UKRI awarding of Research and Innovation grant (2022/2023)

Source: UKRI[6]



The UK still struggles to unlock university innovation

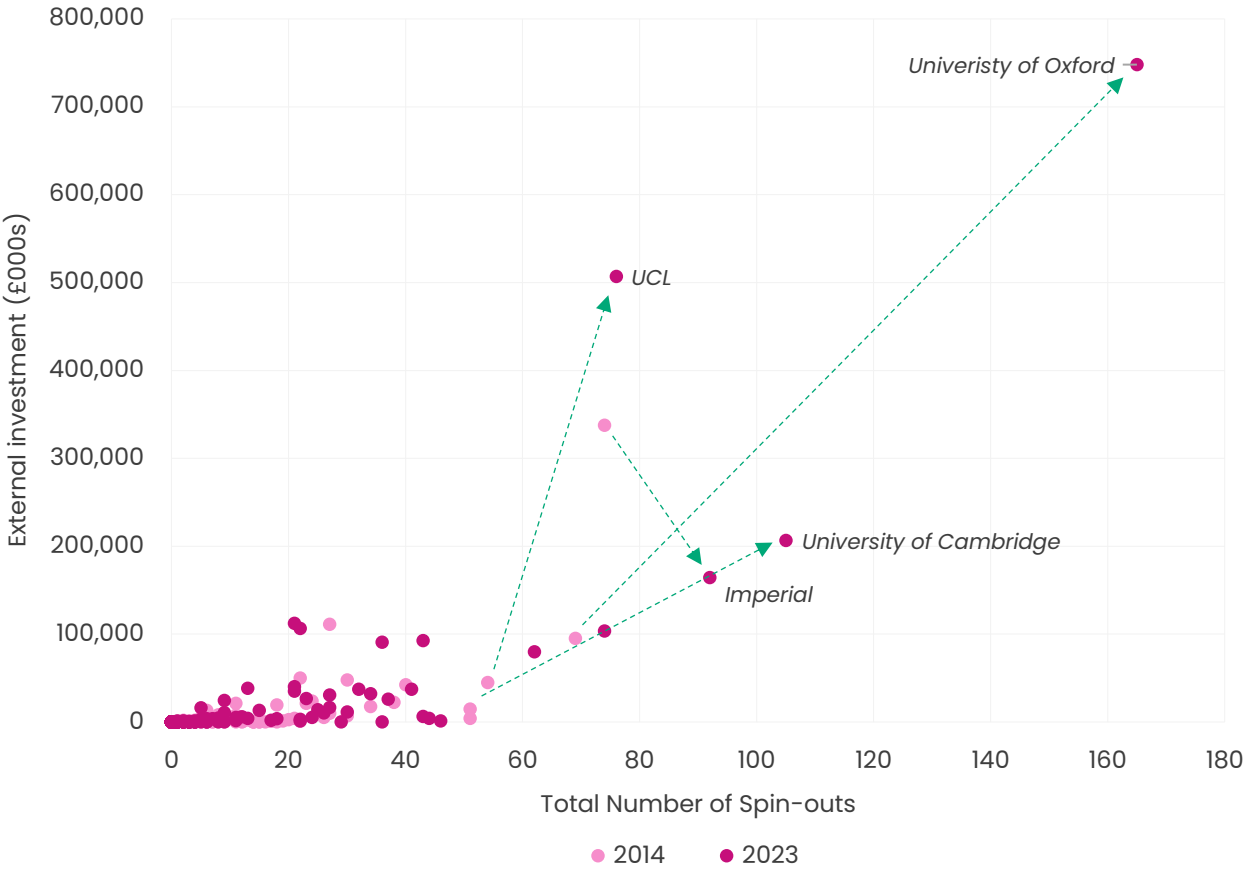
British universities have previously undervalued their innovation potential. Technology Transfer Offices (TTOs) – university offices that support academics in commercialising their research – were slow to be established. Queen's University Belfast's TTO was not established until 1984, Oxford University's 1987, and University College London's 2005. Stanford University opened theirs in 1970,[7] and Belgian university KU Leuven's was established in 1972 – one of Europe's first.[8]

To drive innovation, university spin-outs, companies created from intellectual property (IP) generated from a university's research, are key.[9] Some of Britain's most dynamic science and tech companies originated as a spin-out, such as Oxford Nanopore Technologies and Darktrace.

The number of active companies and spin-outs formed is on the rise, but this growth is inconsistent.[10] Just six out of 219 higher education institutions across the country have seen a noticeable maturing of their innovation ecosystems in the form of more companies formed and capital attracted.[11] Only 2.7% of institutions have improved their spin-out rates since 2014.[12]

Figure 3: Comparison of university innovation ecosystems 2014 to 2023

Source: HESA.[13] Onward analysis.

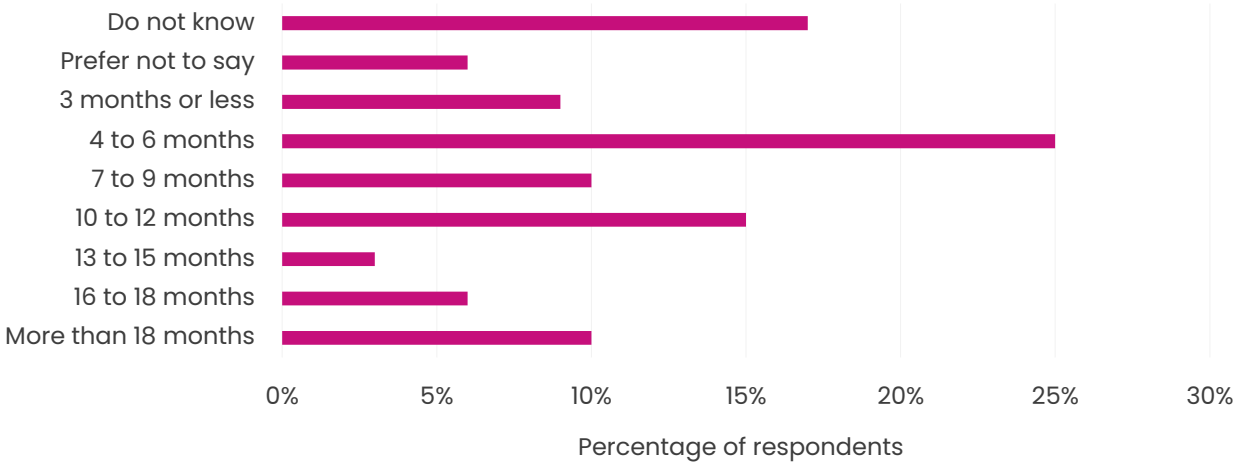


The UK spinning out more companies is not necessarily indicative of improving innovation, their quality and ability to scale are also key. Of the 1,248 active spin-outs in early 2024,[14] only four companies (Oxford Nanopore Technologies, Graphcore, Synthesia and Darktrace) have gone on to become unicorns – a rate of 0.32%.[15]

Action was taken by the previous Government to address this. A 2023 independent review of spin-outs underlined a number of challenges spin-out founders face: 44% of respondents claimed that it took over seven months to secure their research commercialisation deal with their university, almost a full academic year.[16] Just under 20% of respondents said it took over a year and 10% said it took over 18 months.

Figure 4: Months taken to complete spin-out deal

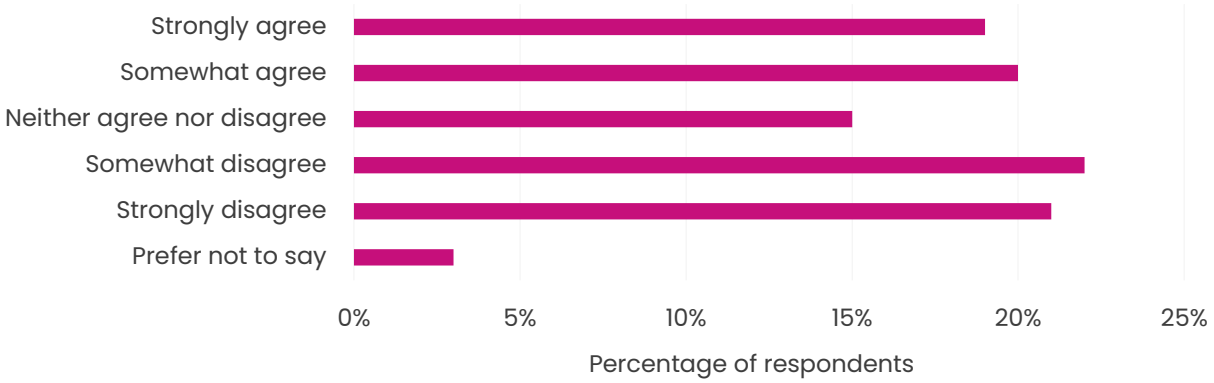
Source: UK Government[17]



When founders were asked about the fairness of the deals over 40% selected 'somewhat disagree' or 'strongly disagree'.[18] In total, less than a fifth of those asked stated that they 'strongly agree' with the approach taken by their university or TTO.[19] The review also highlighted the challenges founders face with the highly varied levels of equity stakes taken by universities.

Figure 5: Founder's opinion on the fairness of spin-out deals negotiated with the University and/or TTO

Source: UK Government[20]



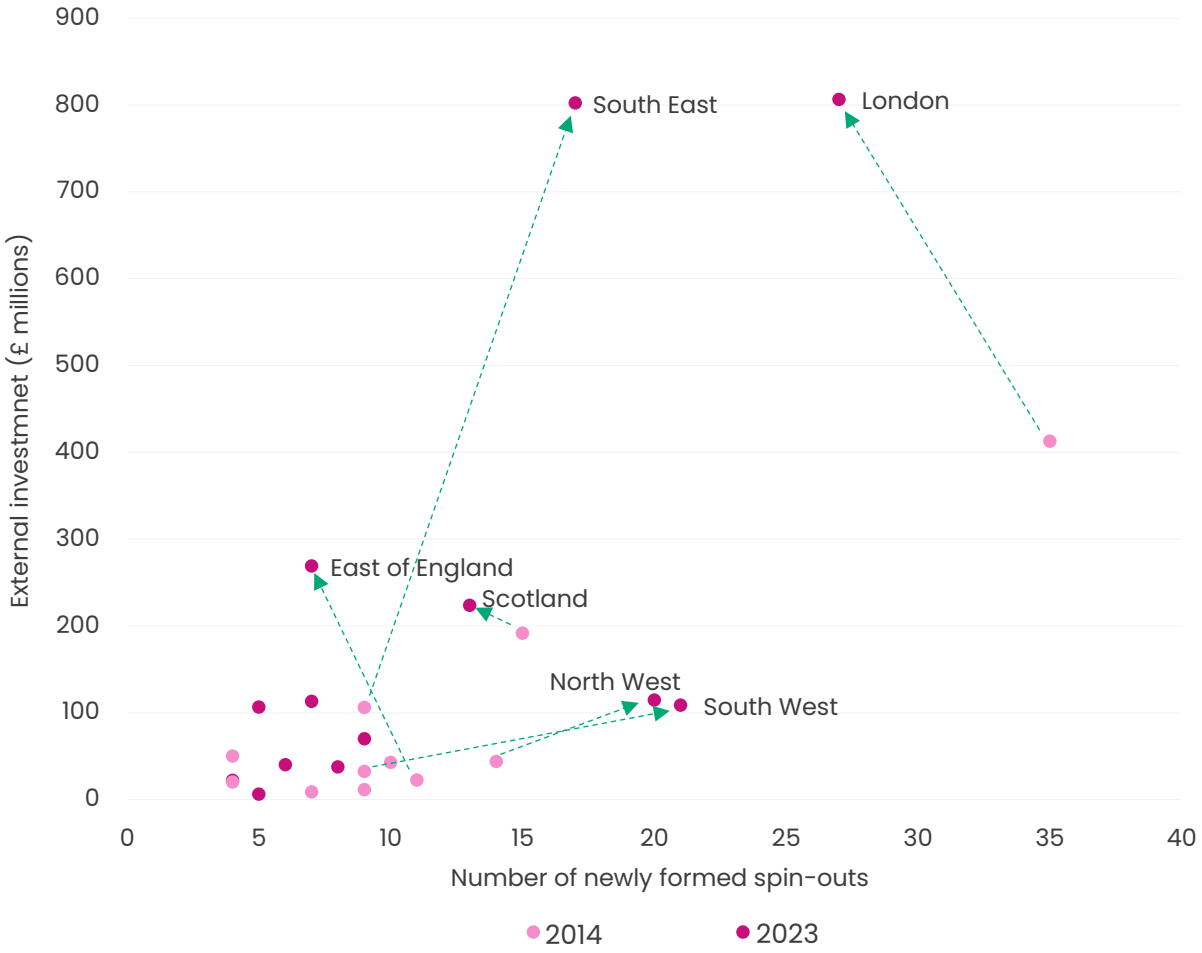
Challenges are acute outside the Golden Triangle

The creation of spin-outs is concentrated in the Golden Triangle. Since 2014, half have been spun out by just 10 universities.[21] A third were spun out of universities in the Golden Triangle. And a fifth from just three universities: Oxford, Cambridge and Imperial.[22]

But regions outside the Golden Triangle are improving. Last year the North West and South West each produced more spin-outs than the South East.

Figure 6: Regional comparison of spin-out ecosystem growth

Source: HESA.[23]



The UK cannot rely solely on the innovation ecosystem of a select few universities or a single region of the UK. More is needed to unlock the innovation potential of universities across the country.

2. What's Driving the Gap?

Problem 1: Private capital deficit outside the Golden Triangle

Attracting private capital is particularly critical for spin-outs. They are often focused on high-risk, experimental technology (known as 'DeepTech'), which tend to require significant amounts of capital – from concept, to proof of concept, to prototyping and scaling – over longer time horizons. DeepTech startups are estimated to take 35% longer and 48% more capital on average to reach $5 million revenue compared to other startups.[24] Pre-IPO, for example, Oxford Nanopore Technologies conducted more than 15 funding rounds.[25]

But the investment sector is heavily concentrated in London. Almost 80% of the venture capital (VC) and private equity (PE) firms were located in London in 2022,[26] and over 54% of deals occurred in London.[27] Of the total 1,081 deals, over 69% occurred in either London, the South East or the East of England,[28] with London receiving more than five times the deals of even the South East.[29] Spin-outs from London and the South East attracted almost 60% of the total external funding last year.[30]

Figure 7: Distribution of Venture Capitalist and Private Equity firms across the UK by region
Source: Beauhurst[31]

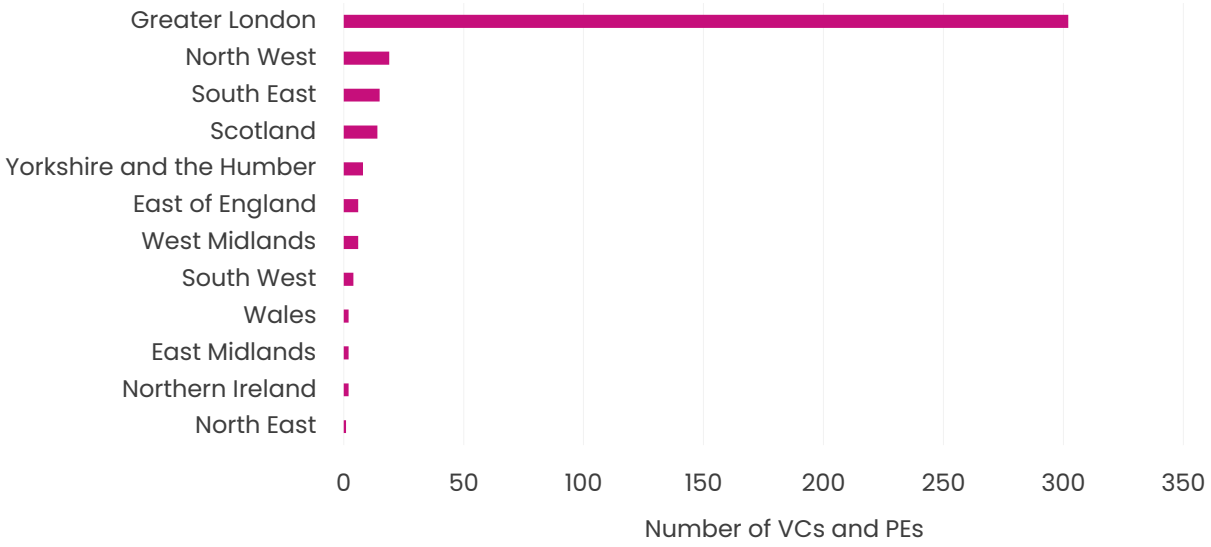
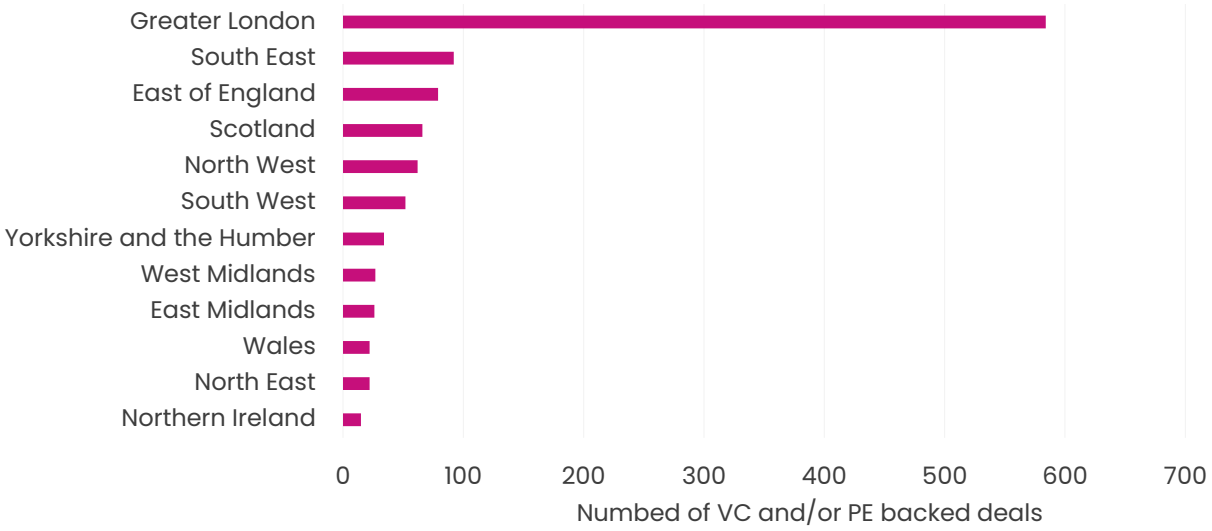


Figure 8: Number of Venture Capitalist and Private Equity backed deals across the UK by region

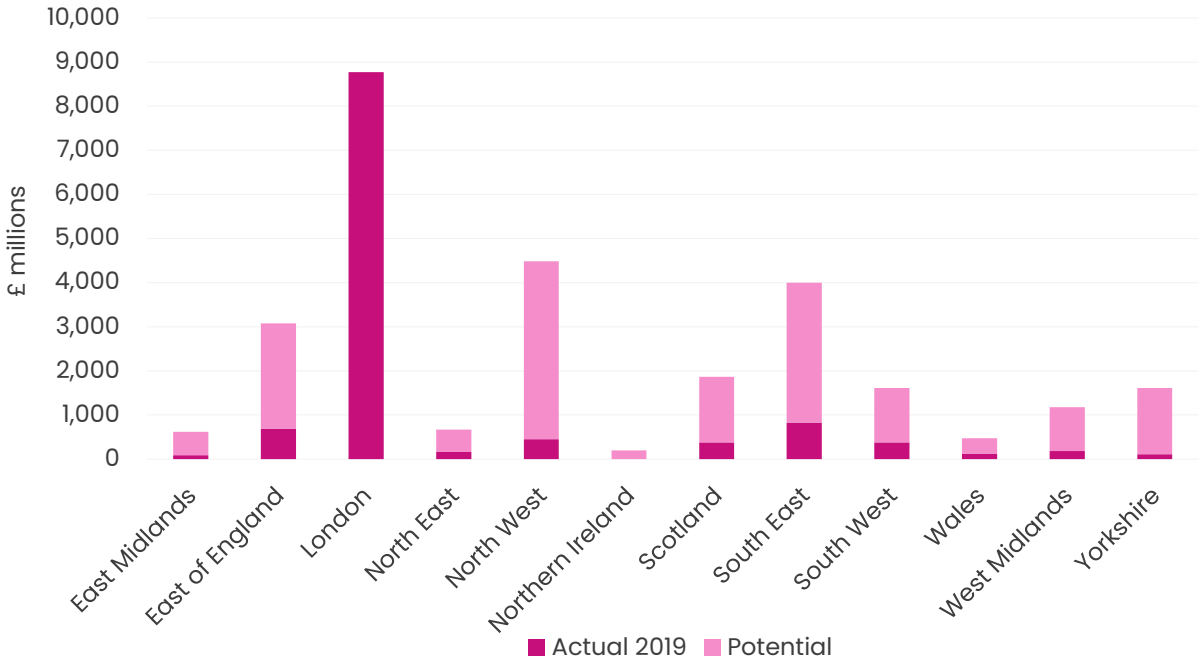
Source: Beauhurst[32]



This investment and impact are disproportionate – there is a significant amount of untapped innovation potential occurring outside of the Golden Triangle. By assessing the outstanding demand for growth capital across the UK, the ScaleUp Institute found that most regions are struggling to attract their investment potential.[33] But the unfunded opportunities deficit is most pronounced outside the South East. And Figure 9 shows that in 2019, the North West only attracted an estimated 11% of its potential,[34] compared to the South East's 26%.[35]

Figure 9: 2019 equity raising by region compared to hypothetical potential 'if like London'

Source: Deloitte, Innovate Finance, The Scale UP Institute.[36]

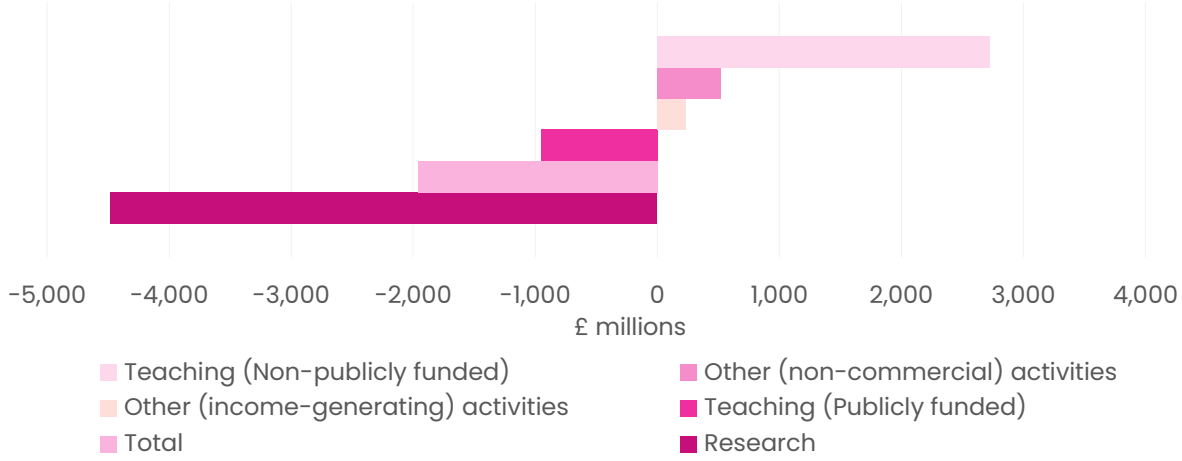


Problem 2: Technology Transfer Offices are underpowered

Universities are struggling to be financially viable. And despite increases in the amount of public funding invested in universities, they do not have enough funding to cover their costs.[37] In 2022 universities went into an overall deficit of £4.48 billion,[38] an increase of 14% in just five years.[39] A recent report by PWC examining the sustainability of university funding forecasted that the sector will soon enter serious difficulties if action is not taken.[40] Two thirds of UK universities could be in a financial deficit by 2025–26.[41]

Figure 10: Higher education institution full economic cost by activity, 2021-22 (England and Northern Ireland)

Source: Office for Students.[42]



Despite the UK investing a higher proportion of Higher Education R&D than any other G7 nation,[43] university income is unable to keep up with pressures. Research grants and income from contracts have remained largely static.[44] As a result, universities must overly rely on tuition and fee income to fund core activities. Therefore, have limited flexibility to designate the needed amounts of funding to innovation, proof-of-concept funding and seed funding for spin-outs.

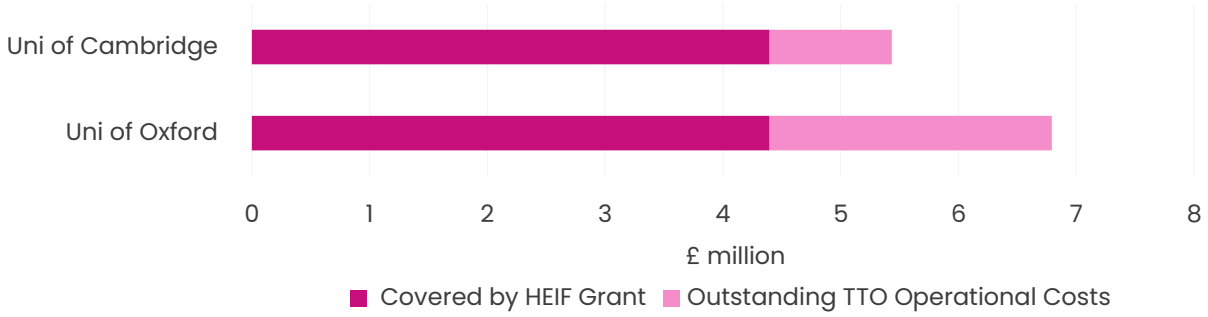
These pressures create many challenges, particularly the ability to prioritise and invest in innovation through Technology Transfer Offices (TTOs), the teams in universities which help to commercialise research. Revenue created from spin-outs' success can also be an important source of income for TTOs – but most still struggle for returns, with only a very small number of universities receiving financial returns from the created companies. Almost 60% of returns from IP ownership in spin-outs between 2015 and 2022 were earned by Oxford alone.[45] But 113 higher education providers (or 50.9%) received no returns at all.

The Higher Education Innovation Fund (HEIF) is one of the grants awarded annually by Research England to universities. It is designed to support and develop knowledge exchange activities between higher education institutes and other sectors, such as business and the public sector.[46] As

public attention has increasingly been placed on the potential of knowledge exchange activities, or innovation, so has the level of importance placed by universities on the HEIF.

The 2023 Spin Out Review propose using funding from the Higher Education Innovation Fund (HEIF) grant to help support cash strapped TTOs.[47] But this is not feasible. Out of 131 universities, only 11 of 131 universities received the largest HEIF grant amount - £5.7 million - in 2023.[48] 40 received less than £1 million, and 21 did not receive any funding at all.[49] But even for universities awarded the largest grant amounts, the operational costs of TTOs are not covered. In 2021, had Oxford and Cambridge each used their entire HEIF grant funding to fund their TTO, this would have only covered 65% and 80% of their operational costs, respectively.[50]

Figure 11: Funding of Technology Transfer Offices operational costs (2019/2020).
Source: Oxford University Innovation, Cambridge Enterprise, UKRI.[51] Onward analysis.[52]

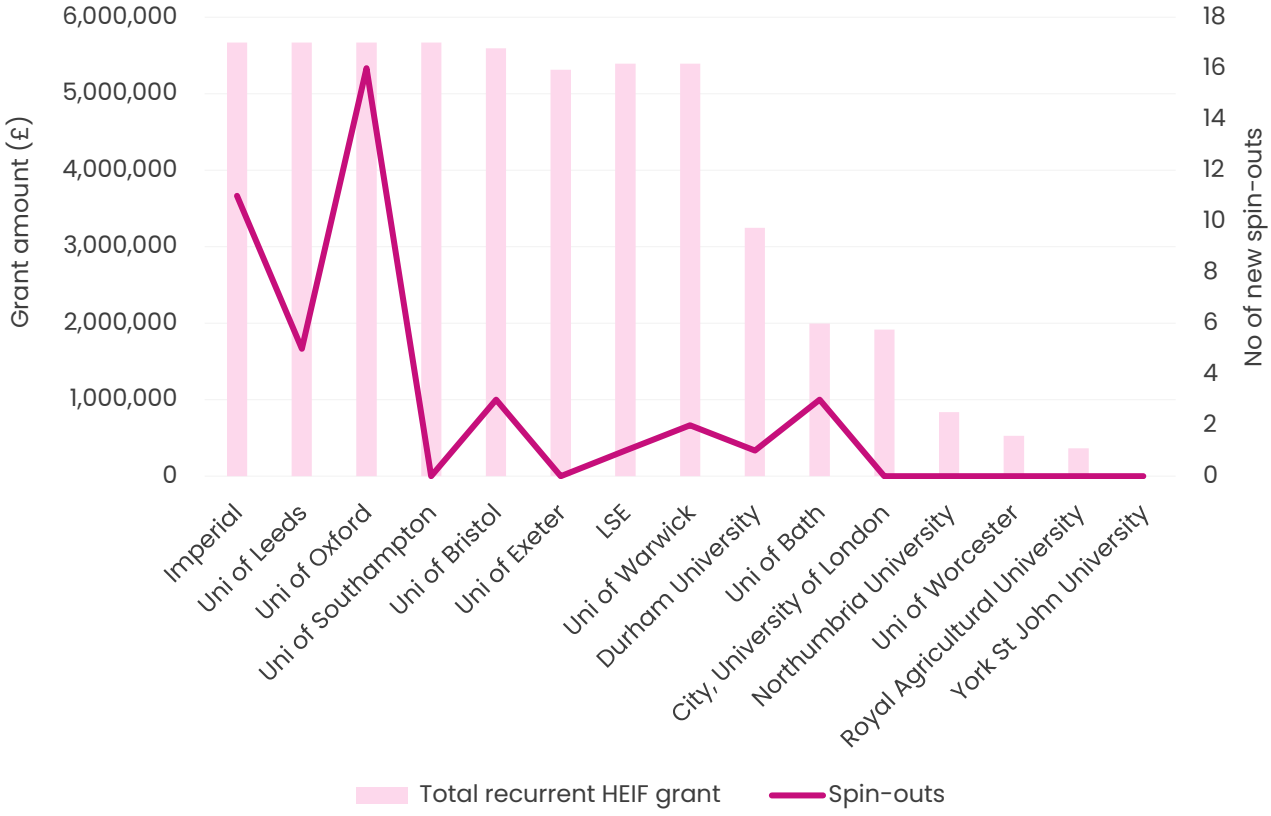


Without a doubt the HEIF could be used to support the activities of TTOs. Some universities may choose to invest their awarded HEIF grant into their TTOs, but this is not possible across all universities. The HEIF is often used for innovation and research activities, conducted by universities, which do not sit under the remit of TTOs. It is short-sighted and impractical to recommend filling funding gaps in TTOs with funding from grants that are important across all university innovation activities and not just tech transfer.

There is also no correlation between HEIF awards, and the number of companies being spun out by a university. For the 2022/2023 academic year the University of Southampton, for example, was awarded £5.67 million, yet did not spin out any companies.[53] The University of Bath, on the other hand, was awarded less than £2 million but spun out three.[54] While the number of companies produced will vary slightly year-on-year and does not warrant being solely tied to supporting the spinning out of companies, it is clear that the awarding of the HEIF is not incentivising universities to spin out companies.

Figure 12: Comparison of HEIF grant awarding and number of new companies formed in UK universities (2022/2023)

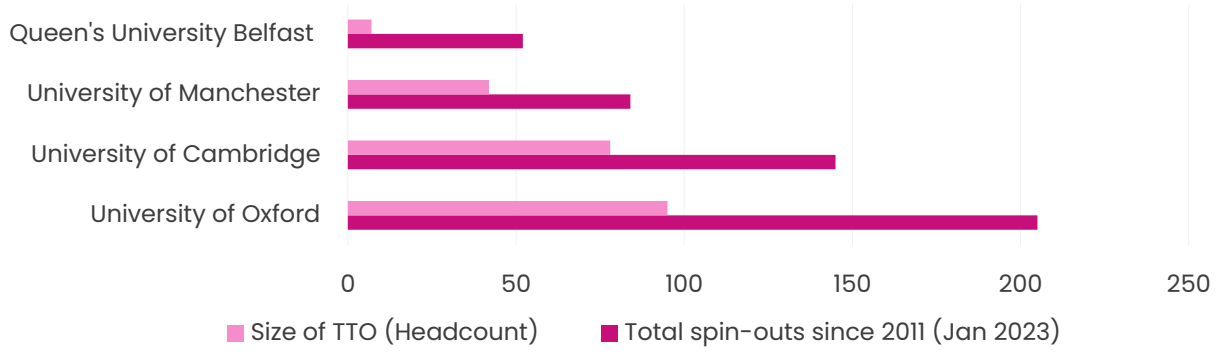
Source: HESA and UKRI.[55] Onward analysis.[56]



The outcome is underpowered TTOs with limited capacity and expertise to spin out companies. Figure 13 shows the correlation between the size of a TTO and the number of companies spun out by their university. Queen's University Belfast's (QUB) TTO for example, has just 7% of the staffing of Oxford's.[57] Partly as a result, QUB has only spun out a quarter of the companies as Oxford.[58]

Figure 13: Comparison between size of TTO and number of spin-outs

Source: OUI, Cambridge Enterprise, University of Manchester Innovation Factory, QUB and HESA. Onward analysis.[59]



3. Closing the Gap: University Partner Funds

What are university partner funds?

Partner funds are private investment funds partnered to one or more academic institutions and include an agreement providing the fund favourable access to spin-outs to help de-risk the investor proposition.[60]

Examples include the University of Edinburgh's Old Street Capital, Cambridge University's Cambridge Innovation Capital (CIC), and Newcastle University's Northstar Ventures, Oxford University's Oxford Science Enterprises (OSE), Northern Gritstone and, Midlands Mindforge.[61]

Case Study: Oxford Science Enterprises (OSE)[62]

OSE launched in 2015 to build world-changing businesses based on academic discoveries in life sciences, deep tech and health tech made at the University of Oxford.

OSE was founded by executives of the investment business, IP Group, which was originally set up in Oxford in 2000 before moving to London and floating on the London Stock Exchange. The founding aim of OSE was to tackle what the founders, and fellow investors, considered to be an imbalance between the funding and support available to spin outs from the top universities in the United States compared to Oxford.

On its launch in 2015, OSE raised £600 million from its founders and other investors and, in 2022, it added a further £250 million of investment.[63] The long-term aim is to become self-funded through receiving sizeable returns via exits.

To date, OSE has seen two companies from its portfolio go public: Vaccitech (which helped to develop the Oxford vaccine against Covid, developed and distributed by AstraZeneca) and Pepgen, which is transforming treatments for neuromuscular conditions. It has also benefited from seven company sales, including electric motor manufacturer YASA to Mercedes in 2021 as well as DJS Antibodies to AbbVie and MiroBio to Gilead Sciences, both in 2022.

Sample of companies OSE has supported:

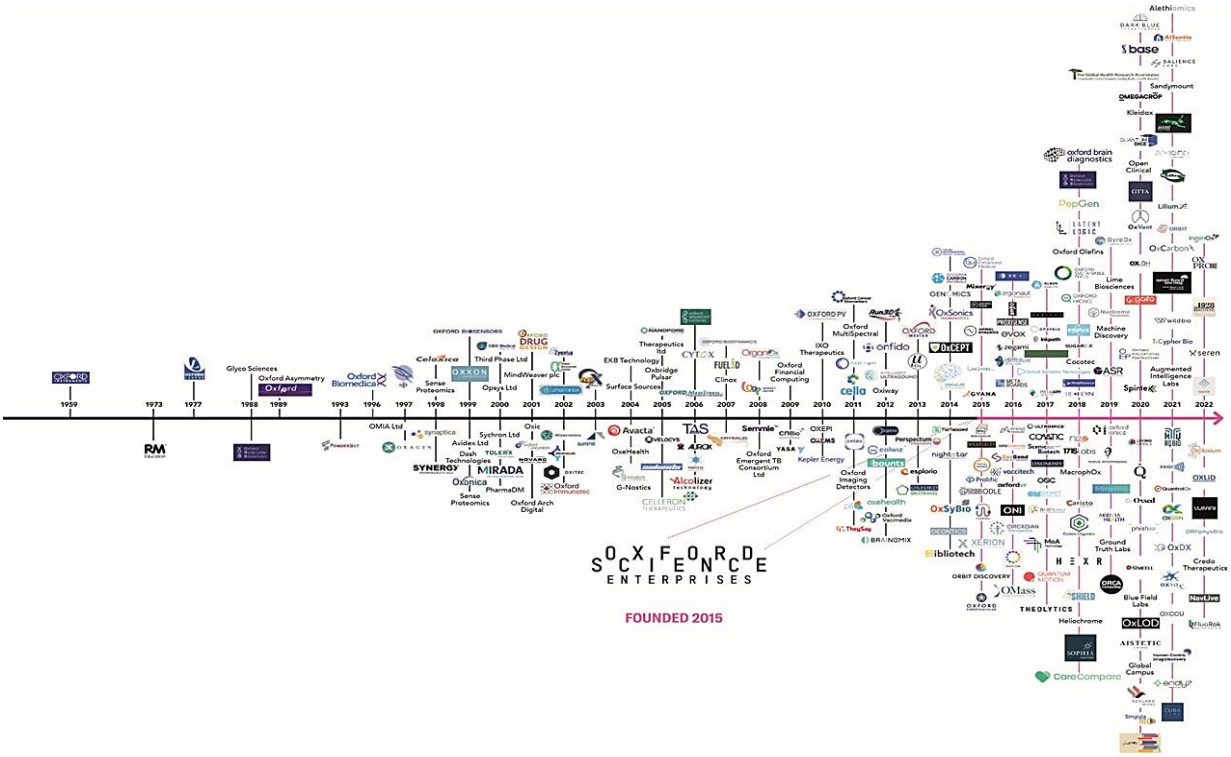
1. Beacon Therapeutics: Beacon launched from the University of Oxford in 2023 with £96 million to develop a new generation of gene therapies for retinal disease resulting in blindness. Its funding round was led by the British fund Syncona.

2. MoA Technology: MoA is uncovering the next generation of sustainable herbicides to reduce their environmental impact. Founded in 2018, three years later it raised £12 million

in its Series A funding round. In 2022 it raised over £35 million in its Series B funding round supported by investors including Parkwalk Advisors, IP Group and BGF Investments.

3. Mind Foundry: Mind Foundry is a no-code platform that allows businesses to build, test, deploy and maintain Machine Learning for high-stakes applications. By 2020 it had raised over £19 million, closed its Series A funding round, and was supported by investors such as Parkwalk Advisors. In 2023 it closed its Series B funding round, raising over £37 million across five funding rounds.

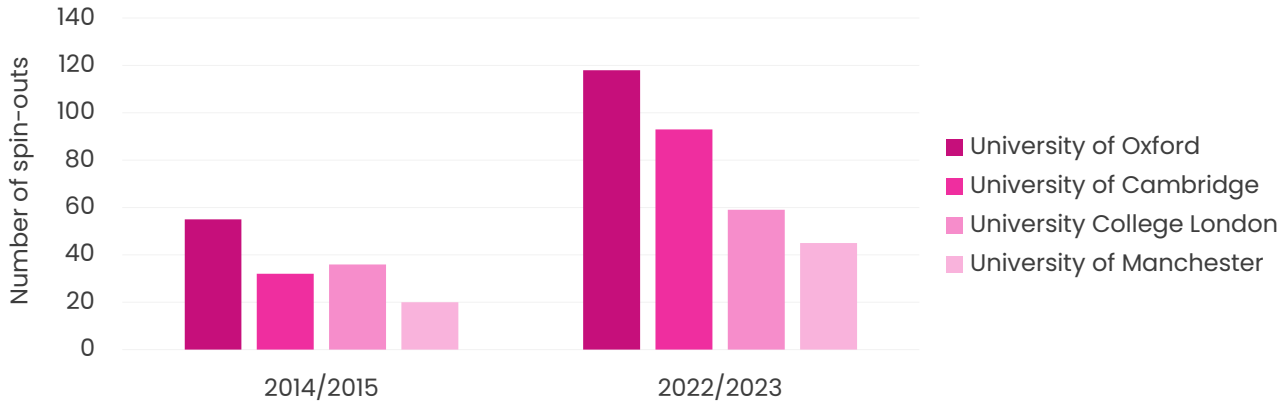
Figure 14: Number of companies spun out of the University of Oxford before and after the founding of Oxford Science Enterprises
Source: Oxford Science Enterprises.[64]



Since their formation, both OSE and CIC have supported a growth in the number of companies spun-out of their universities. As shown in Figure 15, Oxford has seen an increase of over 105% in the number of companies surviving at least three years since the establishment of OSE. Cambridge on the other hand has seen an increase of 178% since the formation of CIC.

Figure 15: Number of spin-outs with some Higher Education Provider (HEP) ownership still active which have survived at least 3 years

Source: HESA.[65] Onward analysis.

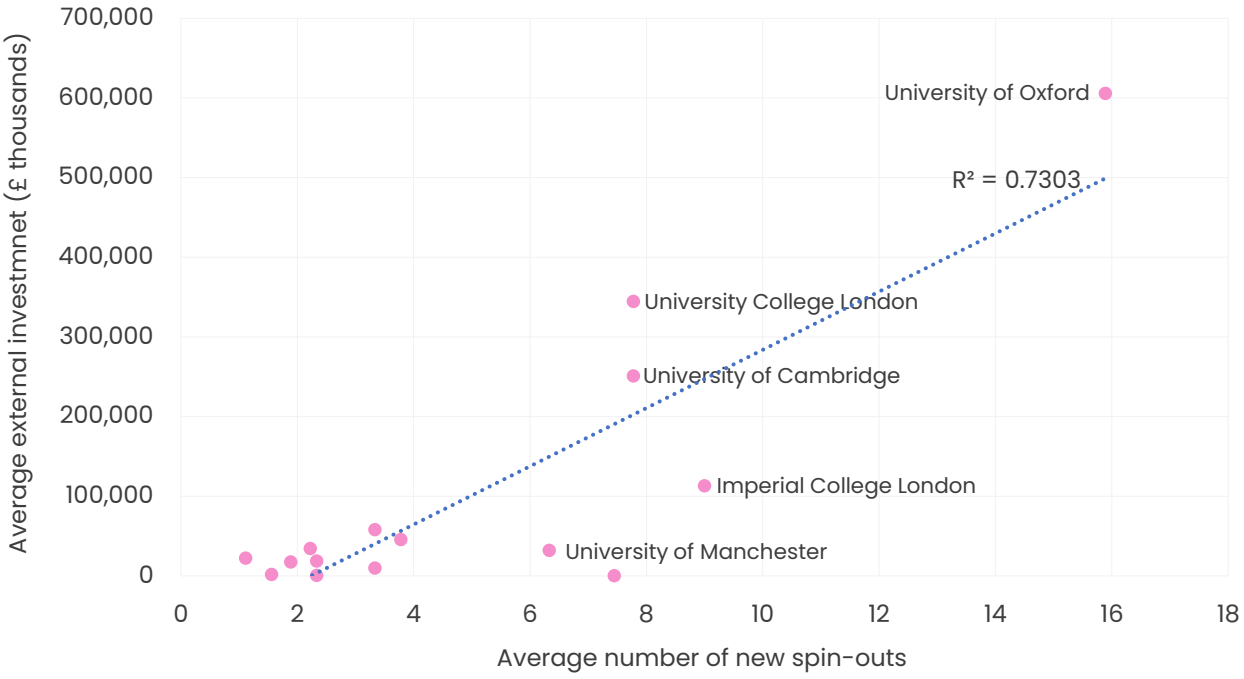


Solution 1: University partner funds address geographical imbalances in investment

The impact of university partner funds on the commercialisation of research is significant. Across the universities which spun out the highest number of spin-outs in 2023, the three which have established partner funds have seen a significant increase in both the number of spin-outs formed and the amount of external investment they attract.[66] Oxford has attracted six time more external investment, Cambridge 16 times, and UCL's 13 times.

Figure 16: Impact of University Partner Fund on the amount of external investment attracted by universities

Source: HESA.[67] Onward analysis.[68]



Partner funds attract more top external investors too. In research conducted by Beauhurst,[69] OSE is ranked second in the list of investors by value of equity deal participation into spin-outs between 2014 and 2023, totalling over £1.6 billion in value of deal participation.[70] CIC totalled over £565 million in the same time period.[71] The UCL Technology Fund (AlbionVC) holds over £506 million in equity deal value.[72]

Increased investment is also evident with universities that have only recently established a partner fund. Northern Gritstone was only established in 2021,[73] but has helped support a growth in both Manchester University and University of Leeds. Manchester has seen an increase in funding attracted by over 140% since 2014,[74] but over the past two years has seen an increase of 203%.[75] Similarly, Leeds has seen funding increase from £2 million to £90 million over the past two years.[76]

Figure 17: Total amount of externally attracted investment

Source: HESA.[77]

Solution 2: University partner funds increase expertise to develop investable propositions

University partner funds bring with them existing networks of funds and investors. And research has shown that relationships among the key figures and organisations within a region contribute greatly to the acceleration of innovation.[78]

Technology Transfer Office capacity

University partner funds can help tackle the challenges faced by TTOs. And they do so by bringing in additional staff for which the financial burden does not fall on the university.

Oxford University Innovation (OUI) and Cambridge Enterprise – the TTOs for Oxford and Cambridge – have teams of over 70 each.[79] But TTOs that are less established in other universities often have significantly fewer. For example, King's College London has a team of 13,[80] and Leeds has only two.[81] Partner funds can help improve this. Northern Gritstone adds an additional 29 people to their regional innovation ecosystem.[82]

More established funds such as Oxford Science Enterprises (OSE) provide over 60 extra people to support the Oxford innovation ecosystem.[83] Between the TTO and the partner fund, Oxford is able to have over 130 people supporting the spinning out of research, greatly increasing the commercialisation capacity of the city. As a result, this can alleviate much of the pressure felt by universities and their TTOs because of the limited financial flexibility they have to expand their teams and attract leading talent.

Expertise and Incentives

Expertise and an understanding of the processes of spinning out a company are crucial to the success of a university spin-out. To provide greater support to their academics and founders, CIC hosts an Entrepreneur in Residence, additionally their Managing Partner has also founded multiple companies.[84] Similarly, OSE benefits from the expertise of experienced founders such as their CEO and multiple advisors.[85]

Experience in attracting investment or spinning out a company is highly valuable, especially because universities are also not incentivised to invest in - or prioritise - innovation. Funding is not awarded on the basis of innovation merit but rather quality of research papers. Investors on the other hand are incentivised by gaining a return on their investment. They therefore have a greater incentive to find investable propositions and opportunities and turn them into successful companies. And research has shown that VCs with entrepreneurial experience have a higher exit success rate with regards to their investments, than those who are not entrepreneurs. This has resulted in a greater success rate of over 10% when compared to an unsuccessful founder turned VC and by over 5% compared to a professional VC.[86]

By attracting funding and drawing in expertise, partner funds can play a crucial role in the maturing of innovation ecosystems, but they are no silver bullet. Disparities exist between partner funds in the agreements they strike with universities: OSE for example gets a priority investment opportunity with all Oxford spin-outs, CIC on the other hand does not with Cambridge. In establishing a partner fund, universities should remain conscious of agreeing to equity share and IP terms which are pro-innovation and do not increase the barriers faced by academics and founders in spinning out their research.

Where else have university partner funds worked?

The impact of partner funds is also being felt around the world.[87] Japan is amongst those countries which has benefited positively from the establishment of university partner funds. Between 2007 and 2014 the total number of spin-outs in Japan decreased by six,[88] falling from 1,755 to 1,749. Subsequently, in the mid 2010s there was an influx of partner funds formed.[89]

Table 1: Most active by number of investments by university-affiliated venture funds from 2020 to 2022

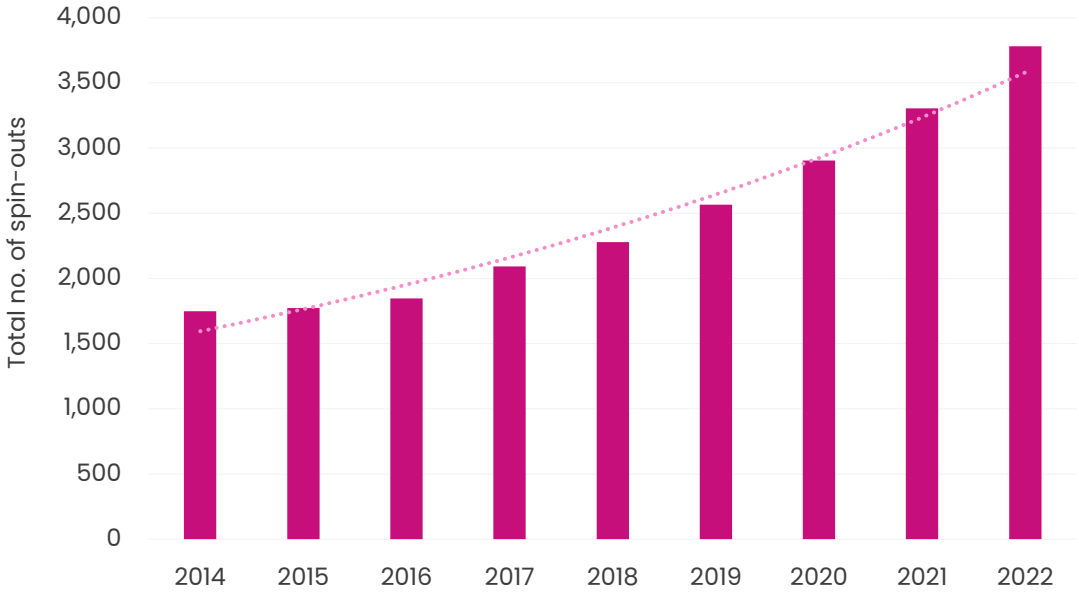
Source: Global University Venturing[90]

	Fund	Affiliated institution
1	University of Tokyo Edge Capital Partners	University of Tokyo
2	Oxford Science Enterprises	University of Oxford
3	The Engine	MIT, Harvard University
4	Cambridge Enterprise Seed Funds	University of Cambridge
5	Main Sequence Ventures	CSIRO
6	Keio Innovation Initiative	Keio University
7	UVC Partners	TU Munich
8	University of Tokyo Innovation Platform	University of Tokyo
9	Chalmers Ventures	Chalmers University of Technology
10	Osaka University Venture Capital	University of Osaka
11	PreSeed Ventures	TU Denmark
12	E14 Fund	MIT
13	Cambridge Innovation Capital	University of Cambridge
14	Kyoto University Innovation Capital	University of Kyoto
15	Old College Capital	University of Edinburgh

New funds included Keio Innovation Initiative and Osaka University Venture Capital, which between them have raised over £190 million for university-born innovation. And since then, the total number of spin-outs formed has more than doubled, with an average year on year increase of 10% in the total number. An increase of 116% from 2014 to 2022.[91]

Figure 19: Number of spin-outs from Japanese universities

Source: Ministry of Economy, Trade and Industry (METI).[92] Onward analysis.



4. Recommendations

Recommendation: The Government should establish University Partner Fund Accelerator, relocating funds from the 2023 Spin-Out Review proof-of-concept fund, the Regional Innovation Fund (RIF), and the Higher Education Innovation Fund (HEIF).

The university partner fund model – especially in Oxford and Cambridge - has demonstrated its ability to inject significant levels of capital into innovation ecosystems. And it is beginning to deliver results in the North West as well with the University of Manchester more than doubling the investment attracted between 2021 and 2023.[93]

But there are more universities and regions across the UK that would benefit from the support provided by a partner fund. The Government should therefore support areas outside of the Golden Triangle to become thriving innovation ecosystems. To do so it should establish the University Partner Fund Accelerator.

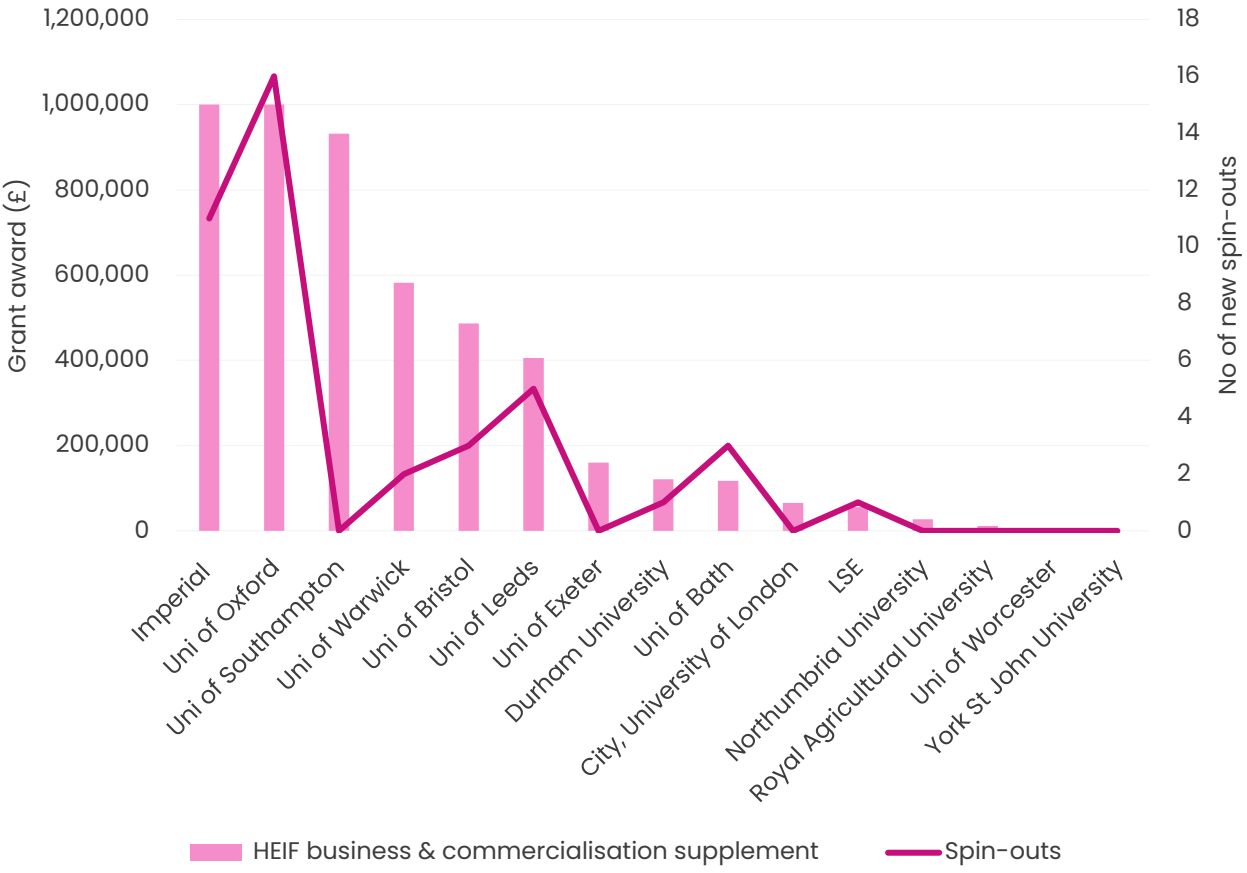
This fund would be established by:

- Redirecting the £20 million committed by the Government following the spin-out review to proof-of-concept funding.[94] While proof-of-concept funding is greatly valued by universities, no detail has been provided on which universities will receive funding or the size of the funding amounts. Developing a proof-of-concept can be unpredictable and costly,[95] therefore awarding £1 million to 20 universities – for example – could prove to be highly unproductive.
- Redirecting the Regional Innovation Fund (RIF). While the fund does focus on diffusing funding beyond the Golden Triangle, it is non-recurrent and therefore not every university is able to benefit from it. There is also significant variance in the size of grant awarded. In 2023, 25 universities were awarded less than £100,000 and three received no funding at all. And of the 131 universities, only two were awarded the top grant band of £2.4 million. As a result, most universities do not derive significant benefit from the RIF. For 2023/2024 a total of £48,800,001 was distributed across the country by the RIF.[96]
- Redircting the Business & Commercialisation Supplement which falls under the Higher Education Innovation Fund (HEIF) grant award. The £20 million currently allocated does not incentivise universities to invest in innovation and does not correlate to a return on investment by institutions increasing the number of spin-outs produced (see Figure 24).

By redirecting and combining the above grants and funding pots, the University Innovation Accelerator Fund could total £88 million.

Figure 20: Sample of UK universities to show a comparison of HEIF business and commercialisation supplement grant awarding and number of new companies (2022/2023)

Source: HESA and UKRI.[97] Onward analysis.[98]



The Fund would:

- Support the creation of a maximum of four new university partner funds across the UK, with the provision of a minimum of £20 million allocated by Government.
- Provide match funding to university innovation ecosystems that are looking to establish a partner fund but do not have the strength in their innovation ecosystem to achieve this without support.
- Once the university or universities have fundraised a minimum amount of private capital – with a minimum of £20 million – the Fund would match the amount raised.
- Be overseen by the Department for Business and International Trade's Office for Investment in partnership with the Department for Science, Innovation and Technology.

The funding would be awarded with the understanding that some of the partner funds may fail to grow and develop. But there will be those that do succeed and are able to grow and go on to play a

significant role in helping pull spin-outs through and unlocking the true innovation potential of university innovation ecosystems.

To help inform the fund in the awarding of partner fund seed funding, a University Innovation Dashboard should be established to help inform decisions. Universities across the country are currently receiving funding rewarding their commitment to innovation through the Research Excellence Framework (REF), which informs the allocation of research funding to universities through research impact evaluation. But it is not clear how that funding is benefiting university innovation. Managed by the Department for Business and International Trade's Office for Investment in partnership with the Department for Science, Innovation and Technology would:

- Track and provide regular updates on the production of spin-outs from universities and other innovation metrics to help inform the awarding of the size of the grant allocation from the University Innovation Accelerator Fund.
- Provide a central hub of information on university innovation and spin-outs which would be easily accessible by investors – both domestic and international – on current opportunities for investment.
- Support UKRI and devolved governments' university funding bodies with timely information to accompany the submissions to the REF and award commercialisation focused funding such as the HEIF.

The information provided in the Dashboard would include:

- An overview of the department from which the company has spun out and the founding academics;
- The stage of the spin-out in the development of their product;
- The current stage of funding and the total raised to date.

This would help identify where investable opportunities across the country may be found and play a key role in levelling up innovation. It would also help ensure that innovation ecosystems – predominantly those outside the Golden Triangle – are able to overcome the impact felt by their smaller investment networks.

5. Conclusion

Founded in 2019 at the University of Oxford, ORCA Computing went on to provide the Ministry of Defence with its first quantum computer. It now has offices in four countries and has collaborated with the UK's National Quantum Computing Centre and US chips giant Nvidia. But much of this would not have been possible without the early stage funding led by Oxford Science Enterprises and a syndicate of top European DeepTech investors.

Across the country founders are building spin-outs like ORCA that are bringing transformative innovative potential to bear. But they are being held back. Providing the right incentives to encourage investors to venture out of the Golden Triangle is vital.

While they are not a silver bullet to fixing the challenges faced by the university innovation and spin-out ecosystem, and other issues such as the varying levels of equity taken by universities and IP terms are important, university partner funds have proven their value. They have greatly helped turbocharge the innovation ecosystems of some of the UK's leading universities. They have injected much-needed capital, brought scientific and financial expertise, and boosted an increase in the attracting of capital from investors – both domestic and international – by leveraging their networks. If the Government and universities get this right, partner funds can ensure great British ideas become great innovations and deliver global impact.

Endnotes

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