

**SENATE**

**Title of paper:** Business and Innovation Strategic Plan 2024 – 2030

**Main purpose of the paper:** For discussion and endorsement

**Presenter(s):** Prof Matthew Grenby, Pro-Vice-Chancellor Research and Innovation

**Date of paper:** 26 June 2024

**Purpose of the paper**

Newcastle University's previous Business and Innovation Strategic Plan was published in 2019. This updated Strategic Plan for 2025 - 2030 takes account of changes in the wider business ecosystem and seeks to situate place-based innovation more centrally in the University's operations. Its development has been informed by an extensive review (June to November 2023), conducted with colleagues across the University as well as external critical friends and representatives of partner organisations, and a review of other universities' business and innovation strategies and activities. Alongside much that was positive, the review identified some areas that require attention.

**Relation to strategy and values**

This revised Strategic Plan is intended to support a university-wide focus on business and innovation as an enabler for the successful delivery of our four core University strategies.

**Recommendations:**

This new strategic plan to be discussed and endorsed for onward approval by Council.

**Consultation to date (including any previous committee consideration and its outcome):**

The views of internal and external stakeholders have been used to develop this Strategic Plan. A Strategy Development Group, comprising members from across the University was formed to develop the Vision and strategic objectives. Input was obtained from various university and faculty-level committees, including the University's Global Committee, URIC, Faculty FEBs and FRICs, during the process of development and refinement.

Approved by UEB 27 February 2024

## **Business and Innovation Strategic Plan 2024 – 2030**

**Newcastle University aims to be an innovating and enterprising University building impactful partnerships regionally, nationally and globally.**

We are committed to integrating business and innovation into each of our four existing strategies – Research, Education, Engagement & Place, and Global – and to contributing sustainable social, economic, health and cultural benefits to all the places in which we operate.

### **1. Introduction**

We recognise Business and Innovation to be crucial activities undertaken at Newcastle University, driven by, and supporting, our core missions of Research for Discovery and Impact, and Education for Life, and contributing to our vision for the University to advance knowledge, provide creative solutions and solve global problems. Our Business and Innovation activities raise revenue for the University, but also deploy our world-leading research and education capabilities to develop and deliver novel technologies, products, services, processes and skills development that support sustainable and inclusive economic growth. We also work with many non-commercial organisations, such as charities, cultural and arts bodies, voluntary, community and social enterprises (VCSEs) and NHS Trusts, driving impacts that extend far beyond financial return. Our Business and Innovation activities are always premised on our core values: Academic Freedom, Social and Environmental Justice, and Equality, Diversity and Inclusion.

In this document, the terms Business and Innovation are used to cover a wide range of activities. These include:

- commercialisation of colleague and student research, including company creation, spin-outs / start-ups, patents and licensing of technological and bioscience developments, much of which takes place in partnership with industry;
- consultancy and contract research commissioned by external bodies and undertaken by our colleagues;
- collaborative research co-produced with our partners across a range of non-academic organisations (businesses, the public sector and the VCSE sector);
- corporate partnerships of many kinds, for example with healthcare providers and Small and Medium-Size Enterprises (SMEs) and Large/Global Enterprises – whether based local to our campuses or internationally;
- student encounters with a leading edge curriculum through links with employers / industry / research;
- provision of Lifelong Learning and Professional Development, and Degree Apprenticeships;
- many other forms of Knowledge Exchange and Impact activity that develop research and harnesses teaching expertise to improve products and services, including in local, regional, national and international government, the VCSE sector, and with charities, NGOs and cultural and arts organisations.

Some of these terms are explained in a glossary of terms that forms Appendix A.

## 2. Context

Newcastle University is successful in many aspects of business and innovation as demonstrated by:

- **successive Knowledge Exchange Framework exercises.** In KEF 2023 we perform at or above the average for our cluster of institutions ('large, very high research-intensive and broad-discipline universities') in all but one of the perspectives, and in the top quintile (very high engagement) for IP and commercialisation, public and community engagement, working with business, and working with the public and third sector. (There is most scope for us to improve in 'CPD and graduate start-ups', for which we are currently in quintile 2: low engagement).<sup>1</sup>
- **HEBCIS (The Higher Education Business and Community Interaction Survey) data.** This shows Newcastle University to be competitive among its peers in most Business and Community Interaction metrics.<sup>2</sup>
- **national and global university rankings.** In the THE World University Rankings 2024, Newcastle University was 21<sup>st</sup> overall in the UK, with our highest performances in 'Research Quality' (15<sup>th</sup>) and 'Industry' (17<sup>th</sup>).<sup>3</sup>
- **The Arrow initiative.** In the last five years Arrow has helped over 150 regional SMEs innovate by connecting them with experts and equipping them with the tools they need to succeed on their innovation journeys
- **The Northern Accelerator programme.** Our founding membership of the Northern Accelerator programme, a collaboration between the universities in the North-East of England, that has catalysed the commercialisation of research in the region, resulting in 28 spin-out companies being created over a three-year period. We have recently secured additional funding to take forward this and other successful schemes.

The University has driven ambitious developments in innovation infrastructure in areas of specific expertise and opportunity. National Innovation Centres for Ageing (NICA), for Data (NICD) and for Rural Enterprise (NICRE) have been established since 2016, along with the Driving the Electric Revolution Industrialisation Centre (DER-IC). We lead numerous impact-focussed projects including Insights North-East (INE), the Research Hub for Decarbonised Adaptable and Resilient Transport Infrastructures (DARE) and the Creative Industries Policy Evidence Hub (PEC). We actively promote innovation with external partners through our Impact Acceleration Accounts (IAA) which span, social, physical and engineering sciences and medicine. The University is a key player in the Newcastle Health Innovation Partners (NHIP). Each has received substantial external funding, directly from the Government or through UKRI or the NHS, as well as investment from the University. Each, to a greater or lesser extent, has developed its own 'in-house' innovation support team. These centres share the same aim of deploying the University's research capabilities to meet the needs of external partners or regional economic imperatives and are an important part of the University's innovation work, but plans to secure their long-term financial sustainability require development.

Moreover, the business and innovation context changes rapidly, with macroeconomic and societal shifts, the emergence of new technologies, and amended regional and national policy priorities. The Government's UK Innovation Strategy, published in 2021, sets out its long-term vision and plan for making the UK a global hub for innovation by 2035, and is supported by the Science and Technology Framework<sup>4</sup>. The strategy outlines HM Government's commitment to invest in research and

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<sup>1</sup> <https://kef.ac.uk/dashboard>

<sup>2</sup> <https://www.hesa.ac.uk/data-and-analysis/business-community>

<sup>3</sup> The latter category is calculated by collecting data across two metrics: industry income and patents.

<sup>4</sup> <https://www.gov.uk/government/publications/uk-innovation-strategy-leading-the-future-by-creating-it> and <https://www.gov.uk/government/publications/uk-science-and-technology-framework>

development, to create the right conditions for innovation, to support the innovation system, and to focus on the missions and technologies of the future. The strategy also highlights the importance of involving universities and other stakeholders in delivering innovation-led growth.

The advent of the North East Mayoral Combined Authority (NEMCA) and an Investment Zone for the North East gives Newcastle University the opportunity to take our leadership work in regional development to the next stage. But engagement with business and our innovation work must stretch right across the University, from our engineers to our medical school, to our arts and cultural partnerships, and we want to ensure that all our colleagues have the opportunity, encouragement and support to contribute to our business activities. This includes our campuses in Singapore and Malaysia, as well as all our students. We want innovation and entrepreneurialism to be embedded in all that we do.

### 3. Business Development and Enterprise (BDE)

The University’s Business Development and Enterprise (BDE) team works to generate and support Knowledge Exchange and in the management of industry-academic relationships. They are responsible for the commercialisation and management of the University’s Intellectual Property and portfolio of spin-out companies. BDE also facilitates and manages internal and external relationships to support the University’s industrial links. The team works with researchers on commercialisation, contract and collaborative research, consultancy and specialist facilities and equipment (see Appendix A for definitions).

The diagram below outlines the current structure of the University’s Business, Development and Enterprise Team.

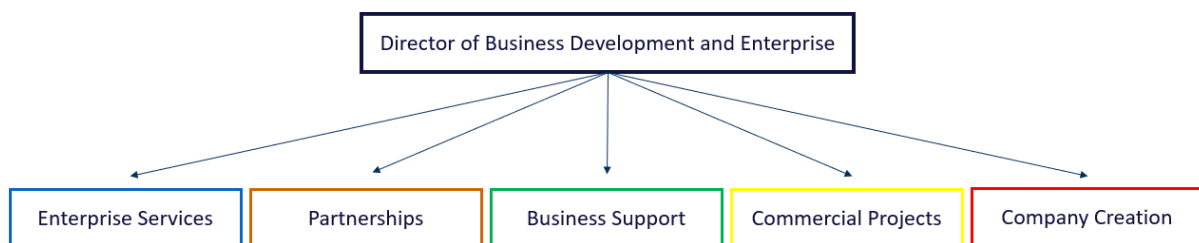


Fig. 1: BDE Organogram

### 4. Review and Renew

Newcastle University’s previous Business and Innovation Strategic Plan was published in 2019. This revision of that Strategic Plan takes account of changes in the wider business ecosystem and seeks to situate place-based innovation more centrally in the University’s operations. Its development has been informed by an extensive review (June to November 2023), conducted with colleagues across the University as well as external critical friends and representatives of partner organisations, and a review of other universities’ business and innovation strategies and activities. Alongside much that was positive, the review identified some areas that require attention.

This revised Strategic Plan is intended to support a University-wide focus on business and innovation as an enabler for the successful delivery of our four core University strategies. Its goal is to set out Newcastle University’s ambitions and guiding principles in Business and Innovation, from which more specific initiatives will stem, including new policies and practices, revised structures and ways of working. It is designed to support a pivot across the whole University to a more place-based and

innovation-led approach to education and research which embeds partnership and collaboration at the core of the University's activities. It is important to note that a place-based approach does not imply geographical boundaries (i.e. confining this Strategic Plan only to the geographical region(s) where Newcastle University is based), it is about seizing opportunities locally, national and internationally. This is sometimes referred to as *Place+*.

Besides embedding business and innovation in all our four existing strategies, we need to ensure that our internal environment across the University is more oriented towards external needs and opportunities. We can do this by:

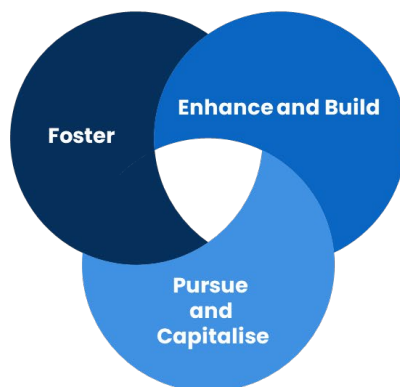
- being better attuned to the needs of our current and prospective partners, and ensuring we are working to meet those needs;
- recognising that the best research is often that which is co-produced with partners, answering both academic and non-academic questions;
- having better, more forward-looking relationship management with external partners;
- having better internal relationship management and service join up;
- unlocking the entrepreneurialism of our staff and students;
- doing more to incentivise and reward commercial work;
- fostering more proactive engagement between BDE, academic and professional service colleagues;
- focussing on interdisciplinary and intersectoral approaches and partnerships with businesses and external agencies that extend the reach and impact of our research;
- equipping colleagues and PGR students at all career stages with the skills to contribute to research and development in the academic, commercial, public and voluntary sectors;
- embedding business and innovation in our Education for Life strategy as part of students' encounters with the 'leading-edge' in their subjects;
- better understanding the future training and skills needs of our business partners;
- identifying and maintaining focus on our key areas of opportunity ('Innovation Accelerators') such as Electrification in the North East, and the Health Innovation Neighbourhood;
- ensuring our innovation structures and assets, including our National Innovation Centres, are set up to succeed and can provide effective and sustainable pathways for Knowledge Exchange, innovation and impact;
- generating partnerships with businesses and other organisations in all the places we operate, including Singapore and Malaysia, as well as wherever across the globe our research, teaching and skills development can have an impact.

## 5. Guiding Principles

Three broad, pervasive and interconnecting principles run throughout our Strategic Plan, and are summarised in this diagram:

### **FOSTER INNOVATION**

by encouraging and supporting a culture of entrepreneurialism across the University.



### **ENHANCE RESPONSIVENESS & BUILD SUSTAINABLE RELATIONSHIPS**

to align our offer with the changing requirements of business, creating productive collaborations.

### **PURSUE AND CAPITALISE ON OPPORTUNITIES**

to ensure we leverage the University's capabilities to maximise our impact.

Fig. 2: Guiding principles

By embedding these principles across the University, the Strategic Plan aims to establish the best underlying environment for achieving our vision.

## 6. Stakeholders

There are five main stakeholder groups at the heart of our strategic plan:

- **our students:** we must provide high-quality teaching and learning experiences that cultivate the curiosity and creativity of students and develop them as future innovators and entrepreneurs in their fields; we need to provide them with encounters with the 'leading edge', not only in their academic disciplines, but also often through engagement with the work of external partners.
- **our colleagues:** we must encourage the professional growth of colleagues, including both academic and professional services, by providing them with the training, support and collaborative opportunities they need, and by recognising their achievements.
- **our business partners:** we must build and maintain mutually beneficial relationships with local, regional, national and global businesses, policy-makers, charities and NGOs to forge lasting and mutually beneficial partnerships as exemplified by our work with Newcastle Health Innovation Partners, charities and VSCEs, cultural and arts organisations, and other partners.
- **our government partners,** at local and regional level (notably Newcastle City Council and NEMCA), but also nationally and in the places in which we operate across the world.
- **our alumni:** we must build and support a strong network of alumni who will be willing to act as role models and ambassadors for innovation and entrepreneurship.

## 7. Delivery Objectives

To achieve our vision, and guided by our values, we have set ourselves four objectives.

<b>Objective 1: Develop our environment to better support enterprise and innovation, across the whole University, in all the places in which we work</b>	
<b>Rationale:</b> Enterprise and innovation are key to enhancing the impact of our education and research and are also important drivers of the distinctiveness and quality of our research, our educational offer, and our Knowledge Exchange credentials. Through incentivisation, support, recognition and reward we will further encourage colleagues to generate and apply new ideas, discoveries and inventions that can benefit society and the economy.	
<b>By 2027, we will have:</b>	<ul style="list-style-type: none"> <li>• reviewed our staff recruitment, selection, induction, review and reward practices to promote and incentivise innovation and knowledge exchange.</li> <li>• aligned our policies with sector best practices to encourage the involvement of colleagues in consultancy and commercialisation, including IP policy and licensing arrangements.</li> <li>• established a programme of training and development for colleagues to understand the value of innovation and enterprise, and opportunities for involvement.</li> <li>• undertaken an options appraisal and provided recommendations for a revised structure for the BDE team including for example consideration of a Business Partner model to act as a bridge between BDE and Faculties.</li> <li>• refreshed our Enterprise Academy, alongside our Global Challenges Academy, to provide a dedicated support service for students, colleagues and alumni who want to develop their entrepreneurial mindset, skills, and networks.</li> <li>• established a model for existing and new National Innovation Centres (or equivalents) that is financially sustainable and optimises opportunities for innovation and skills delivery.</li> </ul>
<b>By 2030, we will have:</b>	<ul style="list-style-type: none"> <li>• considered and implemented new opportunities for colleagues to develop knowledge exchange and technology transfer, such as secondments, sabbaticals and training programmes.</li> <li>• developed a recruitment and retention strategy that brings and keeps world-leading research and innovation capabilities at Newcastle University in the areas that businesses are most interested in.</li> <li>• embedded a culture of entrepreneurialism among our students, providing opportunities and support for them to think broadly and critically, be creative, innovative and take risks.</li> </ul>

<b>Objective 2: Attune our work to external demand and actively promote our expertise and capabilities</b>
<b>Rationale:</b> By better understanding and aligning our offer with external needs, we can strengthen and develop our collaboration and engagement with partners from the business, public, charity and VCSE sectors, creating mutual benefit and impact. This includes external and prospective partners, both in our region and in the other locations around the world in which we operate. We must also be clear in articulating our strengths as a university, and the knowledge and skills we

possess that can be brought to bear to tackle real-world challenges in collaboration with our partners.	
<b>By 2027, we will have:</b>	<ul style="list-style-type: none"> <li>• conducted an audit of our relationships with business and industry, and in the public, cultural and VCSE sectors, and identified our principal strategic partners.</li> <li>• engaged with our strategic partners to identify areas of existing and potential demand for the University's expertise and skills.</li> <li>• engaged with our partners to identify areas of 'leading edge' educational opportunities for our students.</li> <li>• developed a compelling offer for businesses and innovation partners, using the NUShape process to ensure all academic units and NUCoREs are successfully articulating their offers.</li> </ul>
<b>By 2030, we will have:</b>	<ul style="list-style-type: none"> <li>• developed an enhanced Knowledge Exchange portfolio across the University, articulating our strengths in research and education, with the means of continual review and enhancement.</li> <li>• collaborated with our external partners to align our needs, informing our planning processes, including staff recruitment, curriculum development, professional services organisation, and training.</li> </ul>

### **Objective 3: Generate and maintain meaningful external partnerships**

**Rationale:** Meaningful partnerships, with the potential to evolve and endure, are crucial for the future of the University. This pertains to the North East of England as well as nationally and globally. We need to ensure that existing partnerships can grow, and that we continually identify new prospective partners, carefully nurturing all these relationships.

<b>By 2027, we will have:</b>	<ul style="list-style-type: none"> <li>• optimised our CRM system to support the work of BDE.</li> <li>• developed a plan to improve Newcastle University's stewardship of relationships with business and other partners.</li> <li>• developed a proactive, agile, responsive, professional, and global approach to engaging with businesses and innovation partners.</li> </ul>
<b>By 2030, we will have:</b>	<ul style="list-style-type: none"> <li>• created workforce development programmes for our external partners through a consultative market needs-based approach to establish professional programmes and apprenticeships in collaboration with industry.</li> <li>• become more active in continuing relationships with spin-out and start-up businesses that have originated at Newcastle University.</li> <li>• established a national leadership position in the development of global investment corridors with our key international partners.</li> <li>• created a framework to foster and leverage the external relationships provided by our alumni, working with Advancement.</li> </ul>



**Objective 4: Grow our collaborative portfolio, expanding the number, range and sustainability of our innovative and commercial interactions**

**Rationale:** Increasing and broadening our interactions with businesses and other partners will enhance our reputation and influence as a leading institution for applied research, innovation, and impact, locally, nationally, and globally. Innovation will also underpin the impact that our research and teaching have, ensuring we achieve the University’s vision to advance knowledge, provide creative solutions and solve global problems. Collaborative research with industry and commercialisation of our research will grow the University’s income.

**By 2027, we will have:**

- increased the opportunities for businesses to be part of our on-campus community.
- established a joined-up and coherent Professors of Practice community, ensuring their expertise benefits the University through leading innovation activities.
- gained informed insight into the future training and skills needs of our business and innovation partners.

**By 2030, we will have:**

- positioned ourselves as the go-to University in the North East of England, the UK and South East Asia for business engagement.
- identified and progressed a small number of keystone innovation projects able to attract substantial governmental investment, in the UK, and our Singapore and Malaysia campuses.
- developed degree programmes and short courses that address the future skills needs of our business and innovation partners.
- generated commercialisation activity that measurably contributes to the financial sustainability and growth of the University.

**8. Outcome Measures**

To ensure the University is fulfilling its vision, we need measures of success for all the objectives set out in this Strategic Plan. To monitor performance, we will use a basket of measures, making use of existing data with robust mechanisms already in place for collection, as well as establishing new metrics. We will monitor the effectiveness of these and adapt as required throughout the course of this plan so that we make progress towards the outputs and outcomes. Below are examples of measures we may use. In developing the implementation plan and programme of work to deliver this Strategic Plan we will assess and select the most appropriate measures based on their level of alignment with the objectives and thus our vision.

**Measures of success**

**External validation**

- Improved KEF performance, particularly for those profiles in which we currently lag;
- Increased number of collaborative doctoral training centres/programmes;
- Improvement in KEF metric on cash contribution to collaborative research;
- Increased number of other research awards with named collaborators;
- Enhanced scores in Impact sub-profiles in REF2029;
- HEBCIS, e.g. Top 3 in the UK based on turnover; Top 5 in in the UK based on graduate investment; Top 5 in the UK based on employment;
- THE World University Rankings for industry;

- Improvement in relevant questions in the PRES survey (e.g. 'development of contacts or professional networks') and overall scores;
- Improved QS Ranking: Employment Outcomes.

### **Growth in activity**

- Annual targets for new business partnerships (regional, national and global);
- Annual targets for growth in new doctoral programmes and collaborative research awards;
- Number and quality of KTPs;
- Number of student start-ups;
- Number of staff/students engaging with business and innovation skills development opportunities (e.g. Enterprise Academy).

### **Income**

- Total consultancy and research turnover as a measure of the strength of our strategic partnerships with business and innovation partners;
- Increased portfolio of collaborative research programmes, developed and delivered in cooperation with non-academic partners;
- Significant uplift in the value of our spin-out businesses;
- Income from Innovate UK and national and international equivalents;
- Income from Singaporean and Malaysian sources to support innovation, including Government funding;
- Research income from industry;
- Income deriving from IP.

Due to the retrospective nature of these outcome measures (lagging indicators), we will use in-year data to help monitor the delivery of our objectives and track progress. These will be our 'Leading Indicators'. We will also use qualitative measures of success. The details of all of this will be determined alongside the development of the implementation plan by the new Director of BDE.

## Appendix A

### Glossary of Terms

**Collaborative Research** is research projects with public funding from at least one public body, and a material contribution from at least one external non-academic collaborator. The collaborative contribution may be cash or 'in kind', specified in a collaborative agreement and auditable. In-kind contributions include contributions to the project from the non-academic collaborators (for example staff time, use of equipment and other resources, materials, provision of data etc.) as described in a project collaboration agreement.

**Contract Research** is commissioned and paid for directly by an external organisation to be carried out by researchers at the University. It will usually be focussed on finding a solution to a specific business need and will have a pre-determined and carefully defined scope and duration. Typically, the commissioning organisation will own any IP created.

**Commercialisation** is the process of transforming research outputs or ideas into products, services, or processes that can be sold or used in the market. Commercialisation can help to generate income and impact for the University and meet the needs and demands of customers or users. Commercialisation can take various forms, such as licensing, spin-outs, spin-ins, or joint ventures. The University's BDE team works towards the protection and commercialisation of research outcomes (intellectual property rights) and signing commercial deals with external organisations. This includes evaluating inventions and discoveries, filing patents, securing translational funding awards, forming spin-out companies and joint ventures, and negotiating license agreements.

**Consultancy** is the process of providing expert advice or related services to external clients or organisations based on the knowledge or skills of a university's staff or students. Consultancy can help to enhance the reputation and visibility of the University and create opportunities for collaboration and learning.

**Innovation** is the process of translating ideas and research into new or improved products, services, processes, or technologies that create value for society. It contributes to economic development, social progress, and the advancement of knowledge.

**Intellectual Property (IP):** Research leads to the discovery of many new things, including scientific inventions, new drugs, artistic works, designs, names, images, any and all of which constitute forms of IP. These often have commercial value. IP is protected by law, such as patents, copyrights, trademarks, and trade secrets, which enable the creators or owners of IP to earn recognition or financial benefit from their work. IP protection also aims to balance the interests of innovators and the public interest, and to foster an environment where creativity and innovation can flourish.

**Specialist Facilities and Equipment:** The University offers third parties access and know-how to a wide range of technical facilities and equipment available on a flexible commercial basis.

**Spin-outs** are start-up companies that are created based on intellectual property (IP) generated through a university's research, typically by individual academics and/or students, or in teams. Spin-outs can transfer knowledge and technology from universities to the market and generate economic and social value. Spin-outs usually involve the university and the academic founders as shareholders and may receive university support e in terms of facilities, mentoring and funding, including arranging for an investment of external capital.