Improving Spin-out Data with the Spin-out Register:

Design Principles and Opportunities

Visioning Report for the National Knowledge Exchange Metrics Programme

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Visioning Report for the National Knowledge Exchange Metrics Programme

To	Heads of Research England-funded higher education providers
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This report is a joint output between Research England and the Policy Evidence Unit for University, Commercialisation and Innovation (UCI) as part of the national knowledge exchange metrics programme.

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- Zoi Roupakia and Frieder Mitsch (UCI)
- Chris Gibson and Elena Appl (Research England)
- Dan Cook and Tlyssa Plester (Higher Education Statistics Agency, part of Jisc)

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.

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1 Introduction and context

This report by the Policy Evidence Unit for University, Commercialisation and Innovation (UCI) and Research England sets out the vision and approach for developing a system to improve university spin-out data to inform the work of Research England, wider policymakers and funders, and others seeking to strengthen the UK spin-out ecosystem. We explain how a **Spin-out Register** (or 'Register' henceforth) – a **novel publicly-curated and complete list of UK university spin-out companies** – can address limitations associated with current data frameworks. With significant milestones now being achieved to implement this approach, we also provide the rationale for the types of information the Register will hold, and the opportunities we believe the Register can unlock once up and running.

1.1 Context

Research England's national knowledge exchange metrics programme

In April 2023, Research England commenced a national knowledge exchange (KE) metrics development programme to design and deliver new and improved data on KE activity of higher education providers (HEPs). Meaningful metrics, delivered through robust data, is integral to Research England's ability to drive forwards approaches to formula funding (including consideration of the Knowledge Exchange Framework (KEF) as a basis for funding) and to deepen understanding of KE practice, as well as stimulate the widest range of sound evidence, informing public policy and university practice development.

To deliver this programme, Research England are working in partnership with the Higher Education Statistics Agency (HESA, part of Jisc), and have commissioned the Policy Evidence Unit for University Commercialisation and Innovation (UCI) at the University of Cambridge as national KE metrics advisers, to provide domain expertise on KE and specifically commercialisation, including spin-outs. Research England also work with other UK funding bodies to engage UK-wide insights. This partnership approach is integral to ensure the delivery of conceptually sound metrics that deliver against the needs of users building on deep expertise and knowledge, as well as are based on data that is practically implementable at a national collection level across a diverse higher education sector.

The spin-outs work package and the development of the Spin-out Register

A core part of the national KE metrics programme is focused on data development to better capture the performance and success of universities in producing spin-out companies. This responds to meeting immediate policy needs of Research England, both in terms of new and improved metrics for the Higher Education Innovation Fund (HEIF) and KEF, and where tasked by Government. This work is specifically set in the context of the [Independent Review of University Spin-out Companies](), in which the recommendations included the specific need for "*more data and transparency on spin-outs through a national register of spin-outs*". In addition to delivering against these specific needs, this work will likely result in wider evidence and policy insights that flow from the programme for use by others.

The need for better data on spin-outs is being addressed through [responsibilities falling to Research England](#) working with other UK funding bodies as appropriate in this national KE metrics programme, in partnership with the HESA, to deliver the Spin-out Register, including considering making data available and used appropriately to provide better evidence for policy and practice. The design of the Spin-out Register is being informed by expert advice provided by UCI, working in close partnership with Research England and HESA.

We believe that the production of the Spin-out Register will represent a step-change in the approach to collection and publication of sector-level data on spin-out companies. It will provide a publicly curated list of all spin-out companies from across the full breadth of the UK higher education sector. But it also has the potential to provide more efficient mechanisms to extracting richer data and evidence about those companies than currently possible. This is being delivered through a two-stage approach: the first being the curation of the list of companies though the collection of key identifying information from HEPs, and the second being the ambition to the use of the basic information in the Register to identify these companies in other datasets and extract more detailed information held elsewhere. As a result, once up and running, we anticipate the overall burden on HEPs in providing information on their spin-out companies will be lowered. Significant progress has been made to date in stage 1 with the design of a novel data collection architecture for gathering sector data in order to curate a first iteration of the Register in Spring 2025, for which HESA have published detailed guidance for collection in August 2024.

This visioning report by Research England and UCI aims to capture the ambition that guided the development of the Spin-out Register, and the types of opportunities we believe it will unlock once up and running. It sets out the importance of the need for improved spin-out data (section 2) and the approach taken through the national KE metrics programme to devise and design a Spin-out Register to date, including core design principles and key characteristics of the data required (section 3). To conclude, we explain some goals for the second stage of work on data-linking, which includes addressing short-term needs for Research England and making some of the data available to all to use as a resource for further evidence development and analysis (section 4).

It is important to note that the focus of the national KE metrics programme, and hence this work, is the UK higher education system and the data to describe it. However, there are technical insights in this paper about spin-outs data and evidence that may be useful to those considering and compiling such data in, for example, publicly funded research establishments.

2 The need and opportunities for better spin-out data

University spin-outs play a crucial role in driving innovation across strategically important sectors for the UK economy.[1] There is a clear policy desire to find ways of strengthening university ecosystems to encourage and enable universities to produce more, high-potential spin-outs able to open up new wealth-creating opportunities for the UK. This culminated in late 2023 with the publication of the [Independent Review of University Spin-out Companies](#) by Dr Andrew Williamson and Professor Irene Tracey for HM Treasury (HMT) and the Department for Science, Innovation and Technology (DSIT). This review highlighted that there are **clear advantages to being able to understand the health and performance of the UK's spin-out ecosystem** at a deeper level than existing spin-out data currently allows for. It called for new and improved collection frameworks for better spin-out data that have the potential to unlock opportunities to enable this significantly valuable, richer analysis. The review built upon Research England's national KE metrics programme which had identified the need for sufficiently robust metrics of the success of universities in producing spin-out companies for use by Research England in formula funding approaches and wider performance measurement tools such as the KEF, to recognise this important part of university knowledge exchange activity. Through producing the Spin-out Register (and enabling further data and insight to be unlocked), we aim to achieve these needs, whilst potentially addressing needs of others in addition.

2.1 Limitations of existing spin-out data

There are currently very few sources of nationally complete spin-out data that can meet needs of national funders that allocate significant funds for research and knowledge exchange through formula, and have a responsibility for ensuring the overall health and dynamism of the system. This is why Research England initiated its national KE metrics programme. The UK's Higher Education Business and Community Interaction (HE-BCI) survey – maintained by HESA – **is currently the only source of data on spin-outs that has complete university coverage nationally and is publicly available**.[2] For each academic year, HE-BCI provides university-level information on: the number of spin-outs and their status; *estimates* of economic activity they generate (in terms of turnover and employment); and the external investments they secure to foster their development. Of these fields, estimates of employment and external investment are used as metrics of spin-out quality in the KEF. However, due to limitations in the quality of these (see below), these metrics do not meet the necessary principles for inclusion in funding methods.

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

[2] Whilst datasets on spin-outs from commercial providers also exist, we do not discuss data from these providers at length here since they do not provide nationally complete coverage across all Higher Education Providers, an imperative principle for funding use.

HE-BCI meets one of Research England's three key principles for metrics, namely being **complete** across a diverse sector, as submission of data to HE-BCI is a requirement of Research England and other UK funding bodies. However, HE-BCI spin-out metrics are increasingly becoming unable to fully and accurately capture the diverse range of spin-out activity as it expands.[3] This is potentially constraining the ability of HE-BCI data to satisfy the other two of Research England's key principles: that **metrics should be meaningful and robust.**

Limitations during the **collection phase** of HE-BCI are known to lead to **inaccuracies** and significant **gaps** when the data is used to develop metrics and where data might assist with wider intelligence (such as about the development and health of the spin-out ecosystem). This results in data being provided as **estimates** and to high degrees of **aggregation**. To illustrate this, a stylised collection process for a university is depicted in Figure 1, highlighting four likely stages.
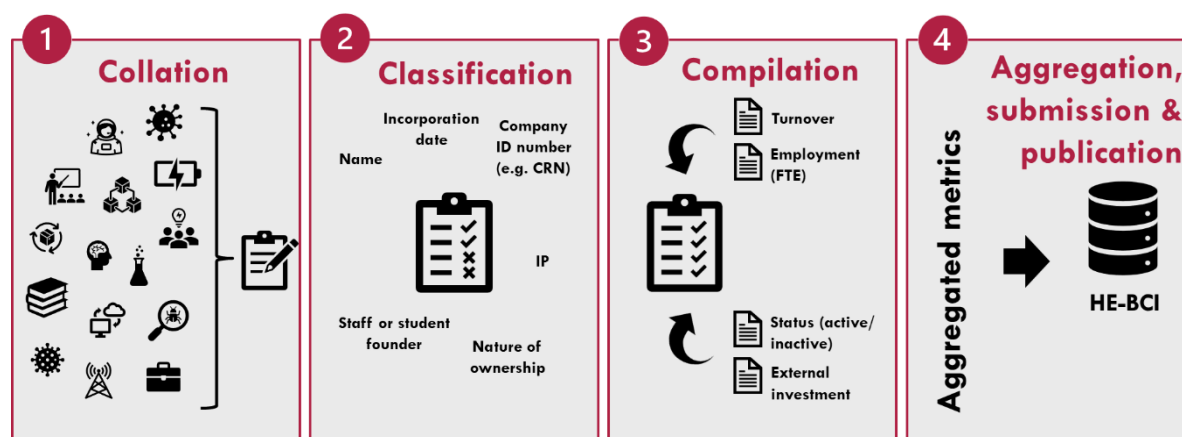

Figure 1: Process for HEPs to collate and return spin-out data via status quo HE-BCI collection

A university will first have to **identify and collate** the many ventures started by staff and students across the institution into an initial list (step 1 in Figure 1 above). For each venture, the university will use a few datapoints and contextual information they hold on the company to decide if it is **classified** as a spin-out (as per HE-BCI definitions) for that academic year (step 2). The institution will then **compile** their list of spin-outs with other sources of information to obtain the status, turnover, employment and external investment of each firm (step 3). Finally, the metrics are **aggregated** up across the whole university spin-out portfolio with the total reported to HE-BCI on an annual basis (step 4).

The data collection process can be **challenging to secure high quality and robust data**, particularly for those companies that have left the university's orbit or where the university has no formal ties with the company. Universities must rely on a patchwork of data sources well beyond data held within the institution, or easily accessible to them (see step 3: Compilation). Moreover, **non-standardised processes** around how to obtain the secondary data required, as well as **gaps in data definitions** (step 2: Classification) result in **differences in approaches across HEPs**, which may be determined in part by the level of resource institutions can afford to allocate

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[3] Coates Ulrichsen, T. (2019). *Developing university spinouts in the UK.* https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2019_Ulrichsen_Developing_University_Spin-outs.pdf

towards their HE-BCI returns. **These issues make it difficult to compare meaningfully and accurately across institutions.**

More granular analysis could also inform wider intelligence, such as on health of the ecosystem (if such was needed in future). However, currently, aggregation (at step 4) means it is **not possible to analyse trends** below the university level, for example looking at spin-outs commercialising different types of technology/knowledge. Analysis at this level might be of value in order to understand whether performance of a HEP is being driven by a single, or very small number, of companies, or a broader series of successful spin-out developments. Furthermore, it might help identify (or understand reasons behind) **particular success stories** which can be powerful for celebrating and showcasing success at a national level and informing sector learning.

The underpinning design of HE-BCI (led by Research England's predecessor body, HEFCE, working with other UK funding bodies) was developed back in the 1990s when the nature and scale of university spin-out activity was very different. While collection at university level and data definitions were deemed suitable as a means of capturing the spin-out activity back then, it is unsurprising that today, with much larger and complex university spin-out ecosystems, this data may need improvement to be **fit for purpose**. To ultimately satisfy principles of complete, meaningful and robust metrics, there is now a **clear need to expand HE-BCI through development of a Spin-out Register to collect more finely disaggregated spin-out information.** The Register provides a suitable structure for more valuable data collection, and the approach taken through the national KE metrics programmes ensures it holds complete data collected at a national level, suitable for consideration for use by funders and policymakers.

2.2 What could be achieved with a Spin-out Register

Recognising these challenges with the current spin-out data infrastructure, a Spin-out Register could open up significant value for Research England, alongside wider policymakers and funders, university practitioners, analysts and others interested in strengthening the UK's spin-out ecosystem, by seeking to collect **more consistent, robust and granular data on spin-outs.**

Urgent priorities for Research England include:

- Improving reliability, robustness and usefulness of existing spin-out datapoints in HE-BCI (on employment, turnover, investment) to enable it to be **used in funding decisions**, in addition to use in the KEF. For example, the Register will enable the ability to look at distributions rather than aggregates which can be driven by very small numbers of companies.

- **More meaningful metrics for the KEF** that enable more robust comparisons and benchmarking between HEPs, such as comparing the performance of portfolios of spin-outs more accurately.

In addition to meeting these priorities, we also believe that the Spin-out Register is an important first step in enabling innovations in data provision on spin-outs, by making it easier for data providers to link their datasets to spin-out companies. Having a complete understanding of the university spin-out population structure is fundamental in generating more **generalisable and representative studies** on spin-outs (whoever undertakes them). These types of evidence can

enable policymakers, universities and investors to make **evidence-led decisions**, reducing the dependency on anecdotes in this space.

Beyond the urgent requirements of Research England, some potential use cases of the Spin-out Register for wider stakeholders such as universities, policymakers and other interested groups may include:

- **Understanding the spin-out ecosystem:** This includes greater visibility and transparency of the pool of spin-out companies and intellectual property emerging from universities at both national and regional levels, enabling greater insights into the health and performance of these ecosystems, as well as their specialisation on specific technology spaces.

- **Strategic insights on the technology pipelines** in areas of strategically importance for the UK, e.g. life sciences, AI, quantum technologies, advanced materials and semiconductors. These insights can be used to strengthen a compelling value proposition for attracting (overseas) investors.

- **Celebrating university contributions to the economic success:** There is growing interest in universities being able to demonstrate their contributions to the economic success of the UK. With more robust insights on the spin-outs coming out of universities, their performance and contributions to the UK at a national and regional level (including employment generated, added value, investment raised, survival, key trends etc.) would make it easier to better understand, quantify and celebrate universities' contributions to economic success.

- **Policy evaluation and identifying 'what works':** Robust data is important and valuable for evaluating the effectiveness of current policies in this domain. For example, granular spin-out-level information might make it easier to identify more/less successful spin-outs to learn about 'what works'; and by linking spin-out-focused policy intervention data with the Spin-out Register, we could be able to more easily investigate the effects of these interventions.

- **Facilitate collaborations:** Fostering a knowledge-rich environment would significantly benefit the entire UK spin-out ecosystem through cooperation. This could be achieved through providing greater transparency of universities' offerings for spin-outs, making it easier to identify collaboration opportunities to pool expertise and support around specific technologies and sectors, as well as encouraging parties to share additional data and best practices amongst themselves.

3 Designing a system for better spin-out data and the Spin-out Register

In section 2, we described how more granular spin-out-level data held in the Spin-out Register has the potential to address limitations with current spin-out data frameworks and can make data more valuable. This section explains the design principles that were used when designing an improved spin-out data system and the Register, including the rationale behind the types of information selected to be held in the Register.

3.1 Segmenting the system for better spin-out data

The Spin-out Register will be the **curated and transparent 'official' list of university spin-outs** in the UK, capturing the **complete population and some of their individual characteristics**. This, in itself, represents a **step-change in data provision** on university spin-outs, as current data frameworks do not enable this granularity of data on a complete basis across the higher education sector (see section 2.1).

An important first step in our design process has been to view the Spin-out Register as an enabler of a wider system of data collection, curation and exploitation. This is shown in Figure 2.
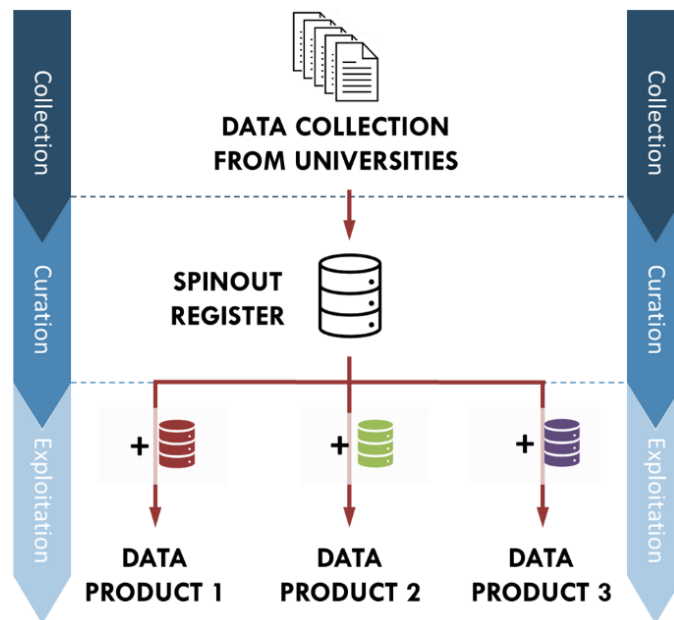
Figure 2: The system for improved spin-out data

At the heart of the system is the **Spin-out Register**: a dataset to collect and present systematic information about each spin-out company from HEPs. We deliberately distinguish the Register from both the **data collection** element that will populate it, and the **data products** that stem from it, and seek to deliver value on more specific topics to specific groups. Viewing the system in this way presents the Register (alongside being a novel innovation in its own right) as also being an **enabler** of more data about these spin-outs and the sector overall.

To gather the data necessary to fill the Register and build a 'list' of spin-out companies, we need a data collection exercise. We build upon the HE-BCI survey, that was designed by HEFCE (the predecessor body to Research England) in the 1990s and is now embedded within the higher education system with HESA as the data collector. Data collection for the Register is legally and practically implemented through HE-BCI. HE-BCI provides a means of collecting **complete** spin-out data across all universities, and the ongoing HE-BCI review provides a window to update the current data collection framework. The national KE metrics programme may explore data collections beyond the specific HE-BCI survey if needed, including for enhancing the Register.

Our aim for the Register is for it to be a **core data resource** that meets the operational and analytical needs of a wide range of users. This includes funders of knowledge exchange (including spin-outs), with Research England at the heart as lead of the national KE metrics programme and with specific highlighted needs for the data. However, we can also see significant potential for other relevant bodies to make use of the Register. Therefore, central to the design is to create a dataset containing a **core set of identifiers or 'keys'**. These keys will enable all users to straightforwardly connect the Register to relevant secondary datasets and produce specific **data products**. For example, by providing company level identifiers in the Register (such as the widely used company registration number from Companies House) it is easier to identify spin-outs in other company-level datasets, thereby opening up the possibilities for producing more robust data, evidence and insights on key performance metrics, such as employment growth and investment raised.

Completing the system of collation, curation and exploitation, **data products** are simply the outputs of any processing or analysis of the data held in the Register**.** These could come in many shapes and forms with different audiences, purposes, functions and structures. Data products could include, for instance, the development of robust metrics that could be used for funding decisions, analytical reports or data dashboards. In section 2.2, we have listed some potential use cases for data products, which stakeholders across the sector and in policy may want to leverage to meet their own specific needs. We therefore envisage that the Spin-out Register will function as an **interoperable 'backbone'** that can be used by a variety of users to link with other datasets to extract valuable insights meeting their specific needs and interests.

Taking these three elements together – data collection, the Register and data products – this approach to spin-out data is much **more expansive** than previous approaches, in terms of the capability it offers for developing fair and accurate data and metrics that have the potential to inform funding decisions, systems intelligence, and rich data-driven insight.

3.2 The Register's core design principle: balancing the value-burden trade-off

For the remainder of this section, **we focus primarily on the design of the Spin-out Register itself**. While both Research England and UCI have supported the whole development process, HESA have led the development and publication of collection instruments and detailed coding manuals to assist HEPs in returning newly requested information through HE-BCI[4], reflecting their

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[4] These can be found on HESA's website here: https://www.hesa.ac.uk/collection/c23036.

key role in the higher education sector data system. We, therefore, do not discuss the implementation process and decisions for the collection phase here.

To guide which specific information the Spin-out Register should hold, we adopted a **core design principle** to balance the need addressed by its inclusion against the burden associated with its collection.

We want the Register to include multiple 'keys' that help address particular needs and may unlock wider value in the form of opportunities for data products for a range of potential users. However, in line with the principles of higher education data collection, needs and value must be balanced with feasibility and burden on HEPs in providing information. For example, HEPs cannot be expected to return data items they would not reasonably be expected to hold. We have seen with the existing HE-BCI approach that when this is the case, this results in inconsistencies, often determined by the resources available to HEPs to invest in gathering the data necessary to complete the return. Therefore, our approach is to focus on select datapoints that universities are likely to hold and can be collated within a level of burden commensurate with value and needs for the data. The national KE metrics programme will work to ensure datapoints are well-defined, to improve ease of collection, consistency and robustness across all institutions.

Recognising the importance of appropriate levels of burden, in deciding which 'keys' to include within the Register, we have **balanced the need for and value that datapoints could unlock, with the anticipated burden** for HEPs to provide this information in both the short and longer term. When considering each 'key', we made a holistic assessment based on the following questions:

- Does this information unlock other data that will meet a clear need of Research England (key concern)?
- What other datasets or types of analysis will this identifier unlock for other possible users?
- Is the Spin-out Register the appropriate vehicle for the information to be provided?
- Is the requested information accessible for university to collect and report? Or, are there alternative sources or routes this information could be obtained?
- Is the resource required to access and provide the data reasonable?
- Does the statutory mandate of the relevant bodies allow for the data to be collected from universities?

These questions enabled us to test whether the information to be requested from HEPs during the collection phase reasonably balances being able to address core needs and unlock value for a wide range of users with being feasible for HEPs to meet the request.

3.3 Rationale behind the selection of 'keys' for the Register

Using the core principle and tests outlined above, we identified three categories of requests (see Table 1): (1) information that is both valuable and feasible to collect; (2) information that is valuable but not yet feasible; and (3) aspirational information. Those that appear in the category 'valuable and feasible' will appear in the first iteration of the Register. The other categories require further development work or alternative collection methods before being considered for inclusion.

Table 1: Categories of data requests following assessment against core principle of the Register

Category	Description/Outcome	Data requests
Valuable and feasible	These data hold clear value and HE-BCI provides a practical route for universities to collect and report this information. Our development work has justified that these types of information should be included in the Spin-out Register.	• Information that identifies the spin-out. • Information about the point of creation of the spin-out. • Information to contextualise the origins of the spin-out. • Information to distinguish types of spin-out. • Information to characterise the relationship to the university. • Information to track the spin-out over the course of data collection.
Valuable but not yet feasible	While potentially highly valuable, these data are not yet feasible or practical to collect from universities. Given their potential value, we are considering undertaking further development work to find practical solutions that address our feasibility concerns. We will then consider whether to incorporate them as part of the Spin-out Register.	• Information on the nature of the intellectual property being commercialised by the spin-out.
Aspirational	Collecting these data could offer additional insights, but these are not considered necessary to meet immediate priorities of funders. Alternative collection methods outside of the HE-BCI survey might provide more suitable means of collecting this information. These could suggest the direction of travel for future iterations of the Spin-out Register, but further development work and assessment of the suitability of these requests will be required before inclusion in the Register.	• Information on research funding that underpins the intellectual property (IP) being commercialised by the spin-out. • Information about the support received by the spin-out . • Information on founder characteristics. • Information about collaborators.

Below, we take each of these categories of data in turn, explain the types of information that would be included within them and provide a summary of our assessment to include or exclude these from the first iteration of the Register. As stated above, only those in the category 'valuable and feasible' will appear in the first iteration of the Register, as these are seen to sufficiently balance need and value with burden.

Valuable & feasible information

Information that identifies the spin-out

To be able to locate spin-outs in other datasets and match these records to the Register, we need to collect identifying information about the company. We suggest the following identifiers to enable matching of the spin-outs with a range of other datasets:

- Company Name
- Company Registration Number
- Other Registration Number (FCA mutuals, overseas registration number where available)
- Registered Country (noting that different countries can use the same format for registration numbers)
- Website

To reduce errors in matching companies in other datasets, it is important to have multiple identifiers to cross-check company identities. This is particularly so if national registration numbers are absent. In the UK, the Companies House Registration Number is probably the closest to a unique company identifier that we can obtain. However, even this is not sufficient. For example, companies registered at Companies House are allocated an 8-digit alphanumeric code. Other countries have similar formats. UCI's experience in matching companies has shown if the spin-out is founded abroad in a country which uses a similar 8-digit code, absent of knowing it was founded abroad may lead the analyst to mistakenly match it to the wrong UK-based company in other datasets. Likewise, we have also found cases where the name of a company that was founded many years ago but has since failed or was acquired, has been used again by a new company. The combination of names, registration numbers and websites help to reduce the likelihood of mismatches.

Information about the point of creation of the spin-out

For the Spin-out Register to deliver valuable data and insights to inform policy development, funding programme design and allocation, and system learning, it is important that we attempt to standardise the point at which a spin-out is 'created'.

This point in time is complicated by the fact that approaches to setting up the legally distinct venture – the spin-out – can vary between HEPs, and even for different cases within a HEP.[5] For example, in some scenarios, the company is established at the point at which the IP is transferred in (e.g. through a license or assignment) and investment is secured. However, previous analytical

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[5] This was discussed in detail in: Ulrichsen, T.C., & 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.

work by UCI shows that in other cases, the difference between the legal incorporation of the company and the point at which it acquires the IP can be significant. There are instances where, for example, a company is legally incorporated by an academic while the IP is being further developed within the HEP. Once sufficiently mature, the academic approaches the HEP to transfer in the IP (via a licence or assignment). It is this second date that we would consider to be the foundation of the spin-out rather than the date of incorporation as it signals the point at which the spin-out has assumed responsibility for the commercial development of the IP.

To create a uniform reference point for tracking the journey of these spin-outs and enabling us to compare fairly across universities and spin-outs, we therefore need to collect and define the 'foundation date'. Alongside this, the legal incorporation date (i.e. when the company was first established and registered) is also very helpful to help confirm the identification of companies in other datasets (e.g. Companies House). As such, we are asking for both dates to be collected in the Register.

Information to contextualise the origins of the spin-out

We know that spin-outs commercialising different types of IP face differing pressures, development journeys and needs.[6] However, existing national spin-out datasets (such as HE-BCI) cannot be used to identify these different companies. The development phase of the Spin-out Register suggested that collecting information on the nature of the IP would be valuable but is not yet feasible (see section below).

An alternative, more feasible way of capturing differences is by collecting information in the Register on the knowledge base that underpins the IP or idea being commercialised. This will assist in capturing differences in portfolios between universities that may enable fairer comparisons and more targeted insights to inform both policy and funding. While not perfect, collecting information on the originating department of the research and/or founding academics provides a feasible mechanism to do this (e.g. capturing whether spin-outs derive from STEM or AHSS research). Since department names and internal academic divisions can vary significantly across HEPs, we need to use a categorisation that can be consistently applied and is meaningful across the sector. This information might for example be valuable for exercises such as the UK Research Excellence Framework (REF) as evidence of the research impact of different knowledge bases or disciplines.

Information to distinguish different types of spin-out

A key requirement for Research England and HESA in developing the Spin-out Register is the ability to replicate the existing data fields present in HE-BCI (including on turnover, employment and investment) through secondary data-linking rather than asking HEPs to submit this information themselves. This has the potential to enable better data at a reduced burden level, which is a key concern.

HE-BCI currently distinguishes between five categories of venture: spin-outs with and without university ownership, staff start-ups, student start-ups, and social enterprises. The first issue with the existing data collection is that social enterprises and the spin-out/start-up categories are not mutually exclusive, i.e. a venture can be both a spin-out and a social enterprise. This makes it

[6] Ulrichsen, T.C., & 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.

very hard to compare data across universities as they could be making different internal decisions about how to return their data within each field.

In collecting spin-out-level information, we believe the Spin-out Register provides a potential solution to this issue. The designs implemented with HESA allow ventures to be identified as both a spin-out and a social enterprise. This is important since social enterprises behave differently to other profit-driven firms, but there are very few – if any – sources which can tell us whether a company is a social enterprise. Identifying them in the Register means we can account for any differences in how these types of spin-outs behave relative to others when comparing performance of universities and their portfolios of spin-outs. Furthermore, we can build this distinction into any new typology, if needed, should this be deemed an important point of difference across spin-outs.

Information to characterise the relationship to the university

The second issue with the current HE-BCI typology lies in the distinction between spin-outs with 'HEP-ownership' and those where there is currently no ownership links. Spin-outs can move between these categories over time as the ownership links between the university and spin-out change. This makes it very difficult through HE-BCI data to compare these spin-out categories over time. Furthermore, we are aware of different interpretations of 'ownership' across the sector, with some believing it to be limited to equity holdings of the university in the spin-out, and with others including other forms of more contractual links (e.g. IP licence agreements). Similar to the first issue above, the Register addresses this by collecting some information on ownership at the spin-out level.

There is also significant policy interest in equity ownership of spin-outs in terms of whether it adequately rewards founders and reflects the true risk-sharing amongst involved parties, as well as the implication of equity splits for spin-out success. In looking at these issues, previous UCI analysis has demonstrated the critical importance of seeing equity as part of the wider set of university deal terms, not least the terms of a licence agreement.[7] To understand the involvement of the HEP more holistically, we believe it is important to collect information on the nature of the relationship between the spin-out and the university, including information on both ownership and contractual relationships.

The Register provides a good place for this information to be held, as information linking a company to its relationship with a HEP elsewhere is generally sparse:

- In cases where there is equity held by the university, company shareholding agreements published on Companies House provide the names of shareholders. However, these are not in a readily available format for analyses and the specific information is onerous to

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[7] Ulrichsen, T.C., Roupakia, Z., & 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.
https://www.ifm.eng.cam.ac.uk/uploads/UCI/knowledgehub/documents/2022_UCI_University_spin-out_equity_approaches_report.pdf

extract from .pdf formats with a number of methodological complexities, not least having to identify the university amongst all shareholders, which may not be obviously named. [8]

- In cases where there is a contractual relationship, e.g. a license, we do not have a consistent record on instances where universities license IP to the spin-out.

We appreciate that exact deal terms are highly sensitive information for universities and may compromise negotiations between parties. As such, the Register design implemented with HESA collects information at a high level (to be able to make the most important distinctions, i.e. whether the relationship is governed by equity, license or some other type of relationship), and this is collected in a format that minimises sensitivity risk, strictly limited in its onward use publicly.

Information to track the spin-out over the course of data collection

To ensure the data collection is robust, it is good practice to understand why datapoints leave either the primary datasets or may no longer be identifiable in linked datasets. For example, spin-outs may leave the Register due to the venture failing (e.g. the company is dissolved). They may also cease to be identifiable in other datasets for other reasons that are actually linked to their continued development and growth, such as acquisition or relocation to another country. To reduce instances where a company may be mistaken for having failed or dissolved, when the reality is different, as well as to minimise errors when linking to other datasets, the current design of the Register captures information about other features of the firm that assist identification where they could fall out of the Register, such as:

- Previous names/CRNs
- Information about relocation of company headquarters to another country
- Information about whether a spin-out has undergone a merger or acquisition

These variables can also help to contextualise the spin-out's position in its development to aid fairer comparisons.

Valuable but not yet feasible information

Information on the intellectual property being commercialised by the spin-out

Similarly to how departmental origins influence a spin-out's development journey, the type of intellectual property they commercialise, and how and where this is applied, will also likely impact their development path, challenges faced, and needs (financial, human capital, infrastructure etc.). This is acknowledged by the recent Independent Review of University Spin-out Companies. Being able to capture these types of differences in the Spin-out Register could unlock significant potential for both funding and policy design, performance measurement and evaluation, and monitoring key issues facing the spin-out ecosystem.

Furthermore, university spin-outs are a vital force for innovation and economic prosperity and play a key role in fostering entrepreneurship across crucial sectors like pharmaceuticals,

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[8] Quian M, Hellmann T., & Mulla J. (2024). How does equity allocation in university spinouts affect fundraising success? Evidence from the UK. *Academy of Management*, (1). https://doi.org/10.5465/AMPROC.2024.13624abstract

biotechnology, advanced materials, healthcare devices, and semiconductors. These areas directly align with strategic technologies prioritised in past national policy initiatives, such as the National Semiconductor Strategy[9]. Information on the intellectual underpinnings could provide a clearer picture of the spin-outs emerging from universities by technology areas or sectors. It could also facilitate the identification of emerging sectors and clusters both nationally and regionally, allowing for better monitoring of spin-out pipelines in relation to techno-industrial strategies or strategically important technology initiatives like semiconductors and quantum computing.

While the value of this information could be very significant for funders and policymakers, the challenge lies in selecting an appropriate classification system to describe the IP/knowledge being commercialised by the spin-out and its application. Current industrial classification systems, such as Standard Industrial Classification (SIC) codes, fail to accurately categorise these types of companies and would not add significant value to the Register. SIC codes focus on a company's main economic activity rather than the core technology that drives it. This limitation is particularly critical when dealing with emerging technologies and sectors that are constantly evolving. In some cases, spin-outs operate in entirely new sectors or carve out new niches within established ones. Additionally, infrequent updates to these classifications make them inadequate for capturing the nuances of rapidly changing domains.

To address this key limiting factor, the **national KE metrics programme will undertake separate experimental work** to explore the potential for developing an alternative techno-industrial classification system for university spin-outs and how such a system could be developed for incorporation in future iterations of collections for the Register. We will report findings of this work separately at a later date.

A new classification system for spin-outs collected in the Register could offer a multitude of benefits for policymakers and support agencies, for instance helping to ensure resources are distributed in a way that reflects the specific needs and support requirements of each university's spin-out landscape. More accurate classification would also pave the way for targeted funding allocation, directing resources towards emerging high-potential areas. Policymakers would gain access to accurate data on new technologies and industries, enabling them to design and implement effective industrial policies that support the right sectors.

Aspirational information

Information on research funding underpinning the IP being commercialised by the spin-out

There is interest from public funders of research and knowledge exchange to be able to investigate the role of their funding in spin-out emergence, development and success. Once the Register has been established, some public grants received by the spin-outs are available in the public domain and could be matched to the company (for example different types of grants from Innovate UK). This could in principle enable quantitative, evaluation-type studies to be undertaken for these funding programmes.

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[9] See: https://www.gov.uk/government/publications/national-semiconductor-strategy

However, research grants received by the academics and founding teams before the spin-out has been incorporated, e.g. to support the research that underpins the IP being commercialised by the spin-out or early development activities that create a functional prototype, are harder to capture reliably. A key challenge relates to the difficulties in matching grant information to the spin-out. This would likely have to be done via the individuals involved in developing the spin-out (both founders and non-founding inventors/creators), and would require information on them to be shared; information that was deemed to be infeasible to collect at this time.

Another key challenge that would need to be addressed relates to where the boundary around research that underpins the spin-out is drawn. While in some cases this may be relatively straightforward to delineate, in others the spin-outs may be commercialising IP that is the culmination of decades of research involving multiple funders at different stages. Developing a data collection system to capture information on the research and other grants that enabled the IP being commercialised needs to be carefully designed, if it is feasible.

Information about the support received by the spin-out

We also know that spin-outs benefit from other types of support, including financial and non-financial (facilities, training etc.). Previous UCI studies[10] have spoken to the importance of university support and need to understand what types of support are most effective and at what stage of the spin-out's development.[11] By linking the support provided (inputs) to the success of the spin-out (outputs), we can better investigate the effectiveness of different types of support programmes. This information could be valuable for optimising resource allocation and developing impactful support programmes that foster successful university spin-outs.

Consequently, datapoints that allow us to identify the types and level of support that specific spin-outs have received could be very valuable for policy and funding evaluations for UK Research and Innovation (UKRI), universities and others. However, given the vast array of support types and absence of a concise and robust mechanism to characterise it cleanly, collecting information of this kind has been assessed as lower priority.

Information about founder characteristics

The capabilities and composition of founding teams are believed to be an important driver of early spin-out success and a key consideration for early-stage investors while technologies are still being developed for market.

Gathering data on the characteristics of spin-out founders could allow us to understand the composition and skillset of founder teams, including the balance between academic and non-academic founders, student founders, and others, and how these affect spin-out development and growth. It might also help to identify skills needs within the entrepreneurial ecosystem (e.g. to develop targeted training programmes).

Additionally, it is well-known that there are significant gender and diversity disparities when it comes to entrepreneurship and obtaining venture capital funding. Support for these under-

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[10] Ulrichsen, T.C. Roupakia, Z., & 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, University of Cambridge.

[11] Ulrichsen, T.C. & Roupakia, Z. (2024). *Spinning out success: Demystifying UK university spinout trends, equity and investment.* Policy Evidence Unit for University Commercialisation and Innovation, University of Cambridge.

represented groups is important to overcome barriers to spinning out, otherwise these inequalities will continue to embed themselves as missed opportunities, holding back our ecosystems from reaching their full potential. Collecting data on gender and other protected characteristics would enable Equality, Diversity, and Inclusion (EDI) analyses and consistent monitoring efforts. For example, on gender specifically, researchers at Oxford Brookes University have found that female founders are under-represented in spin-out leadership and spin-outs with women founders receive less investments.[12] Such studies typically analyse the names of founders to estimate gender rather than being based on self-reports. More systematic and accurate ways of collecting information on gender and other diversity characteristics could enable more frequent monitoring and potentially data-linking to existing people-related datasets, creating even richer opportunities for policy-supporting analysis.

However, while this data would be rich and insightful and something the national KE metrics programme might aspire to for the longer term, it was deemed to be beyond the current scope of the initial Register, would also impose a significant burden on universities in collecting the data, and faces significant issues associated with sharing sensitive personal data. To gather this data safely and securely, significant further work would need to be undertaken.

Information about collaborators

Increasingly HEPs are collaborating with other universities, industry, the third sector and public bodies to increase capacity, strengthen R&D and address global challenges. Funding programmes, such as Research England's Connecting Capability Fund (CCF), are also incentivising HEPs to undertake collaborations around knowledge exchange and translation. It could be useful therefore to collect information that identifies spin-outs emerging from these partnerships and be able to characterise the nature of the partnerships, extent of relationship, and whether the partnership is UK-based or international.

Submission of data to the Register should allow us to identify some spin-outs being founded as a result of collaborations between universities (in this instance the spin-out should be returned through HE-BCI by all institutions involved). However, in absence of a robust mechanism to characterise other types of partnerships in datasets, collecting information of this kind has been assessed as lower priority.

3.4 Additional design considerations

Alongside the core design principle determining the selection of core information for the Register, there were also other considerations we made in the design of the new system. These are laid out below.

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[12] Griffiths, H., & Humbert, A.L. (2019). *Gender and university spinouts in the UK: Geography, governance and growth.* Oxford Brookes University Centre for Diversity Policy Research and Practice, Oxford Brookes University. Report produced as part of the EPSRC funded project 'Promoting Equality, Diversity and Inclusion in University Spinout Companies – A Case for Action' (EP/S010734/1), as part of their Inclusion Matters initiative.

One-off collection followed by systematic updates

It takes many years for spin-outs to emerge, develop and realise outcomes that can be captured in data collections. In order for the Spin-out Register to meet the immediate needs of Research England and then other funders, policymakers and others, it is essential that the first iteration of the Register captures the **current stock of UK university spin-outs** rather than just focusing on those newly registered in the current collection year. This has necessitated a **one-off data collection exercise** (commenced by HESA in August 2024) that captures all active spin-out companies linked to universities in the first data collection year.

Within the one-off collection exercise, we are taking a further step by opting for a **retrospective collection** as well. In other words, we – with HESA – are collecting the same set of information for companies that were founded a number of years ago as spinouts *but* are no longer classed as spin-outs, including for both successful reasons (e.g. the company has been acquired) or unsuccessful (e.g. failure).

These two aspects combined allow us to use the Register to develop important metrics and insights straight away, for example on spin-out survival rates, and on the scale and distribution of successful outcomes. In the absence of a one-off and retrospective collection, these types of analyses would have had to wait many years before sufficient data on outcomes for companies founded today becomes available and can be collected.

To keep the Register up to date over time, a one-off collection is being followed up with **systematic annual updates** through the HE-BCI collection. This includes to:

- capture newly founded spin-outs,
- update datapoints for previously returned spin-outs, or,
- identify companies that are no longer classed as spin-outs (due to the venture failing or other reasons that may be linked to their continued development and growth, such as acquisition or relocation to another country).

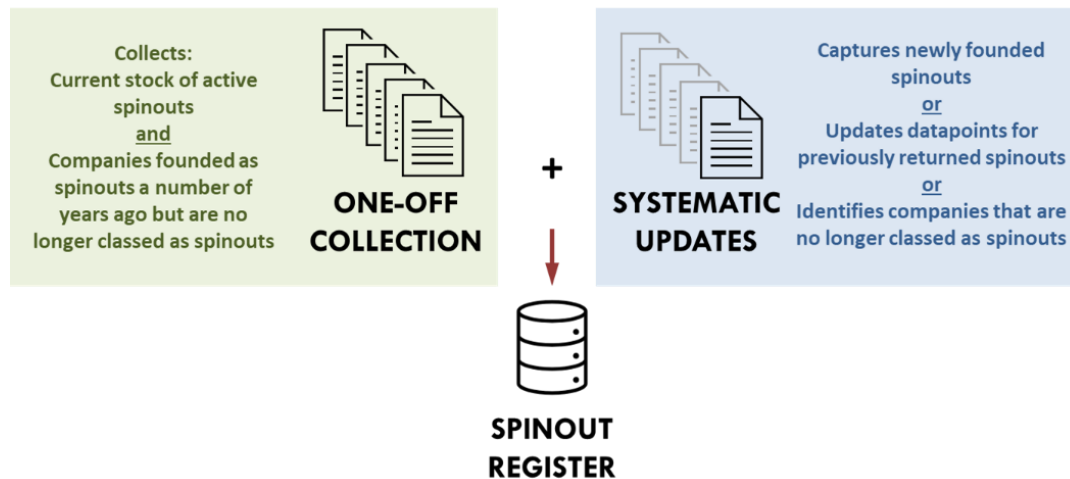Figure 3 below depicts this approach to data collection for the Register.

Figure 3: Types of collection feeding into the Spin-out Register

Updating definitions for clarity and consistency

The success of any data collection effort hinges on establishing **clear and consistent definitions.** For the Register design, a standardised definition of spin-outs needs to be adopted across the sector to ensure fair comparisons across the system. We, alongside HESA, identified that clarity on definitions was urgently needed as we were aware of HEPs using the term **'spin-out'** differently across the sector, with some adopting more expansive definitions while others use more narrow interpretations of the term.

In doing so, we had to confront what is meant by '**intellectual property**' (IP). We know this term carries inherent complexities due to evolving legal interpretations, including technical distinctions between IP and IP rights, the treatment of know-how, and wide-ranging applications across the sector.

The optimal definition of a spin-out for use in the Register strikes a balance: specific enough to capture the essence of what spin-outs are and the IP they emerge from, yet broad enough to encompass the diverse activities occurring across varied types of universities. To achieve this balance (as far as possible), the national KE metrics programme undertook a range of activities to inform the development of a suitable definition, including:

- Reviewing comments and reflections from HEPs through HESA's engagement work in the HE-BCI review, for instance the evidence gathering survey.
- Reviewing a variety of university IP policies to understand how definitions of spin-outs and IP are currently adopted and applied across the sector.
- Seeking expert legal advice on IP and IP rights from Mark Anderson, Partner of Anderson Law LLP.

Following this development work, HESA has embedded the updated definitions into the HE-BCI coding manuals, extracts of which have been included as an Annex to this report.

Balancing transparency with data security

While the Spin-out Register aspires to be publicly available, we must acknowledge the potential **commercial sensitivity** of certain information, for example on deal terms that govern the relationship between the spin-out and university. A **multi-tiered approach offers a solution:** a publicly accessible version containing non-sensitive data, a more restricted version with detailed sensitive information available only to authorised groups for specified purposes, and/or restrictions placed on what and how data can be published (e.g. ensuring the non-disclosure of individual firms – this is common practice in datasets that collect sensitive information). This approach offers the benefits of transparency, opening up analysis to a wide range of stakeholders, while also mitigating the risks associated with sensitive or commercially confidential data.

HESA is implementing such a multi-tiered approach for the publication of the Spin-out Register with not all collected datapoints appearing on the public Register, and some only shared with statutory customers or presented with varying degrees of aggregation.

4 Implementation and next steps

In this visioning report, we have set out our ambition for the Spin-out Register to be an **interoperable backbone** that enables data-linking and **opportunities for developing data products** which can deliver specific value for targeted user groups. This includes Research England as the lead for the national KE metrics programme, and potentially other funders such as other UK funding bodies and those across UKRI. We have explained the **underpinning design principles** and the **rationale** behind the core set of information the Register will seek to collect from HEPs initially, to unlock better data evidence to inform funding, policy and university practice.

Collecting a list of spin-outs may appear a trivial task. However, improving data systems with the aim of delivering complete, robust and meaningful metrics requires precision and pragmatism. We must ensure systems are suitable, reliable, and interoperable with others, as well as able to capture activity across a diverse sector. This is why the national KE metrics programme carefully considers the balance between level of need and level of burden, keeping this principle central to the design of the Register. This principle is also key in HESA's implementation of the conceptual design, by refining their data collection proposals through evidence-gathering and consultation, and explicitly considering burden considerations and data availability as a part of this user engagement.

We recognise that new approaches to data collection may increase expectations on HEPs in the short run. However, once we reach steady state (i.e. we have a first iteration of the Register and updated data systems within institutions are fully operational), we believe our approach will help to reduce the overall burden and resources required for HEPs to submit data annually, while increasing its value to the organisation.

To demonstrate this, mirroring Figure 1 earlier, Figure 2 shows the process a university would likely undergo for submission to the data collection that will underpin the new Spin-out Register.

Figure 4: Process for HEPs to collate and return spin-out data with the Spin-out Register

As with previous HE-BCI requirements, universities collate ventures (step 1) and classify these dependent on a set of (slightly expanded) datapoints (step 2). However, under the new approach, universities now submit the list directly for publication in the Spin-out Register without aggregating

(step 3). Furthermore, once we have a completed the one-off collection, in future years, HEPs would be offered their previously returned list and would be asked for updates only. Connection across to other datasets can then be made to develop data products (step 4), but the university is not obliged to use their own resource to do this. In summary, our core design principle has sought to balance the degree of burden associated with the additional datapoints requested in step 2 with the need for those datapoints within the Register, in terms of their subsequent use in valuable data products at step 4.

4.1 Moving forward: developing initial data products

Moving towards the development and publication of the Spin-out Register, HESA have now outlined their plans for implementing the data collections to **produce the first iteration by Spring 2025**.

Once this first iteration is in place, the priority for the national KE metrics programme is to develop improved metrics that better capture the performance and success of universities in producing spin-out companies (in context of a much wider KE metrics ambition). This starts by replicating HE-BCI metrics (on turnover, jobs and external investment) through linking the Register to secondary sources of information, and aggregating up to the HEP level. This brings two main benefits compared to the existing approach of seeking this information directly from HEPs (note: it may be helpful to refer back to Figure 1 and Figure 4):

1. It reduces the burden on HEPs in collating the necessary data themselves, resulting in a common application of the guidelines for gathering employment, turnover and investment data.
2. It standardises the collection across HEPs to ensure the same level of data accuracy (noting that currently, some HEPs are able to invest much more resource into the collection of spin-out data than others).

Furthermore, moving beyond replicating existing HE-BCI metrics, spin-out level data held in the Register enables the ability to look at distributions (means, medians, ranges etc.) for certain data, which allows for more holistic assessments than totals which can be driven by very small numbers of companies.

It is Research England's ambition through the national KE metrics programme to consider how to expand and improve the quality of spin-out metrics even further beyond replicating existing HE-BCI fields, e.g. for national policy development, availability of data for benchmarking and anything further for use in the KEF and funding allocation. We will also use this opportunity to consider needs for more and other data for wider UKRI activities, and for other users of the HE-BCI survey data.

In addition to the specific data products serving Research England's immediate funding needs, the Register will provide a core resource for a wider audience. The design of the Register, with its carefully considered set of core information, allows for the creation of various types of data products at different units of analysis (e.g. company level, university-level, region-level, nation-level). As with the current HE-BCI survey, we intend for HEPs, other UK funding bodies, policymakers and wider stakeholders to utilise the data to meet their needs and derive their own

value. The national KE metrics programme aims to raise awareness of the data and opportunity across all potential users, so users are empowered to leverage this new dataset, explore how they can develop their own data products, and add value through unlocking insights tailored to their specific needs. By leveraging this data, there is potential to **collectively gain a deeper understanding of the health and performance of the UK spin-out ecosystem**.

5 Annex: Definitions as implemented in HESA's HE-BCI coding manual

5.1 Spin-outs

Spin-outs are firms founded primarily to commercialise the intellectual property (including ideas, information, and knowledge) created by university staff, where the IP either belongs to the university under general law or under the terms of the contract of employment, or the member of staff has assigned the IP to the university to enable it to be commercialised, or where significant university resources (e.g. funding, facilities) were used to generate the IP.

Reference: Paragraph 16, HE-BCI Part C Census 2023/24 record - Definitions

5.2 Intellectual Property

Intellectual Property (IP) refers to various types of information that may have potential value, including ideas, inventions, designs, data, results, and software. For example, IP may arise from research activities at an HE provider. By contrast, Intellectual Property Rights (IPR) refers to the legal protection of that information, e.g. by patenting.

Intellectual property can be protected by establishing legal rights, for example through registration (a-c, below) or through an automatic protection (d to f, below):

a) *Patents - inventions, for example, machines and machine parts, materials, tools, medicines.*
b) *Design registration - appearance of a product including, shape, packaging, patterns, colours, decoration.*
c) *Registered trademarks - product names and appearances, logos, jingles.*
d) *Copyright - writing and literary works, art, photography, films, TV, music, web content, sound recordings, and software.*
e) *Database rights - these apply to databases that are not protected by copyright. See https://www.gov.uk/guidance/sui-generis-database-rights for details.*
f) *Unregistered design right - a different form of protection from item (b) above, and sharing some features with copyright.*

The items listed above are some of the core types of IPR. However, there are many other types of IPR and quasi-IPR which may form the basis of a spin-out firm. A non-exhaustive list of examples follows:

a) *Other types of recognised IPR that are encountered less frequently than the above items, e.g. plant-breeders' rights or semi-conductor topographies.*
b) *Know-how, which is protected as confidential information. This is not, in strict legal terms, a property right, but in practice it is often included in contractual definitions of IP or IPR and licensed in a similar way to patents. See further information about know-how below.*

c) *Regulatory exclusivity, e.g. ownership of regulatory licences or applications for licences which provide competitive advantages, e.g. a CE marking for a medical device. Other examples include data exclusivity for medicinal products, and so-called orphan drug status.*

Sometimes, an HE provider might agree ownership arrangements with a spin-out firm where there is no identifiable IPR, even using a broad definition of IPR. For example, the HE provider may have provided some other benefit to the spin-out firm on non-commercial terms, e.g. free access to facilities. In such circumstances, the ownership arrangement may be agreed as a way to compensate the HE provider for its in-kind contributions to the spin-out firm.

Reference: Paragraph 1- 4, HE-BCI Part C Census 2023/24 record - Definitions

5.3 Know-how

Know-how is often licensed under technology transfer agreements, either as a stand-alone IP asset or as part of a portfolio of IP assets (e.g. patents and know-how). Typically, it is protected under English law as a form of confidential information. Know-how can include a wide range of information, skills and expertise (e.g. operating manuals, instructions, designs, blueprints and other technical information, improvements, processes, formulae, techniques, methods, the results and procedures for experiments and tests, reports, component lists). It can be recorded in concrete form, or may reside in the memory of the inventor or employee.

Know-how, confidential information and trade secrets are defined in different ways under English and EU laws. In relation to confidential information, the traditional approach of the English courts is set out in the seminal case of Coco v A.N. Clark (Engineers) Ltd. In that case, Megarry J set out three tests for when the English courts would provide a remedy for breach of confidence:

a) *The information in question must have the necessary quality of confidence about it;*
b) *The information must have been provided in circumstances importing an obligation of confidence; and*
c) *There must have been unauthorised use of the relevant information to the detriment of the party communicating it.*

On point (b) above, it is not strictly necessary for there to be a written confidentiality agreement, but from the perspective of legal certainty and evidence it is generally preferable to set out the parties' rights and obligations in a written agreement.

Reference: Paragraph 5-7, HE-BCI Part C Census 2023/24 record - Definitions