



UNIVERSITY OF
CAMBRIDGE

Response to the UK Government's Industrial Strategy Green Paper

Invest 2035: The UK's Modern Industrial Strategy

JOSCELYN MILLER
TOMAS COATES ULRICHSEN

DECEMBER 2024

Authors

The authors of this note are Joscelyn Miller, UCI Policy and Impact Lead and Tomas Coates Ulrichsen, UCI Director.

The authors would also like to acknowledge UCI team members, whose contributions and previous publications have been instrumental in building our response, in particular, Zoi Roupakia (Policy and AI Research Lead) and Leonard Kelleher (Research Associate).

Contact us

For more information, please contact Joscelyn Miller, UCI Policy and Impact Lead (jzm22@cam.ac.uk).

This response has been structured in a format designed to enhance readability and accessibility, differing from the official submission template.

ABOUT UCI

The Policy Evidence Unit for University Commercialisation and Innovation (UCI) is based at the University of Cambridge and aims to support governments and university leaders in delivering a step change in the contributions universities make to innovation and economic prosperity – nationally and locally – through their commercialisation and other innovation-focused activities and partnerships.

UCI seeks to improve the evidence base and tools available to key decision makers in public policy and university practice as they develop new approaches for strengthening university research-to-innovation pathways, with a particular focus on commercialisation. To do so it draws on the latest advances and insights from both academic research and policy practice, as well as lessons learned from experiences in the UK and internationally.

The Policy Evidence Unit is funded through a generous grant from Research England. It is based at the Institute for Manufacturing (IfM) at the University of Cambridge.

The copyright of all materials in this publication belongs to the authors.

Published by the Policy Evidence Unit for University Commercialisation and Innovation, Institute for Manufacturing, University of Cambridge.

© 2024 Policy Evidence Unit for University Commercialisation and Innovation (UCI), University of Cambridge

Contents

INTRODUCTION	1
1. HOW SHOULD THE UK GOVERNMENT IDENTIFY THE MOST IMPORTANT SUBSECTORS FOR DELIVERING OUR OBJECTIVES?	2
2. HOW SHOULD THE UK GOVERNMENT ACCOUNT FOR EMERGING SECTORS AND TECHNOLOGIES FOR WHICH CONVENTIONAL DATA SOURCES ARE LESS APPROPRIATE?	3
11. WHAT ARE THE BARRIERS TO R&D COMMERCIALISATION THAT THE UK GOVERNMENT SHOULD BE CONSIDERING?	5
28. HOW SHOULD THE INDUSTRIAL STRATEGY ACCELERATE GROWTH IN CITY REGIONS AND CLUSTERS OF GROWTH SECTORS ACROSS THE UK THROUGH LOCAL GROWTH PLANS AND OTHER POLICY MECHANISMS?... 10	
36. IS THERE ANY ADDITIONAL INFORMATION YOU WOULD LIKE TO PROVIDE?	11
REFERENCES.....	13

Figures

FIGURE 1 KEY DIMENSIONS AND FACTORS INFLUENCING THE SPINOUT DEVELOPMENT AND SCALE-UP JOURNEY	8
FIGURE 2 THE VARIED CONTRIBUTIONS OF UNIVERSITIES TO THE INDUSTRIAL STRATEGY	11

Introduction

The Policy Evidence Unit for University Commercialisation and Innovation (UCI) was pleased to contribute a response to the UK Government's Industrial Strategy Green Paper, *Invest 2035*.¹ This note provides UCI's responses to five of the consultation questions.

The development of a new Industrial Strategy represents a pivotal opportunity to align and strengthen partnerships between universities, industry, and government. Universities are uniquely positioned within the wider R&D and innovation system to be foundational actors to deliver the Industrial Strategy and make fundamental contributions towards driving innovation-led economic growth.

Our response details the range of contributions that universities make across the innovation value chain. These span from generating fundamental knowledge and new technologies through research, to applying expertise and resources to support innovators, while simultaneously developing the system's capacity to innovate through improved infrastructure, skills, and entrepreneurial capabilities. This integrated approach to idea generation, diffusion, and deployment, as well as capacity building, creates direct and spillover impacts, from new job creation and skills development to attracting investment and building dynamic regional economies.

The diversity of universities across the UK should also be seen as a strategic asset by policymakers, with different institutions naturally specialising in distinct aspects of the innovation value chain based on their knowledge base, strategic priorities, and regional context.

Further, our response also considers the chosen sector-led approach for the Industrial Strategy and reflect on learnings from previous experiences performing cross-sectoral analyses of spinout companies developing emerging technologies and forging niche sectors. Our learnings emphasise the importance of developing a flexible and transparent classification framework, based upon continuous analysis with clear definitions as to sector and subsectors.

Bringing this together, UCI's response draws upon our extensive evidence base in university commercialisation, innovation ecosystems, and knowledge exchange. We aim to provide nuanced, data-driven and evidence-led analysis that can help refine the proposed industrial strategy. We look forward to seeing how the UK government take forward evidence-led insights and recommendations submitted during the consultation and incorporate these into the final Industrial Strategy for publication in 2025.

¹ The Industrial Strategy Green Paper is available to download here:
<https://www.gov.uk/government/consultations/invest-2035-the-uks-modern-industrial-strategy>

1. How should the UK government identify the most important subsectors for delivering our objectives?

A sector led approach to the Industrial Strategy is beneficial. However, in doing so, the government must be able to:

- i. identify sectors based on coherent value chains aimed at delivering related goods and services;
- ii. break down sectors into meaningful and well-defined subcategories which identify key segments of the value chain; and,
- iii. classify similar types of company that are likely to face similar growth trajectories and constraints together.

This will allow for more effective targeting of policies towards these subsectors.

We would **strongly advise against using Standard Industrial Classification (SIC)** codes to determine sectors and subsectors. While they are useful for various purposes including drawing comparisons internationally, several limitations of SIC codes exist.

Firstly, **SIC codes are updated very infrequently** (last updated in 2007) meaning they are unable to capture dynamic, rapidly evolving emerging industries that will be crucial to target investment towards, in order to drive growth (a *long-term* industrial strategy will require continuous analysis to provide updatable/flexible categorisations – please refer to the response to question 2).

Secondly, **SIC codes are based on primary economic activities, and make it difficult to identify the core technological or intellectual underpinnings of the company.** Capturing these distinctions in the classifications is useful for sector-led analysis. For example, current classifications often identify Artificial Intelligence companies as ‘software’ or ‘computer programming’, with little ability to distinguish companies developing foundational models from just applying a machine learning approach to digital applications; these types of companies will have very different development challenges, pathways and investment requirements, so should not necessarily be grouped together under the same subsector.

Defining subsectors is crucial to develop sector-targeted support programmes, track specific sectors’ impacts, and inform effective policy decisions. It is vital that behind the Sector Plans there is **transparency and clarity on how sectors are defined** and that these are developed based on continuous analysis that allow for sectors to remain flexible to emergent technologies and industries.

2. How should the UK government account for emerging sectors and technologies for which conventional data sources are less appropriate?

Available options

We view there being three different options for how the government could proceed to define subsectors accounting for emerging sectors and technologies:

1. **Preferred option: Develop a bespoke techno-industrial classification framework.** This should be purpose-built for the Industrial Strategy. But could be complex to design bringing together a multiplicity of sector categorisations and developing additional layers of classification to capture how key emerging technologies are shaping the growth potential of sectors. Necessarily, there will be some emerging technologies which will cut across multiple sectors, reflecting their cross-disciplinary nature. See further information below on UCI's experience/learnings undertaking this.
2. **Use existing standardised national classifications such as SIC², NACE³.** These are standardised and consistent, comparable across regions and countries internationally and well-established and understood by policymakers, companies and researchers. However, we do not believe they are appropriate for capturing new emerging technologies and sectors and lack granularity, obscuring our ability to understand how businesses contribute economically (see response to question 1). They may not capture companies that often bridge established industries or where technology is cross-disciplinary (e.g. AI).
3. **Use existing commercial industrial classification systems,** such as Data City's Real Time Industrial Classifications or those from other commercial venture capital data providers. These often provide more detailed information about activities, funding, market size estimates, and granularity in sectors. However, they may be susceptible to commercial bias prioritising other party interests and established markets and also be limited in its transparency, i.e. classification criteria may not be readily available.

UCI's previous experience and learnings building company classification taxonomies

In a previous analyses of university spinout companies⁴, UCI researchers opted to develop their own classification taxonomy. Advancement in technologies driven through research undertaken within universities is generating spinout companies operating in new industries with unique characteristics that do not neatly fit into existing categories. Due to their innovative nature, these companies may commercialise emerging technologies, create emerging sectors or develop new niches of established sectors.

UCI attempted to leverage and adapt commercially provided sector taxonomies (provided in this case by the investment data provided by Pitchbook). However, we found that their industry classifications, while

² List of SIC codes: <https://resources.companieshouse.gov.uk/sic/>

³ List of NACE codes: https://ec.europa.eu/competition/mergers/cases/index/nace_all.html

⁴ See Ulrichsen, T.C. and Roupakia, Z. (2024).

better than SIC codes, were still insufficient to capture the types of technologies and sectors that spinouts were hoping to seed and grow. We attempted to augment these categories with manually obtained information (from university technology transfer offices and websites), which improved the classifications somewhat. However, it was clear that much improvement was still needed to appropriately capture these emerging technologies and sectors.

Building on this work, UCI, in partnership with our funders Research England (part of UKRI), are now working on developing a **new techno-industrial classification for spinout companies that seeks to more appropriately capture the nature of the technologies they seek to commercialise and the sectors into which they seek to influence**⁵. This project aims to define clear categories for classifying spinouts and other companies reliant on emerging technologies. Our ambition is for this to be potentially feasible and valuable to administer in data collection exercises for national-level official statistics (e.g. the forthcoming Spinout Register being delivered by Research England and the Higher Education Statistics Agency (part of Jisc)⁶) or existing administrative datasets (e.g. ONS Business Surveys) so that it can be used for policy analysis.

⁵ Further information on UCI's ongoing techno-industrial classification project can be found at <https://www.hesa.ac.uk/innovation/records/reviews/he-bci/2023-24-c23032-c23036> under 'Future work on spinout classification scheme'

⁶ See Miller et al. (2024)

11. What are the barriers to R&D commercialisation that the UK government should be considering?

Universities have a significant role to play in supporting the commercialisation of R&D

While universities' contributions are typically perceived at the front-end of the commercialisation journey – at the research stage – evidence from the UK and other nations shows that they play a role along the journey in supporting companies, large and small, to further develop, translate, and deploy ideas and technologies emerging from investments in research, in the real world. We limit our attention in this response to the commercialisation of research undertaken at universities, and those R&D commercialisation journeys for which universities can provide valuable input and support.

While much recent policy attention in the UK has focused on university spinouts as the key route, **there are many and varied mechanisms through which knowledge and research within universities are exchanged and diffused between universities and industrial partners to drive and support the innovation process** including (but not exclusively):

- Spinouts and licensing of technologies/IP,
- research and innovation partnerships between industry and academia,
- consultancy
- training and workforce development, and,
- leveraging of (specialist) facilities and equipment.

Key statistics

- Over the 10-year period 2013/14 – 2022/23, UK universities secured almost **£20 billion** from industrial partners to support their innovation and wider business activities through these many and varied mechanisms.
- Over this period, universities also created over **1,600 spinout companies** (to commercialise IP generated within universities).
- In 2021/22, the active university spinout population collectively raised **£5.7 billion**.

Note also that many academics also engage with individuals in companies and elsewhere on an informal basis and provide insights and advice that are valuable, yet hard to capture.

Source: *Higher Education Business and Community Interaction Survey, Higher Education Statistics Agency*. Available from: <https://www.hesa.ac.uk/data-and-analysis/business-community>

Barriers to R&D Commercialisation

Different mechanisms of R&D commercialisation face different types of barriers, therefore require different types of incentives and support. Below we illustrate with examples of barriers hindering the development of successful spinouts and university-industry partnerships, respectively.

Spinouts

Spinning out companies from universities can be a challenging and lengthy process to negotiate. UCI's research has provided important contributions to understand the current reality of the spinning out process, approaches to managing equity distribution and wider structural challenges that exist.

In UCI's 2022 Busting Myths report, a survey of senior directors within university technology transfer offices (TTOs) identified a wide range of issues faced when negotiating spinouts deals (Ulrichsen, Roupakia, and Kelleher, 2022). These included:

- Ensuring a fair distribution of equity between contributors that reflects effort, as well as managing expectations of founders, funders, investors and universities;
- Considerations post-spinout and how to calculate appropriate provisions that ensure inventors and founders who remain with the business are appropriately rewarded;
- Negotiating non-equity terms, for example license fees, ongoing costs and access to university expertise; and,
- Navigating and applying university IP policies and legal obligations correctly.

In recent years, there has been intense policy debate around striking the right balance of equity across stakeholders to incentivise high value spinouts, whilst also ensuring TTOs have the resources they need to continue providing support for the next generation of spinouts. Recommendations from the 2023 Tracey-Williamson review of spinouts requesting a convergence to best practice "innovation-friendly" equity policies has largely seen this debate resolved, with universities adopting the TenU's USIT guidelines⁷ (as of November 2024, 49 universities have adopted USIT guidelines⁸).

Contrary to common policy discussion, equity distribution was the least frequently identified barrier relative to other more structural factors with only 30% of directors identifying this as a barrier (Ulrichsen, Roupakia, and Kelleher, 2022). This is further supported by UCI's data-driven report on spinout equity and investment, which suggests only a very weak and limited relationship between the equity taken by universities at the foundation point of their spinouts and the scale of investment that they are able to raise (Ulrichsen and Roupakia, 2024). **Access to facilities and expertise, and ensuring a suitable investment environment were the most frequently mentioned barriers** (74% and 65% respectively). Other barriers mentioned were:

- The time availability, motivation, and entrepreneurial capabilities of the founding teams (52%)

⁷ TenU is an international collaboration between ten universities across the UK, US and Belgium, formed to capture effective practices in research commercialisation and share these with governments and higher education communities. The USIT Guide and USIT for Software provide a framework for understanding and managing the various stages of the spinning out process.

⁸ See <https://www.ukri.org/publications/spin-outs-review-implementation-best-practices-adoption-list/spin-outs-best-practice-adoption-list/>

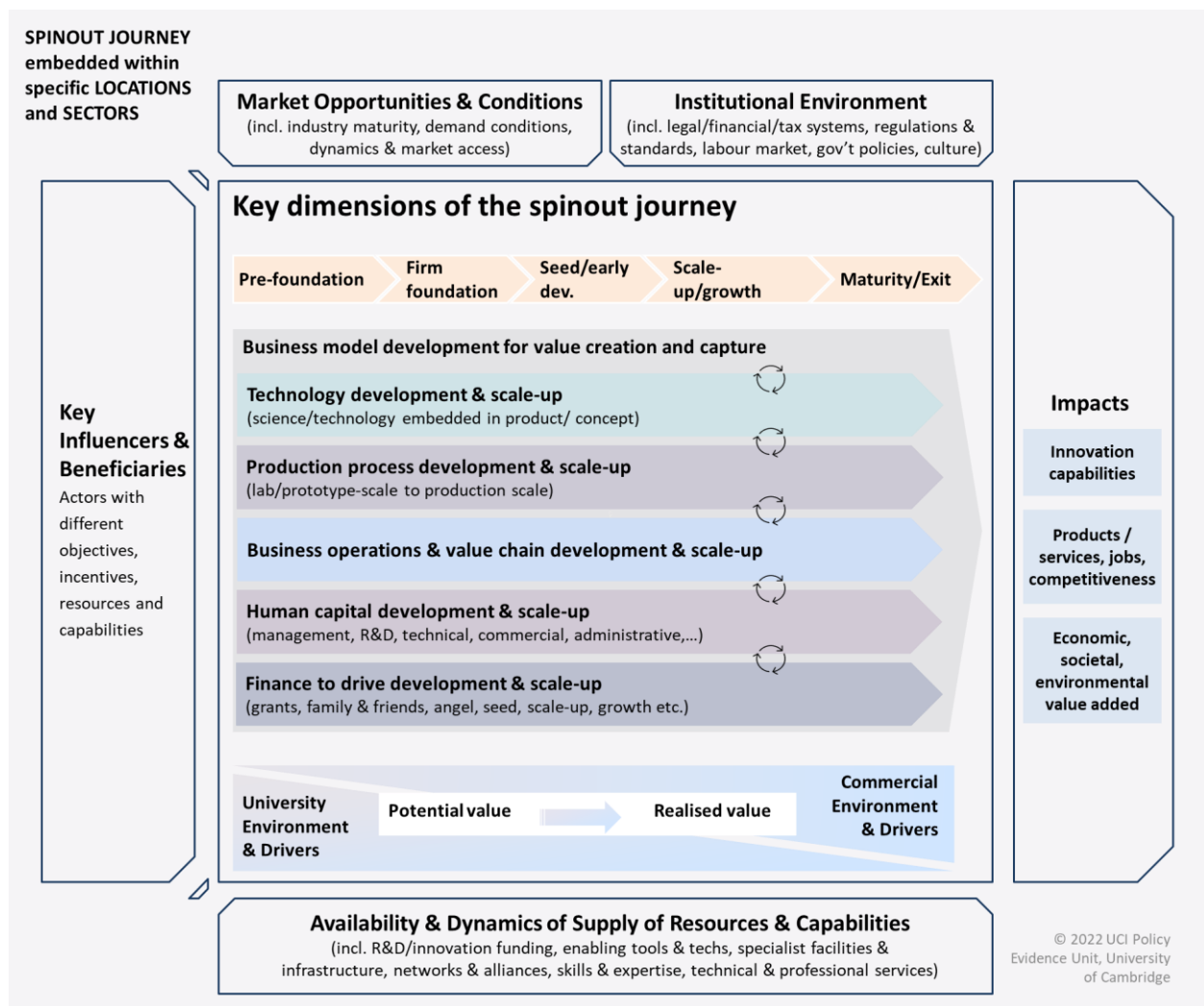
- The technology and commercial readiness of the venture to spin out and raise investment or generate revenues (48%)
- The university resources and processes and wider environment to support the spinout (39%)

The latest analysis from UCI on spinout success provides evidence that the UK performs comparably to the US on **producing** spinouts (when controlling for the size of the research base). However, the evidence points to **emerging challenges in scaling-up these spinout companies in the UK**. As UK spinouts scale, there is growing influence of overseas markets and investors, which has implications for the long-term value capture for the UK economy (Ulrichsen and Roupakia, 2024).

In addition to operational challenges that arise from growing a business (e.g. access to capital and new markets, talent recruitment and retention, regulatory burden), there are also technical challenges of scaling the (often emerging) technology (see Figure 1, overleaf):

- **Technology Scale-Up:** Moving from lab prototypes to full-scale production involves overcoming technical uncertainties and achieving various readiness levels.
- **Process/Production Scale-Up:** Apart from product innovation, significant R&D is needed for new production technologies, with demonstration infrastructure supporting scalability.
- **Value-Chain Scale-Up:** Industrialising emerging tech requires new value chains and collaboration across the industry, facilitated by technology diffusion mechanisms and roadmaps.

Figure 1 | Key dimensions and factors influencing the spinout development and scale-up journey



Source: Ulrichsen and Roupakia (2024). Developed in Ulrichsen, Roupakia & Kelleher (2022) and informed by insights from, among others, Phaal et al. (2011), O'Sullivan & Lopez-Gomez (2017), Maine & Garnsey (2006), Edquist & Charles (1997), Hayter et al. (2018).

Partnerships between industry and academia

University-industry (U-I) partnerships has become an important part of the technology and innovation strategies of large R&D intensive firms as well as for national governments as they develop policies to strengthen the impacts realised from their investments in research.

Surveys of universities and firms performed by UCI Director, Tomas Ulrichsen, showed that these partnerships contribute across the innovation spectrum from the breakthrough of next generation technologies to incremental improvements and problem-solving (Ulrichsen and O'Sullivan, 2024). U-I partnerships also bring together the many resources and expertise of universities – from research to training to specialist facilities and know-how – to support innovation activities along the innovation value chain, and help companies build up their capabilities to innovate over the longer-term.

However, these surveys also show that universities and firms have to overcome a variety of barriers to develop successful and valuable university-industry partnerships. It showed key difficulties faced by respondents across multiple fronts including:

- **Agreeing and aligning objectives**, setting and managing expectations around timescales and outputs, and securing buy-in of senior leaders
- **Negotiating contracts and navigating the rules** and internal bureaucracy of large organisations, particularly acute when IP negotiation is involved
- A **lack of previous experience** (and thus acquired learnings) of managing and supporting partnerships
- **Difficulties to navigate interfaces and relationships between partners** (e.g. lack of mutual trust between parties, ineffective collaborative working practices, communication and cultures)
- **Difficulties for organisations to adapt practices** and integrate into the other partner organisation's incentive structures and objectives
- **Wider external environment** (including restrictive regulations, public funding not being conducive to supporting partnerships and competitors forging links with the same universities)

Targeted incentives, better IP frameworks, fostering mobility, and improving mutual understanding between academia and industry, by increasing the porosity between academia and industry are some examples of how these barriers may be addressed.

28. How should the Industrial Strategy accelerate growth in city regions and clusters of growth sectors across the UK through Local Growth Plans and other policy mechanisms?

Local Growth Plans and regional economic growth strategies should be developed with strong involvement and active contribution from universities. Recently, we have seen universities working with local partners – including, for example, local government, business groups, innovation support organisations, and other education providers – to strengthen the underpinning conditions and improve the resources available for innovation in the area. Examples here include (co-)investing to build innovation districts, incubation and scale-up spaces; seeding networks to better connect different organisations involved in innovation; leveraging their convening power to bring disconnected actors together around common challenges; and investing to better align skills provision with current and future local industry and innovation needs. We have also seen a growing involvement of universities in supporting the development of local innovation strategies and strengthening local efforts to attract inward investment to the region e.g. Manchester-Cambridge Partnership.⁹

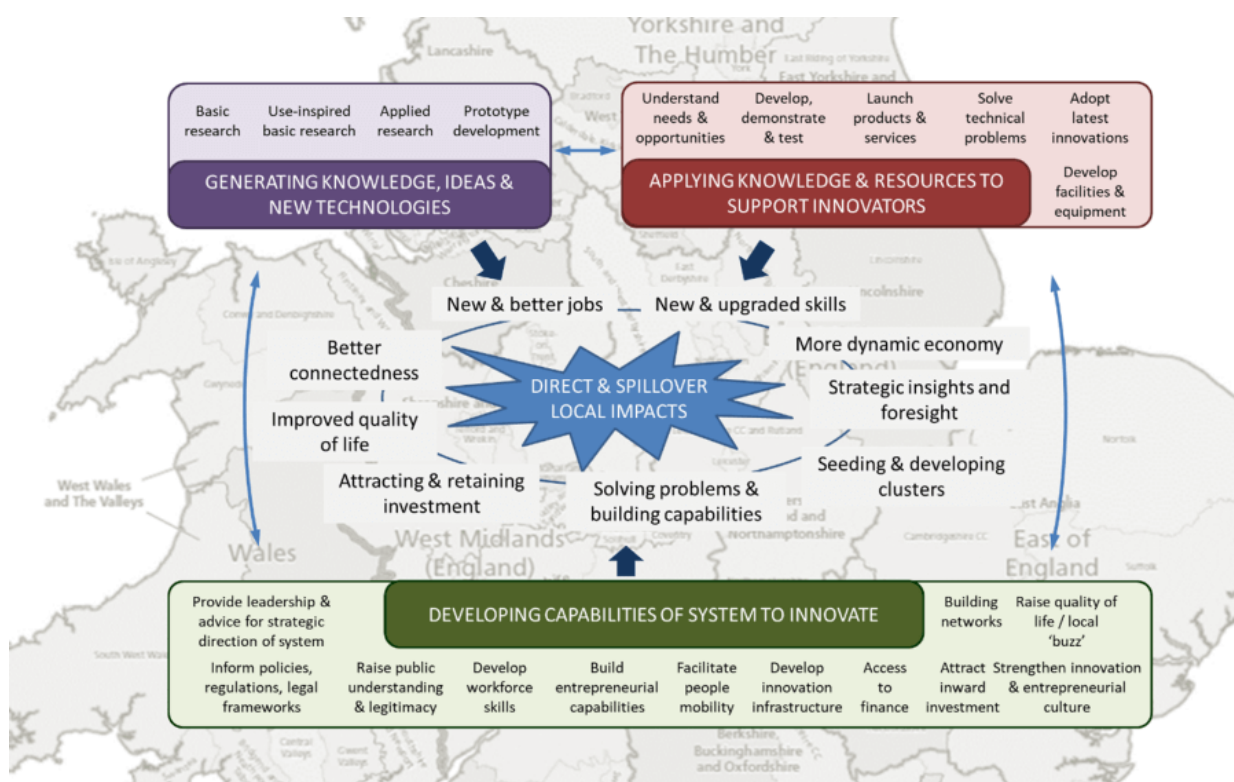
The **diversity of universities in a region can be an important asset** for improving the economic fortunes of the area and tackling specific innovation needs of their local economy, particularly where they are larger and more complex. Universities have very different knowledge bases, expertise and infrastructure which they can leverage to support different points along the innovation journey. For example, while universities like Cambridge and Oxford pursue large amounts of more fundamental research that push the frontiers of science and unlock breakthrough inventions, others have much greater capabilities in applied research, solving manufacturing challenges, and delivering product development/engineering solutions. These strengths combined has the potential to provide a more complete and integrated set of support that can help local government partners not just seed new sources of value through innovation, but help them solve critical scale-up challenges and build the capabilities to anchor more of the value here in the UK and in a particular region.

⁹ Further information on the Manchester-Cambridge partnership can be found here: <https://www.cam.ac.uk/news/greater-manchester-and-cambridge-strengthen-innovation-partnership-to-drive-economic-growth>.

36. Is there any additional information you would like to provide?

Emerging government priorities highlighted in the Industrial Strategy Green Paper provide significant new opportunities for universities to contribute through their ability to translate and commercialise ideas from the research base into innovative solutions. **Universities are uniquely positioned within the wider R&D and innovation system to be foundational actors to deliver the Industrial Strategy and make fundamental contributions towards driving national economic growth.**

Figure 2| The varied contributions of universities to the Industrial Strategy



Source: Ulrichsen, Roupakia, and Kelleher (2023).

Universities in the UK provide a wide range of functions that support the development and deployment of new innovations and the effective functioning of the innovation ecosystem, to tackle major economic and societal challenges, not least the lack of economic growth in recent years. Referring to a core UCI framework (see Figure 2 above), universities serve three broad types of function:

1. **Generation of new knowledge, ideas and technologies:** Universities core research activities generate new ideas, technologies and approaches that with further development result in ground-breaking innovations, new business models, or new practices. Most established/recognised mechanism occurring furthest upstream on the innovation chain.
2. **Applying knowledge & resources to support innovators:** occurs further downstream in the innovation chain, where universities leverage their expertise to support partners in delivering their innovation activities (e.g. an SME working in partnership with a university is able to

demonstrate and test their technologies with access to expertise, infrastructure and lab space offered by the university).

3. **Developing capabilities of system to innovate:** a strategic role, working with other organisations in the ecosystem to strengthen the culture, conditions and capabilities of the system. This facilitates faster deployment and diffusion of innovations. Examples here include (co-)investing to build innovation districts, or skills development and provision to increase the entrepreneurial dynamism of the workforce in an economy.

It is **important that universities are not considered as a homogenous group**, capable of performing all three of these functions equally. Factors such as the institution's strategic direction, the specific knowledge base, and the socio-economic context, will determine the innovation specialisms of each institution. While some universities play an active role in contributing to 'frontier' innovation and helping to commercialise emerging technologies (#1 above), the priorities of others is to contribute more actively further along the innovation journey, including working with partners to facilitate the adoption and diffusion of innovations (#2 above). In investing to strengthen the university system to drive innovation, this diversity is a strength that should be celebrated and nurtured.

It should also be recognised that as a result of rising inflation and the cross subsidisation of research and teaching of domestic students with the recruitment of international students (amongst other factors) **many universities are under significant financial constraints**. The Office for Students' latest analysis from November 2024 suggests there is a "challenging landscape" and without significant mitigation, up to 72 per cent of providers could be operating a deficit by 2025-26.¹⁰ While some commercialisation and innovation activities can provide a potential source of income for universities, absent of public funds, these activities are unlikely to recover their own full costs of delivery. The extent to which these financial constraints will impede universities' ability to provide these functions and the resulting need and role for policy intervention requires further research.

¹⁰ Office for Students (2024)

References

Edquist & Charles (1997) Systems of Innovation: Technologies, Institutions and Organizations. Abingdon, UK.

Hayter CS, Nelson AJ, Zayed S & O'Connor AC (2018) Conceptualizing academic entrepreneurship ecosystems: a review, analysis and extension of the literature. Journal of Technology Transfer, 43(4): 1039–1082.

Maine E & Garnsey E (2006) Commercializing generic technology: The case of advanced materials ventures. Research Policy, 35(3): 375–393.

Miller, J., Ulrichsen, T.C. and Bamford, E. (2024) Improving Spin-out Data with the Spin-out Register: Design Principles and Opportunities. RE-P-2024-02 https://www.ukri.org/wp-content/uploads/2024/09/RE-200924-Spin-out-Register_Visioning-Report_RE-and-UCI.pdf

Office for Students (2024) Financial sustainability of higher education providers in England: November 2024 update. Available from: <https://www.officeforstudents.org.uk/publications/financial-sustainability-of-higher-education-providers-in-england-november-2024-update/>

O'Sullivan, E., & Lopez-Gomez, C. (2017). An international review of emerging manufacturing R&D priorities and policies for the next production revolution. In The Next Production Revolution: Implications for Governments and Business. OECD

Phaal R, O'Sullivan E, Routley M, Ford S & Probert D (2011) A framework for mapping industrial emergence. Technological Forecasting and Social Change, 78(2): 217–230.

Tracey and Williamson (2023) Independent Review of University Spinout Companies. Available at: https://assets.publishing.service.gov.uk/media/6549fcb23ff5770013a88131/independent_review_of_university_spin-out_companies.pdf

Ulrichsen, T. C. (2023). Rising to the Challenge: Mobilising university-industry-government partnerships to lead an innovation-led recovery [Report for the Oxford Summit 2021]. University of Oxford. https://www.ox.ac.uk/sites/files/oxford/media_wysiwyg/Oxford%20Summit%20report.accessible.pdf

Ulrichsen, T. C., & O'Sullivan, E. (2018). How do large companies benefit from strategic partnerships with universities? Developing and testing a novel framework. Presentation to the University Industry Innovation Network Conference, London, UK. https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2018_Ulrichsen_OSullivan_UIIN.pdf

Ulrichsen, T.C. (2023). Universities at the Heart of an Innovation-Led Recovery. IRC Insight Paper 005 <https://innovation-research-caucus-uploads.s3.amazonaws.com/production/uploads/2023/10/IRC-Insight-Paper-005-Universities-at-the-heart-of-an-innovation-led-recovery.pdf>

Ulrichsen, T.C. and O'Sullivan, E. (2024) Barriers to strategic university-industry partnership development: a strategic alliance perspective on how factors evolve through key phases of partnership development. UCI-CSTI working paper. University of Cambridge.

Ulrichsen, T.C. and Roupakia, Z. (2024). Spinning out Success: Demystifying UK university spinout trends, equity and investment. Policy Evidence Unit for University Commercialisation and Innovation (UCI), University of Cambridge. Available at:
https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2024_UCI_Spinning_out_success_FullReport.pdf

Ulrichsen, T.C. Kitagawa, F. Collinson, S. (2024) Unleashing the Regional Innovation Potential of Universities <https://blog.bham.ac.uk/cityredi/unleashing-the-regional-innovation-potential-of-universities/>

Ulrichsen, T.C. Roupakia, Z. and Kelleher, L. (2022). Busting myths and moving forward: the reality of UK university approaches to taking equity in spinouts. Policy Evidence Unit for University Commercialisation and Innovation. University of Cambridge: Cambridge, UK.
https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2022_UCI_University_spinout_equity_approaches_report.pdf

Ulrichsen, T.C. Roupakia, Z. and Kelleher, L. (2023). Knowledge Exchange Funding Review: Insights from a review of the literature. Policy Evidence Unit for University Commercialisation and Innovation. University of Cambridge: Cambridge, UK.
https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2023_UCI_KE_FundingReview_Report_vFinal5.pdf

Ulrichsen, T.C., Kelleher, L., (2022). Through crisis to recovery: The ongoing effects of the COVID-19 pandemic on universities and their ability to drive innovation (UCI/NCUB Policy Report). UCI Policy Evidence Unit and NCUB, Cambridge and London, UK.
https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2022_UCI_NCUB_Innov_Unis_and_Covid_Report.pdf

uci