# Contents

## Key findings
- SHAPE knowledge exchange is thriving
- SHAPE knowledge exchange benefits society
- SHAPE knowledge exchange impacts are diverse
- The future of KEF and excellence in SHAPE knowledge exchange

## The policy landscape for knowledge exchange
- What is knowledge exchange
- Knowledge exchange in policy
- Funding for knowledge exchange
- The Knowledge Exchange Framework in England
- Knowledge exchange in SHAPE disciplines

## SHAPE knowledge exchange in action
- Subjects and types of knowledge exchange: the case study grid
- Research Partnerships
- Working with Business
- Working with the Public and Third Sector
- Skills, Enterprise and Entrepreneurship
- Local Growth and Regeneration
- Intellectual Property and Commercialisation
- Public and Community Engagement
- Policy Engagement and Influence
- Engaging Schools and Colleges
- Equality, Diversity and Inclusion

## About the Academy
SHAPE (Social Sciences, Humanities & the Arts for People and the Economy) subjects help people understand their place in the world. They shape and inform public policy to drive societal good. They support the translation of research into products, services, ideas and actions through the understanding of behaviour in markets, people and economies. This creates broad benefits for society, allowing the UK to realise its ambitions as a more innovative, productive, and inclusive economy and society.

This report demonstrates that SHAPE disciplines are consistently involved in vital knowledge exchange. It argues that this knowledge exchange is key to government, higher education and societal priorities and it makes recommendations for further development of the Knowledge Exchange Framework (KEF) to better capture this value.

Based on these findings and the collection of case studies in this report, we encourage:

- **Policymakers** to recognise SHAPE’s essential role in business, government, education and society.
- **Researchers, educators and students of SHAPE** to consider how their work benefits from external opportunities.
- **University research managers** to capture SHAPE connections and collaborations with business, services and communities.

When the knowledge and skills of SHAPE research are shared and co-produced, the benefits are felt across the UK. This involves a two-way process whereby knowledge is generated and shared from universities, but also informed by perspectives from research users such as business and wider society.

This process of knowledge sharing is known as knowledge exchange and encompasses the diverse connections and collaborations universities have with businesses, public services and communities. Knowledge exchange allows information to move in both directions, from defined contractual arrangements such as commercialising research outputs, data sharing and joint funding, to softer interactions such as informal consultation and influence, and the sharing of experiences, and skills development.

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**SHAPE stands for Social Sciences, Humanities and the Arts for People and the Economy**

SHAPE is a new collective name for those subjects that help us understand ourselves, others and the human world around us. They provide us with the methods and forms of expression we need to build better, deeper, more colourful and more valuable lives for all.

These disciplines help turn innovation into reality and data into solutions; translate social and economic uncertainty into logical and ethical systems; transform the everyday through original articulations and expressions. They teach us to research, analyse, understand, interpret, communicate, create and collaborate, with rigour, clarity and energy – skills crucial to success for today’s society.
The social and economic rewards of effective knowledge exchange are great: creating new organisations provides employment; product and service innovations improve lives; and engaging the wider public promotes knowledge, skills and experiences. Recognising the importance of knowledge exchange, the Knowledge Exchange Framework (KEF) was developed by Research England in 2017 as an annual exercise to assess performance within the higher education sector. The first iteration of the KEF ran in 2020 with the results released in April 2021. These results offer an assessment of knowledge exchange against a series of metrics and optional text statements.

To deepen this picture and highlight the role of SHAPE disciplines in this vital activity, this report brings together examples of knowledge exchange being realised by teams within universities across the UK and celebrates the diversity of its activities, collaborators, and benefits. These case studies were selected for the breadth of disciplinary activity they represent and the range of ways their impacts map against the seven perspectives of the KEF and beyond.

Through compiling these case studies, we have three main findings about SHAPE knowledge exchange: it is thriving, it benefits society, and it has a diverse range of benefits. We also highlight the ways that different actors across the sector can recognise and demonstrate the value of SHAPE knowledge exchange, both in specific assessments like the KEF, and in broader ways of working.

**SHAPE knowledge exchange is thriving**

The case studies in this report demonstrate that knowledge exchange is deeply embedded and pervasive within SHAPE research and education, across all subjects and the full spectrum of knowledge exchange activities. Its realisation takes many forms, from co-producing best practice and skills development in policing services (page 21), to underpinning new start-up companies (page 28), to shaping public debate (page 16).

There is a growing community of knowledge exchange professionals, and networks of institutions across Europe, finding new ways to build relationships between SHAPE researchers and businesses, public organisations, and communities.

**SHAPE knowledge exchange benefits society**

We see from the case studies that there is an opportunity to better understand, capture and celebrate SHAPE contributions to knowledge exchange and wider society. For example, knowledge exchange between SHAPE researchers and the public (see page 32) can help address distrust of experts and social divisions as well as improving public perception of the contribution made by these subjects.

In addition to the case studies in this report, we know that knowledge exchange involving SHAPE has informed the global response to and recovery from the COVID-19 pandemic. SHAPE expertise has been mobilised through the UK Government’s Scientific Advisory Group for Emergencies (SAGE) and supporting sub-groups, the community building work of the Civic University Network, and programmes such as the British Academy’s SHAPE the Future and COVID-19 and

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2. For more information about SAGE please see https://www.gov.uk/government/organisations/scientific-advisory-group-for-emergencies
3. For more information about the Civic University Network please see https://civicuniversitynetwork.co.uk/
Key findings

Society programme. Indeed several organisations and activities highlighted in the case studies have contributed greatly to better understanding and decision-making around the pandemic including The Nuffield Council on BioEthics (page 16) and LSE’s Centre for Policy and Evaluation (page 37).

The benefits of SHAPE knowledge exchange are diverse

This report includes examples of SHAPE knowledge exchange that illustrate every perspective of the KEF (the concept of ‘perspectives’ is explained further below). These examples show that knowledge exchange is not just measured by metrics; it exists and has impact outside of these measures.

Students and staff in SHAPE work, for example, to support police to reduce domestic abuse and better support victims (page 21); to give leaders the evidence they need to make hard decisions about public spending (page 37); to enrich and regenerate local communities (page 33); and to give people enjoyable and profound experiences (page 34), the effects of which are all difficult to measure and quantify.

The magnitudes and range of benefits presented here in these case studies demonstrate the significant role SHAPE must play in knowledge exchange and its value across wider government agendas. Moreover, the quality of this activity compels us to draw attention to the areas of SHAPE knowledge exchange which offer impact beyond the current assessment methods and recommend that further development of the KEF consider how best to capture and celebrate these outcomes.

The future of KEF and excellence in SHAPE knowledge exchange

Based on the three findings above and the collection of case studies in this report, we encourage:

- **Research, skills and knowledge exchange policymakers** to recognise SHAPE’s essential role in government, education and society, and consider further development of the KEF to better capture this value.

- **Researchers, educators and students** of the arts, humanities and social sciences to consider their work through a knowledge exchange lens and recognise how their work can benefit from different external opportunities.

- **University research managers** and those submitting to KEF in future to recognise and capture the powerful, valuable and fascinating activities of SHAPE disciplines to connect, co-produce and collaborate with business, services and communities.

The SHAPE teaching, research and knowledge exchange carried out in universities across the UK are vital and valuable national and local assets that can be harnessed and mobilised for a range of benefits. The KEF is designed to recognise these benefits, realised through university engagement with external partners. As the case studies in this report show, the seven perspectives around which the KEF is structured do capture a diverse array of these activities to provide an assessment of the strength of knowledge exchange. But knowledge exchange activities are dynamic, and so a framework to measure them will need to keep pace with change.

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4 For more information on these programmes, see COVID-19 and Society: Shaping the COVID Decade, [https://www.thebritishacademy.ac.uk/projects/covid-decade/](https://www.thebritishacademy.ac.uk/projects/covid-decade/)
Research England has indicated that the KEF will evolve to capture more activities and collect better evidence if needed. Our case studies indicate that for SHAPE disciplines, there are three additional areas in which universities are already undertaking activity. These areas provide wider understanding of how, and why, knowledge exchange occurs, and the impacts it can have:

**Policy Engagement and Influence (page 36)**

While policy engagement can be included within Research Partnerships and working with the public sector in the current KEF, the form of assessment of these two perspectives does not capture the full nature of policy engagement and the knowledge exchange that occurs within it, which cannot be reduced to income generated or human resources involved.

**Engaging Schools and Colleges (page 38)**

Universities, schools and colleges work together in many ways to share subject expertise, improve their offering to pupils and students, make education more effective and train the future teaching workforce. This is a vital area of knowledge exchange for the skills ecosystem.

**Equality, Diversity and Inclusion (page 40)**

The UK higher education funding bodies are committed to supporting and promoting Equality, Diversity and Inclusion (EDI) in research assessment. However, there are currently no explicit metrics, narratives or perspectives capturing Equality, Diversity and Inclusion dimensions in the KEF. Knowledge exchange activities can be those with the greatest leverage over widening participation and reducing inequality.
The policy landscape for knowledge exchange

What is knowledge exchange?

Knowledge exchange describes the connections and collaborations that universities have with businesses, public services and communities. It involves individuals inside and outside of universities engaging in a variety of ways, allowing knowledge and ideas to move between creators and users, and the co-production of new insights and methods. This can involve pure joint research, sharing expertise on skills, offering experiences and insights, and sharing data and evidence. Knowledge exchange can be achieved through one-to-one relationships, groups and networks, or large communities, and involve the sharing of evidence, experience or people.

Crucially, and as the case studies presented here demonstrate, knowledge exchange operates in both directions. Wider society can apply the knowledge and skills generated in universities, and insights from the wider world inspire the research and teaching within universities. Knowledge exchange places an emphasis on mutual benefits in contrast to the often-unidirectional nature of research ‘impact’.

Knowledge exchange in policy

The idea of government promoting and incentivising universities to work with businesses, public services, local organisations and engaging the public is not new. Civic engagement has long been recognised as the ‘third mission’ of higher education, and over the last 25 years this type of work has been realised as: ‘regional impact’ and ‘engaging localities’;5 ‘spreading innovation’ and ‘research translation’;6 and as ‘technology transfer’.7

5 UK government 1997 Higher Education in the learning society
6 UK Government 2011 Innovation Health and Wealth
7 University Knowledge Exchange (KE) Framework: good practice in technology transfer
The policy landscape for knowledge exchange

Widespread adoption of, and increases in, knowledge exchange will be vital to the UK economy as the Government strives to achieve an increase in R&D spending to 3% of GDP. Much of this investment will need to be produced by private investment which will only happen by creating wider and deeper networks across institutions, sectors and systems, based on authentic relationships working on mutually beneficial collaborations and exchanges of knowledge. It also requires stronger trust between partners, and between funders, policy makers, and recipients.\(^8\)

In order to improve institution networks, knowledge exchange activities need to be better captured, measured, and evaluated. In 2017, the Minister for Universities and Science announced the inception of the Knowledge Exchange Framework (KEF), an ambitious new initiative to bring together a comprehensive range of measures of impact from collaboration and knowledge exchange.\(^9\)

Research England is responsible for the delivery of the KEF, and it is intended to become a crucial public indicator of the success of universities at discharging their third mission: knowledge exchange and engagement. This ambition was cemented in the UK Industrial Strategy white paper in November 2017,\(^10\) and more recently in the UK Research and Development Roadmap, published in July 2020.\(^11\) The roadmap considers how knowledge exchange can become more resilient and efficient to capitalise on the economic and social benefits of research, ensuring better outcomes from public funding, tackling productivity gaps and reducing regional imbalances in R&D intensity.

**Funding for knowledge exchange**

Funding for knowledge exchange usually sits within larger packages of support for research and innovation. Responsibility for knowledge exchange policy and funding sits with different bodies across the four nations of the UK. In Scotland, the Scottish Funding Council has a Research and Knowledge Exchange Committee which advises on strategy, policy and funding.\(^12\) In Wales, knowledge exchange policy is integral to the Research and Innovation Vision for Wales set by the Higher Education Funding Council for Wales.\(^13\) And in Northern Ireland, knowledge exchange policy and funding is managed by the Department for the Economy.\(^14\) Research England, as part of UKRI, has responsibility for knowledge exchange in England and is the architect of the KEF.

Due to its remit over England, Research England is the largest provider of financial incentives and support for knowledge exchange. This funding recently increased at its greatest pace since the Higher Education Innovation Fund (HEIF) began in 2003: HEIF institutional allocations have grown from £160m in 2016-17 to £250m in 2020-21.\(^15\) HEIF provides funding to English universities to reward and build on ‘third stream’ activities that ‘reach-out to business and the community’ and enhance the contribution of higher education to the economy and society.\(^16\)

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\(^8\) The British Academy 2021 Place-Based Approaches to Research Funding [https://www.thebritishacademy.ac.uk/documents/3242/Place-Based-Approaches-Research-Funding.pdf](https://www.thebritishacademy.ac.uk/documents/3242/Place-Based-Approaches-Research-Funding.pdf)


\(^12\) Scottish Funding Council Research and Knowledge Exchange Committee [http://www.sfc.ac.uk/about-sfc/council-committees/research-knowledge-exchange-committee/research-knowledge-exchange-committee.aspx](http://www.sfc.ac.uk/about-sfc/council-committees/research-knowledge-exchange-committee/research-knowledge-exchange-committee.aspx)


\(^14\) Northern Ireland Higher Education Knowledge Exchange [https://www.economy-ni.gov.uk/articles/higher-education-knowledge-exchange](https://www.economy-ni.gov.uk/articles/higher-education-knowledge-exchange)


\(^16\) HEFCE 2006 Higher Education Innovation Fund Summary evaluation of the first round (2001-05) [https://dera.ioe.ac.uk/5902/1/rd03_06.pdf](https://dera.ioe.ac.uk/5902/1/rd03_06.pdf)
The Knowledge Exchange Framework in England

The KEF aims to be an assessment process recording and comparing how effective universities are at knowledge exchange, and through this creating a competitive but constructive dynamic. The assessment uses a combination of pre-existing metrics - largely derived from statutory returns – supplemented by narrative statements to offer contextual information.

The first iteration of the KEF ran in 2020 and all universities in receipt of HEIF income were included. Institutions which were eligible for HEIF in 2019-20 but did not receive funding were encouraged to participate. As the metrics used are pre-existing, the burden on universities is reasonable, but all participating universities were strongly encouraged to submit optional, supportive narrative statements reflecting on their institutional context and to address two KEF perspectives, which has involved serious reflection on their KE strategies.

The outcomes of the KEF were published in March 2021 in the form of data dashboards for each institution, rather than by individual subjects, with perspectives expressed as deciles. Universities have been grouped into seven ‘Clusters’, so that comparisons are of similar universities.17

The KEF categorises different types of knowledge exchange activities in a framework of seven ‘perspectives’. These perspectives capture just some of the ways that the knowledge and skills within universities can be used by wider society, and how wider society can inform university education and research. In the KEF the seven perspectives are:

- Research Partnerships (with non-academic partners)
- Working with Business
- Working with the Public and Third Sector
- Skills, Enterprise and Entrepreneurship
- Local Growth and Regeneration
- Intellectual Property and Commercialisation
- Public and Community Engagement

As the case studies in this report show, a single knowledge exchange programme can include a range of these elements or ‘perspectives’. For example, many local regeneration projects involve boosting local enterprise, leveraging university partnerships with business, as well as public or community engagement.

The Knowledge Exchange Concordat

Alongside the KEF, the Concordat for the Advancement of Knowledge Exchange in Higher Education supports universities to develop their knowledge exchange objectives relevant to the nature of the institution, and to improve their performance against these objectives.18

Measuring knowledge exchange in the KEF

The majority of the knowledge exchange measures which are used in the assessment process are metrics derived from the Higher Education Business and Community Interaction Survey (HE-BCIs).19 This is a UK-wide data collection measuring the ‘third stream’ activities of universities including research, consultancy and equipment hire services, patents, licensing, intellectual property and spinouts, public outreach engagements and other engagement activity.

Research England acknowledges that many aspects of knowledge exchange cannot be quantified as it relates to relationships, influence and long timescales of change. There are therefore voluntary ‘narrative’ sections to better capture institutional context, Local Growth and Regeneration, and Public and Community Engagement. While these were not compulsory – at least for this first iteration of KEF – they were strongly encouraged to add valuable contextual information to the KEF metrics.

In the first results published March 2021,20 a summary of the institutional context accompanies each dashboard and a majority, not all, institutions submitted narrative statements.

Research England has also been clear that the narrative statements offer the potential to identify future metrics that may be incorporated into future iterations of the KEF.21 This is particularly important for knowledge exchange deriving from SHAPE disciplines, which as we explore in this report, are not always well captured and accounted for in the quantitative-based metrics.

Knowledge exchange in SHAPE disciplines

This report includes examples of SHAPE knowledge exchange illustrating every metric in the KEF. But knowledge exchange is not just measured by metrics; it exists and has impact outside of these measures. The UK National Academies have previously explored the challenges of measuring the outcomes which derive from research and found that the benefits and influences that humanities and social sciences have, are often hard to measure. These include cultural impact, engaging the public to improve understanding of climate change, or driving social cohesion.22

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18 Knowledge Exchange Concordat https://www.keconcordat.ac.uk/
20 UKRI Knowledge Exchange Framework https://kef.ac.uk/
These types of impact have been especially evident as the UK has experienced the COVID-19 pandemic; knowledge exchange between SHAPE researchers and the public can help address distrust of experts by applying understanding of human behaviour, the access to information and the spread of disinformation.

The magnitudes and ranges of benefits presented in the case studies here demonstrate the significant role SHAPE must play in knowledge exchange and its value across wider government agendas. To increase investment in research and development and increase UK innovation, greater awareness of the strengths of the UK higher education sector across its broad and diverse range of disciplines is needed. These strengths are evidenced through the rest of this report in the array of examples surfaced. These case studies demonstrate how knowledge exchange in SHAPE disciplines involves a range of intellectual property, engagement and collaborations, and results in many benefits in the wider world.

24 National Co-ordinating Centre for Public Engagement https://www.publicengagement.ac.uk/about-engagement/current-policy-landscape;
SHAPE knowledge exchange in action

This section presents 17 case studies collected by The British Academy illustrating that all SHAPE subjects and departments, in all types of institution and from across the UK, perform vital and valuable knowledge exchange. Further, the examples demonstrate the vast range of different types and benefits of knowledge exchange, far beyond more technical concepts of technology transfer, Intellectual Property and Commercialisation. Finally, this exploration identifies additional knowledge exchange activities to those detailed in the perspectives of the Knowledge Exchange Framework.

The case studies are not comprehensive nor exhaustive but rather aim to capture the great range of subjects, activities and outcomes. These case studies were identified to illustrate each perspective of the KEF and they represent a broad range of SHAPE disciplines, reiterating the prevalence of knowledge exchange in SHAPE. In researching these examples, we have also been able to identify and demonstrate the additional activities of knowledge exchange which demonstrate value, but which are not directly captured in the KEF.

In this report, case studies are presented in collections by type of knowledge exchange, starting with Research Partnerships (page 14), Working with Business (page 17), Working with the Public and Third Sector (page 20), Skills, Enterprise and Entrepreneurship (page 23), Local Growth and Regeneration (page 26), Intellectual Property and Commercialisation (page 29), and Public and Community Engagement (page 32).

Three additional types of knowledge exchange arising from this analysis are included to capture a greater variety of activities and benefits. They are Policy Engagement and Influence (page 36), Engaging Schools and Colleges (page 38) and Equality, Diversity and Inclusion (page 41).

Each collection contains a summary of the perspective and the ways in which it is measure, along with case studies of examples in SHAPE. To help navigate this, the case study grid diagram (over) illustrates which perspective(s) and subject(s) are represented by each case study. The diagram only presents the limited examples captured for this report, but examples can be found from a UK SHAPE department for almost any intersection of the grid.
Subjects and types of knowledge exchange

The 17 SHAPE case studies in this report are represented in the diagram below with each SHAPE subject area (left) and the knowledge exchange perspective from the KEF including additional activities* (right). Each case study is represented by the lines bridging the subjects and knowledge exchange activities, and the diagram illustrates how all SHAPE subjects conduct knowledge exchange, and this can be any type of interaction.
Research Partnerships

Research Partnerships in higher education terminology describe a vast range of collaborations, including with business or government departments, but for the KEF the concept refers specifically to when university researchers perform *publicly sponsored* research funded by charities, public and not-for-profit organisations.\(^{25}\)

This work can involve multiple universities, departments and non-academic organisations, even private firms working around a specific project or programme. Outcomes can take the form of joint authorship on academic articles and reports, but also the formation of new joint research organisations that draw upon academics from multiple universities and other organisations.

Research partnership funding ranges from a single grant between two partners, to a multi-partner research programme. The value of collaborative research in UK universities (excluding in-kind contributions) totalled £156m in 2018/19, representing 14% of total public funding.\(^{26}\)

The key benefits of this form of knowledge exchange include:

- being able to assemble a multidisciplinary research workforce representing the range of specialties required by the research problem
- university students and staff being able to work with non-academic experts who have different working methods and approaches to research problems
- the ability to share data and research methods
- equipment and resource sharing
- achieving greater influence and impact both through the combined authority of the organisations and researchers, and through the ability to address more specialist and complex research areas

Research Partnerships in the KEF are captured firstly by the value of all collaborative public research funding coming into the university and secondly by the number of reports and articles co-produced with a non-academic partner, as shown in the table below:

**Table 1: KEF metrics for Research Partnerships**\(^{27}\)

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Partnerships</td>
<td>Contribution to collaborative research (Cash) as proportion of public funding</td>
<td>• Higher Education Business and Community Interaction Survey</td>
</tr>
<tr>
<td></td>
<td>Co-authorship with non-academic partners as a proportion of total outputs</td>
<td>• Data provider to be decided</td>
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</tbody>
</table>

\(^{25}\) https://www.hesa.ac.uk/collection/c16032/hebci_b_table_1

\(^{26}\) https://www.hesa.ac.uk/data-and-analysis/providers/business-community/table-1

Seeing Data
Making data communicate better

Key case study disciplines
Sociology, Social Policy and Anthropology, Communications and Media, Politics

Types of knowledge exchange
Research Partnerships, Skills, Enterprise and Entrepreneurship

Seeing Data is an ongoing collaboration to help understand how data is currently presented to the public, how this can be done better to communicate messages and information, and how data literacy skills can be improved in the populace.

Data are more and more common, and they are assumed to be able to explain our social world. The main way that the public encounters big data is through visualisations. Visualisations are increasingly widely circulated, online, in the mainstream media, and elsewhere.

Yet in spite of our increasing exposure to visualisations, and our reliance on their ability to tell us ‘truths’, we don’t know much about how people respond to them. How effective are they? What might ‘effective’ mean? Are effective big data visualisations possible? What skills and literacies do people need in order to make sense of them? The main goal of Seeing Data is to fill this gap in knowledge by improving our understanding of how people engage with data visualisations.

The partnership led to several journal articles, books, book chapters, blogs, podcasts and other outputs that aim to; improve practice and engagement in data visualisation, better present data based on textual analysis and improve data design among other practical lessons for anyone presenting data.

After the initial Seeing Data research into human and design factors that influence engagement and effectiveness, further related collaborations have included Developing Data Visualisation Literacy skills, Relating to Data through Visualisation, Innovative Data in the News and Persuasive Data.

Since the initial UKRI commission in 2014, the research network has matured and evolved. Further funding has been secured from the ESRC (Economic and Social Research Council)’s White Rose Doctoral Training Centre (WRDTC), AHRC and Norwegian Research Council. The research has spawned six collaborative academic papers and two book chapters.
Society is facing a range of challenging health and care pressures including ageing populations, growing health inequalities, threats of infectious diseases, medication-resistant microbes and rapid technological change. Specific developments in medical science from genomics to artificial intelligence can help mitigate these challenges. For such developments to be effective, it is crucial to understand the social, cultural, political, ethical and economic context alongside the bioscience.29

The Nuffield Council on Bioethics is an independent body formed of senior academics from a range of universities and departments that examines and advises on ethical issues arising from developments in bioscience and health. The centre works to identify ethical health dilemmas, manage in-depth inquiries into the issues, and make recommendations to Government and influence policy and media debates.

The council comprises a majority of practitioners and leading academics from SHAPE disciplines including Philosophy, and Political Philosophy, Law, Sociology and Social Political Sciences, and Islamic Studies.30 The council was established by the Trustees of the Nuffield Foundation in 1991, and since 1994 it has been funded jointly by the Foundation, Wellcome and the Medical Research Council.

Topics range from the beginning of life, to animals, food and environment and even data and technology. Over the COVID-19 pandemic, the council has been working to provide support, information and advice to ensure that ethics is a key consideration in rapidly developing government and societal responses to the pandemic.31 This guidance has covered a wide range of societal issues including the ethics of quarantine surveillance, vaccine prioritisation and the use of ‘immunity certificates’ or vaccine passports.32 These insights have been delivered through reports and also targeted webinars.33

University-business partnerships are typically lucrative: income received by UK higher education institutions from knowledge exchange activities with business totalled £1.1bn in the 2018-2019 academic year. This figure has grown significantly over the last 10 years, cementing knowledge exchange as a crucial activity for the strategy of the sector.

Generating these levels of income from Working with Business – both small and large - requires strong partnerships built on authentic and trusted relationships, often carefully developed over long periods of time.

This type of knowledge exchange activity may well involve multiple KEF dimensions: Research Partnerships; Skills, Enterprise and Entrepreneurship; Local Growth and Regeneration; or Intellectual Property and Commercialisation.

These activities allow both business and universities to develop ideas and solutions and to improve performance through access to research, technology and skills. Further, university students and staff benefit from exposure to the knowledge, skills and ways of working of corporations helping to develop employability skills.

But Working with Business is neither simple nor easy, though the payoffs can be great. There are often issues around timescales – both in pace of work and the structure of financial years – and in translation; and there are fundamental differences in the way that academia and industry conduct themselves and communicate.

Successful collaboration with business depends upon:

- a shared area of interest, and shared value of the research relevance between researchers and partner corporation
- identifying and managing relationships with external bodies and businesses
- sharing operational responsibilities and activities and overheads
- collaborating on the research and outputs and cultivating a culture of joint-working
- sharing and cultivating skills through both personnel exchange and training and mentorship

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with Business</td>
<td>Innovate UK income (KTP and grant) as proportion of research income (Innovate UK)</td>
<td>Innovate UK income HESA Finance Record</td>
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<tr>
<td></td>
<td>Contract research income with non-SME business normalised by university income</td>
<td>Higher Education Business and Community Interaction Survey HESA Finance Record</td>
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<td></td>
<td>Contract research income with SME business normalised by university income</td>
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<td></td>
<td>Consultancy and facilities income with non-SME business normalised by university income</td>
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<td></td>
<td>Consultancy and facilities income with SME business normalised by university income</td>
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Table 2: KEF metrics for Working with Business

Our Coast

Departments of Geography and Earth Sciences consulting for the BBC

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**Key case study disciplines**

Geography, Communications and Media

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**Types of knowledge exchange**

Working with Business, Research Partnerships, Public Engagement

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The Open University and the BBC have a long history of successful consultation and partnership, producing some of the most well-known natural world content across television, radio, digital and online platforms. They co-produce up to 35 projects a year, uniting their resources and talents to reach and educate wide audiences.

‘Our Coast’ - a new series shown at the beginning of 2020 - explored the four coastlines of the UK, uncovering a variety of compelling stories about the coastal way of life from tackling unique jobs and experiencing local wildlife. By understanding the history of each coastline, the series researched how coastal landscapes and livelihoods are being preserved for the future.35

The series was produced with consultation and support from across the University, including the Faculty of Arts and Social Sciences with academics focussing on geography, earth sciences and media. The Open University, through its nominated academics, act as consultants to provide expertise on the jointly produced programmes and related online content.

This activity includes commenting on draft scripts before and during filming, viewing the rough cut and providing feedback; factchecking the final commentary script; and providing academic sign-off of the final cut.36 The OU’s Broadcast and Partnerships team manage all aspects of commissioning, business and production while the BBC business affairs manager operates as the productions main business contact.

The academics also work to develop free, complementary learning materials made available for audiences to continue to learn from after viewing. They furthered the reach of the academic research by holding an online lecture after broadcast, discussing key findings of the programme from coastal preservation to social responsibility and environmental sustainability.37

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36 BBC Open University production and delivery https://www.bbc.co.uk/commissioning/tv/production/articles/open-university
37 Open University 2020, Our Coast Online Lecture http://www.open.ac.uk/wales/en/events/our-coast-online-lecture
University of Nottingham and Browne Jacobson LLP

Improving the accessibility of insurance policies

Key case study disciplines
Languages, Linguistics and Classics, Law, English Studies

Types of knowledge exchange
Working with Business, Research Partnerships

In 2018, a research study by linguistics experts in the School of English at the University of Nottingham found that 8 out of 10 insurance policyholders in the UK found their insurance contracts too complex to understand.\(^{38}\)

Insurance regulations require communications with policyholders (including policy wordings) to be ‘clear, fair and not misleading’. Therefore, insurance law firm Browne Jacobson commissioned the study from experts at the university. Using multiple methods, including the use of cutting-edge eye-tracking technology, the study found that most policy wording was only comprehensible to those educated to doctorate level. But, with redrafting, complex policies could be made coherent to most individuals with lower secondary education.

The two partners then worked together to explore what changes would make a policy document easy to understand and what might impede understanding. Rewriting policies and testing their success, they outlined a number of key drafting principles and techniques which would improve the readability of insurance policy wording. These findings have been shared across the insurance industry in order to improve practice and accessibility, and have had a ‘transformational impact’ on services.\(^{39}\)

The improvements in readability and understanding increases the percentage of the UK adult population who could understand their policies from 13.4% to 89%. This represents an extra 40.4 million people across the UK.\(^{40}\)

Since releasing the findings, Browne Jacobson have advised over 20 insurers and managing general agents on their insurance policies. Many of these approaches were a direct result of the collaboration with the University of Nottingham. The two partners have since signed an additional engagement agreement allowing for Browne Jacobson to offer the University’s Linguistics Services to its clients, thereby deepening relationships and enhancing the services offered to insurers.

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\(^{38}\) Financial Times 2018, Eight out of 10 people cannot understand UK insurance policies https://www.ft.com/content/086b974d-6808-11e8-8c30-9c230fa674ec

\(^{39}\) University of Nottingham collaborates with leading law firm to cut through the jargon 2020 https://www.nottingham.ac.uk/news/university-of-nottingham-collaborates-with-leading-law-firm-to-cut-through-the-jargon

Working with the Public and Third Sector

This type of knowledge exchange activity involves collaboration between university research staff, and organisations such as government departments, regional public services and charities. Funding for this activity can be a joint model between the university and external partner, and a key part of the knowledge exchange often involves seconding researchers and staff between the participating organisations.

Many departments, such as the Department of Health, have long term research programmes commissioned to UK universities to support policy development and improve services.\(^41\) Similarly many of the UK’s largest charities partner with academic departments to improve their services, impact and efficiency.\(^42\)

Arguably the greatest transfer of knowledge and skills between universities and the public sector or charities are university graduates moving into roles in these organisations. 1 in 10 SHAPE graduates are employed in public administration and defence.\(^43\)

Benefits of this form of co-production include:

- Improving the quality and real-world relevance of academic research
- The potential for generating new knowledge, skills and insights
- The opportunity to test and refine research methods
- Public benefit by driving innovation and efficiency in services and charities
- Financial efficiencies through leveraging financial and human capital resources and creativity\(^44\)

SHAPE researchers play a crucial role supporting the work of charities and developing departmental policy, legislation and regulation.

The KEF captures this activity only through financial value of research, consultancy and facilities income from public and third sector sources. But, as the case studies show, the true value, quality and magnitude of knowledge exchange with these sectors is in the improvements to wellbeing and the quality and efficiency of services.

Table 3: KEF metrics for Working with the Public and Third Sector\(^45\)

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with the Public and Third Sector</td>
<td>Contract research income with the public and third sector normalised by HEI income</td>
<td>• Higher Education Business and Community Interaction Survey</td>
</tr>
<tr>
<td></td>
<td>Consultancy and facilities income with the public and third sector normalised by HEI income</td>
<td>• HEI Income HESA Finance Record</td>
</tr>
</tbody>
</table>

\(^41\) NIHR Policy Research Units https://www.nihr.ac.uk/explore-nihr/funding-programmes/policy-research.htm
\(^42\) University of the West of Scotland – Oxfam partnership https://uwsoxfampartnership.org.uk/
\(^43\) The British Academy 2020, Qualified for the Future https://www.thebritishacademy.ac.uk/publications/skills-qualified-future-quantifying-demand-arts-humanities-social-science/
\(^44\) Sheffield University 2016, Co-production can produce excellent research and public benefit, report finds https://www.sheffield.ac.uk/news/nr/coproduction-n8-report-1.572896
Demands for policing, community safety, crime prevention and victim services are constantly changing, as are the policies, practices and technologies that can be deployed to provide these services. Since 2013, the N8 Policing Research Partnership (N8 PRP) has been co-producing research and putting academic ideas into practice to capitalise on the knowledge and expertise of the higher education sector.

N8 PRP is a research collaboration and knowledge exchange network of eight northern universities and 11 police forces and Police & Crime Commissioners aiming to strengthen the evidence base on which police policy, practice and training are developed. The group also works to drive and support innovation and develop and share skills in policing. From 2015-2020 the partnership was supported by a HEFCE Catalyst grant (£3m) and partner-matched funding. It is now co-funded by the universities and police forces, and in 2018-19 the value of new research grants was £5.1 million.

Key improvements to policing include research to identify best practice for addressing domestic abuse. In 2016-17, there were 1.1 million domestic abuse-related incidents and crimes accounting for 11% of total recorded crime. Research by social science departments together with police staff identified three models of best practice spanning safeguarding, early intervention and multi-agency co-ordination to help increase capacity to address domestic abuse and support victims. Since 2018, the partnership has delivered a CPD programme to cohorts of police staff performing data analysis. A series of co-produced modules were delivered covering the theory, methods and latest advances in data analytics to improve the skills and knowledge of practitioners undertaking data analysis roles. The N8 university partners are Durham, Lancaster, Leeds, Liverpool, Manchester, Newcastle, Sheffield, York, and the 11 policing forces are Cheshire, Cumbria, Durham, Greater Manchester Police, Humberside, Lancashire, Merseyside, Northumbria, North Yorkshire Police, South Yorkshire Police, and West Yorkshire Police.

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48 N8PRP Partners https://n8prp.org.uk/about_us/partners/
Swansea Legal Innovation Lab Wales

Transforming access to justice, LegalTech and supporting NGOs

Key case study disciplines

- Law

Types of knowledge exchange

- Working with the Public and Third Sector, Skills, Enterprise and Entrepreneurship

Legal Innovation Lab Wales is a £5.6M initiative within the University’s Hillary Rodham Clinton School of Law. The operation is a transformative research and development facility that supports collaboration between law firms, NGOs, technology companies and security organisations, encouraging innovation in technology and software in the provision of legal services (LegalTech), access to justice, and counterterrorism.

The lab aims to drive the development of a vibrant LegalTech sector in Wales, exploiting the benefits of the knowledge economy while helping local communities and businesses recover from the COVID-19 pandemic. The lab supports the development of toolkits that enhance the business of law and access to justice, and enable the development of technological platforms and frameworks to support counterterrorism and security.

Legal Innovation Lab Wales includes:

- A legal AI laboratory where researchers in Law and Computer Science can develop, test and apply new techniques in artificial intelligence, machine learning and natural language processing.

- A cyber threats research suite, including space to work on sensitive data and to collaborate with partners from (e.g.) security agencies, law enforcement and technology companies.

- A legal innovation centre where law firms and technology companies can collaborate with researchers – and with the operation’s software team - on the development of new products, services and techniques.

- A Law Clinic where LegalTech innovation and collaboration can be supported, leading to the scoping, development and deployment of apps and platforms that support access to justice.

- Collaboration spaces that can be used for engagements with research partners from industry, academia, NGOs, law enforcement and charities.

Legal Innovation Lab Wales includes:


Skills, Enterprise and Entrepreneurship

Through their teaching role, universities develop the skills of their students and help supply the workforce of the future.\textsuperscript{51} Further, as demonstrated in the context of Research Partnerships (page 14), Working with Business (page 17) and working with the third sector (page 20), an important benefit of knowledge exchange programmes is the development of skills and the exchange of methods and expertise.

Supporting students and staff to create new products, businesses and organisations is also a key function of universities. This is often done through providing enterprise education and providing facilities and resources such as student and graduate incubation services. Universities are directly involved in one in every hundred new start-ups.\textsuperscript{52}

In the KEF, skills knowledge exchange specifically relates to the provision of training to learners in employment for professional development, up-skilling and workforce development.\textsuperscript{53} Enterprise and entrepreneurship in the KEF relates only to graduate and undergraduate start-ups where there has been formal business/enterprise support from the university. They can include any registered business model including not-for-profits and sole trader.\textsuperscript{54}

The KEF captures skills and enterprise only through the value and volume of CPD provided, and the start-up rates for student companies. However, these do not reflect the quality of the knowledge exchange in the local impact of enterprise and new business, nor does it incentivise long-term, sustainable local impact.

Table 4: KEF metrics for Skills, Enterprise and Entrepreneurship\textsuperscript{55}

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills, Enterprise and Entrepreneurship</td>
<td>Continuing professional development and Continuing education income</td>
<td>• Higher Education Business and Community Interaction Survey</td>
</tr>
<tr>
<td></td>
<td>normalised by university income</td>
<td>• HESA finance record - HEI Income</td>
</tr>
<tr>
<td></td>
<td>Continuing professional development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and Continuing education learner days delivered normalised by</td>
<td></td>
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<tr>
<td></td>
<td>university income</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate start-ups rate by student FTE</td>
<td>• Higher Education Business and Community Interaction Survey</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• HESA Student record</td>
</tr>
</tbody>
</table>

\textsuperscript{51} The British Academy 2020, Qualified for the Future https://www.thebritishacademy.ac.uk/publications/skills-qualified-future-quantifying-demand-arts-humanities-social-science/


\textsuperscript{53} Higher Education Business and Community Interaction Survey https://www.hesa.ac.uk/collection/c16032/hebci_b_table_2

\textsuperscript{54} Higher Education Business and Community Interaction Survey https://www.hesa.ac.uk/collection/c17032/hebci_b_table_4

A new partnership between Croydon Council and London South Bank University (LSBU) was announced 2019 to boost the borough’s regeneration.\(^6\) It will involve a new centre for higher education in Croydon, enhancing the skills of the local workforce, and growing links with local businesses.

This step towards the final vision of the Croydon Creative Campus builds upon both the LSBU’s business incubation facility; the Clarence Centre, which houses 90 businesses and is ranked among the top 15 university incubators in the world and also the council’s award-winning apprenticeships scheme.\(^7\) LSBU Croydon will also launch a range of CPD courses, focused on digital innovation and leadership skills. Courses are being developed with the needs of the local community and businesses in mind as they recover from the pandemic.

In the five years to 2018 the Clarence Centre generated £317m in income (£197m in charitable funding and £120m by trading companies).

Previous incubation successes include:

- **Box Up Crime** Box Up which delivers boxing sessions across Barking, teaching youngsters at risk of being excluded from school or facing prison the importance of discipline, a healthy lifestyle and self-respect.
- **Fit2Trip** which offers specialist travel insurance for those with medical conditions.

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\(^7\) Croydon Council Apprenticeships https://www.croydon.gov.uk/jobsatcroydon/apprenticeship
University of York Forensic Speech Analysis Continuing Professional Development

Equipping practitioners with the latest techniques

Key case study disciplines
Languages, Linguistics and Classics

Types of knowledge exchange
Skills, Enterprise and Entrepreneurship, Working with the Public and Third Sector, Working with Business

The Language and Linguistic Science department at the University of York is a world leader for research in Forensic Speech Science; the analysis of voices to provide evidence for criminal investigation. The department currently receives UK research council funding of around £1.7 million.58 Under challenging conditions with COVID-19, the department offered two CPD courses in Forensic Speech analysis and methods in conversation analysis.59

These courses help a small but essential workforce understand the latest technologies and procedures used in the subfields of forensic speech and audio analysis, enhancing their skillsets but also helping them meet new, specific government standards. The courses are also available to graduate and post-doctoral researchers in any relevant discipline and researchers who wish to acquire new skills.

The courses are taught by departmental staff together with audio experts from JP French Associates, and are aimed at forensic scientists, police and government security personnel working in law enforcement, legal, prosecution and defence services.

Participants benefit from 3 days of intensive learning, comprising a blended mix of theory delivered through lectures and hands-on practical training through lab-based practical sessions using cutting edge speech technology.

59 https://www.york.ac.uk/language/cpd-courses/
Local Growth and Regeneration

Local Growth and Regeneration are a particularly salient issue in the UK, which has one of the highest inequalities between regions in Europe. In a knowledge-based economy, which rests on highly localised research and innovation potential, universities in general and SHAPE disciplines in particular have a role to play in mitigating some of these socio-spatial inequalities.

Universities are key institutions for research and innovation in localities, both as sources of skilled individuals and as anchors in their geographic communities. Research and teaching are inextricably linked in universities, and knowledge exchange should not be viewed solely through a research angle, but also through the lens of graduates and the upskilling of the existing workforce. All university activities have the potential to support employers, civic bodies and community and charity actors in their knowledge intensive economic activities and are an important medium of localised knowledge.

Improving access to, and use of, this knowledge of this knowledge is a key component of Local Growth and Regeneration. How areas change and grow takes many forms: from changing the purpose of town centres and increasing the accessibility, to increase use of the high-street economy, to providing support for SMEs to accelerate and create high skilled jobs, to ensuring low socio-economic communities have access to education. Universities and the knowledge they hold can support all of these.

The involvement of SHAPE disciplines in knowledge exchange in Local Growth and Regeneration also takes many different forms:

- Using the knowledge and expertise of university researchers to advise local policy makers and provide an evidence base for local actions
- University involvement in projects nurturing local businesses, social enterprises, or charities.
- University outreach with under-represented communities

Table 5: KEF metrics for Local Growth and Regeneration

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Growth and Regeneration</td>
<td>Regeneration and development income from all sources normalised by university income</td>
<td>• Higher Education Business and Community Interaction Survey</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HESA Financial record – HEI Income</td>
</tr>
<tr>
<td></td>
<td>Additional narrative/contextual information - optional in year 1</td>
<td>• Direct submission to Research England</td>
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</tbody>
</table>
**Greater Manchester Prosperity Review**

*Tackling regional economic challenges*

**Key case study disciplines**
Geographical and Environmental Studies, Sociology, Social Policy and Anthropology, Economics, Politics, Law

**Types of knowledge exchange**
Local Growth and Regeneration, Working with Business, Policy Influence

The Greater Manchester Independent Prosperity Review, chaired by Professor Diane Coyle of the University of Cambridge, was established by the Greater Manchester Combined Authority to provide an evidence base for future policies, plans and programmes for the city region.\(^6\) Reporting March 2019, the work has gone on to underpin Manchester’s local Industrial Strategy; a 20-year plan of investment, decision and actions affecting 2.8 million residents and over 120,000 businesses.\(^6\)

This includes developing high-quality manufacturing opportunities in strategic sites, paths towards a paperless local healthcare system, improving productivity through preventative healthcare that helps people stay in the labour market, achieving carbon neutral living in Manchester by 2038, and redesigning and leveraging transport connections.

The Prosperity Review panel is comprised of business and academic leaders from several institutions and departments including:

- The Bennet Institute for Public Policy at the University of Cambridge
- The Department of Geography and Environment at LSE
- The UCL Institute for Innovation & Public Purpose
- The Faculty of Arts and Sciences at Harvard University

The panel commissioned over 20 research programmes to identify ways to increase productivity and prosperity for the region and tackle challenges including local demographic change, labour productivity and climate change. Research topics range from the state of devolution, productivity, education and skills, public health, to science and innovation and was performed by regional and national partners, including the University of Manchester, Manchester Metropolitan University and UCL and involved a broad range of SHAPE disciplines, including Economics, Geography, Education, Sociology, Politics and Government, Business and Management.

This knowledge exchange activity has had national influence on the government’s response to the COVID-19 pandemic making the case that the Levelling Up agenda can only succeed if it supports those employed in the sectors hardest hit by the COVID-19 pandemic and helps to improve people’s health and well-being.\(^6\)

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63 LocalGov 2020, Tackle health and economic inequalities at local level, economists say https://www.localgov.co.uk/Tackle-health-and-economic-inequalities-at-local-level-economists-say/51190
Falmouth University is a leading creative industries institution and is home to The Celtic Creative Industries Cluster, one of the largest in the UK. Launchpad is a venture studio embedded within Falmouth University that gives entrepreneurial students and educators the opportunity to build innovative creative companies with leading partners and supported by experienced coaches and mentors.

The University has been able to grow its reputation, income and size, and programmes like Launchpad are developing a new generation of Cornwall-based companies in high-value and high-growth markets. This approach will attract and retain entrepreneurial talent and draw high-quality investment into Cornwall for the long-term benefit of the regional economy.

Cornwall Council are co-founders of the programme, as well as principal funders alongside the European Regional Development Fund and Research England.64 As the programme has grown, the university, council and its business partners are expanding their efforts to support the local economy. Launchpad companies receive a dedicated space in the Launchpad Studio for a year after they incorporate allowing them to accelerate in a supportive environment. Not only does this space feed the regeneration of Falmouth, but it provides roots to the businesses that will allow them to grow in Cornwall and give back to a community which has supported them to thrive.

Recent successes emerging out of Launchpad include Codices, who develop live interactive online quiz shows, and in 2020 scaled up from a team of three to eleven after securing $800,000 of seed funding led by the Cornwall and Isles of Scilly Investment Fund and Haatch Ventures.65 Data Duopoly, which aims to revolutionise the visitor experience in venues worldwide, are pushing innovation in the use of satellite data to help attractions and venues stay Covid-safe.66 And agri-tech business Glas Data were recently named as one of the south west tech companies to watch in 2021.67

64 Falmouth University Launchpad (with MSc Entrepreneurship) https://www.falmouth.ac.uk/study/postgraduate/launchpad
65 Codices - https://www.codices.io/
66 Data Duopoly - https://www.dataduopoly.com/
67 Glas Data - https://glas-data.co.uk/
It is often argued that the UK suffers from a gap between the results of basic research – where the UK is a global leader – and product-level research and development. In practice, five UK universities currently rank in the top ten globally for capital raised through spinouts, while spin-off survival rates are greater than 75%. University income from licensing (including patents, copyright, design, registration and trademarks) was recorded as £177m in 2018-2019, a figure which has almost doubled in 5 years.  

Commercialising research usually takes the form of creating spinouts, protecting Intellectual Property (IP) such as inventions, brands and copyright material, and licensing it to create income. As shown by the case studies, spin-offs from SHAPE departments range from innovation in business and management, to educational research and development, social studies and communications and media.

But while SHAPE research may well result in a spin-out offering products or services, it can be harder to protect through conventional methods of patents and licensing. In fact, speed to market can often offer the greatest protection, and so these disciplines record fewer patents and licenses, making their value more difficult to quantify.

But producing all types of outcomes from research is important, both to academic and university reputation, and to the role of innovation in the UK economy. And measuring these outcomes and outputs is key to understanding where we can improve. While Intellectual Property and Commercialisation is not always easy to quantify, Research England have recognised this by including qualitative narratives in the recording of this knowledge exchange.

In the KEF, Intellectual Property and Commercialisation is measured by examining:

- Turnover of active firms from spinouts
- Investment in spinouts
- Licensing and other Intellectual property income
- Qualitative evidence in the form of narrative statements from universities

Table 6: KEF metrics for Intellectual Property and Commercialisation

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual Property and Commercialisation</td>
<td>Estimated current turnover of all active firms per active spinout</td>
<td>• Higher Education Business and Community Interaction Survey</td>
</tr>
<tr>
<td></td>
<td>Average external investment per formal spinout</td>
<td></td>
</tr>
</tbody>
</table>
|                                                  | Licensing and other Intellectual property income as proportion of research income | • Higher Education Business and Community Interaction Survey  
|                                                  |                                                                        | HESA Finance Record                                    |
|                                                  | Additional narrative/contextual information                            | • Direct submission to Research England                |
WebCorp and Puma

Making sense of online information

Key case study disciplines
English Studies, Communication and Media

Types of knowledge exchange
Intellectual Property and Commercialisation

Birmingham City University’s School of English is home to the Research and Development Unit for English Studies (RDUES), whose remit includes the analysis of large text collections to discover new facts about the English language. The Unit has commercialised this research by developing innovative software tools to aid a wide range of audiences. Once such suite of tools – WebCorp – downloads and processes texts from the web and provides a wide range of audiences, including researchers, teachers, translators and advertisers, with an accessible way of finding patterns and trends in real language use.70

RDUES’ expertise, text collections and WebCorp technology have had commercial impact through use by communications agency Grey London on behalf of their clients, Puma and Procter & Gamble. Academics from RDUES were employed as consultants on the language used by young people on social media, to assist with the launch of a new fragrance. The technology developed and commercialised by RDUES compiled and analysed examples of language used on Twitter and in blogs, allowing the agency and its clients to better target their audience.71

The latest addition to the WebCorp suite – WebCorp Learn – is designed to encourage students at all levels to learn through experimentation with real-world data. RDUES partnered with the Teaching Solutions consultancy in Germany to deliver a training package using WebCorp Learn for English teachers at German secondary schools.72

Another recent adaptation of RDUES’ technology is OurSurveySays, a tool for the analysis of comments made in the National Student Survey and other free-text questionnaires, which is currently being used at universities across the UK to help target investment and shape future priorities.73

70 Webcorp http://www.webcorp.org.uk/
71 REF 2014, Academic, educational and commercial benefits of effective textual search and annotation https://impact.ref.ac.uk/casestudies/CaseStudy.aspx?id=14587
72 WebCorp Learn https://www.webcorp.org.uk/wcx/learn/
73 Birmingham City University, OurSurveySays: online dashboard for the analysis of text-based survey responses http://rdues.bcu.ac.uk/oss
Assessment Micro-Analytics

Putting educational testing to the test

Key case study disciplines
Education and Lifelong Learning, Sociology, Social Policy and Anthropology

Types of knowledge exchange
Intellectual Property and Commercialisation

Founded in October 2018, Assessment Micro-Analytics Ltd is a spin-out company from educational assessment research conducted in the School of Education and Lifelong Learning at the University of East Anglia. The company uses small-scale, observational data on performance and interaction in computer-based tests, to improve the quality of educational assessment design and the use of test data. They work with national governments and some of the world’s leading educational assessment companies.

The company examines real-life testing situations applying digital eye tracking, emotion and gesture recognition, and video-ethnography. This allows assessment organisations to investigate the user experience and to provide insights into the performance of the test. This innovation helps to improve the quality of assessment data, to explain anomalies in performance, and improve assessment reliability and fairness. Clients include the OECD, Pearson, AQA and the Ministries of Education in France and Luxembourg.

74 Assessment Micro-Analytics Ltd http://www.microanalytics.co.uk/
75 University of East Anglia, Spin Out Companies https://www.uea.ac.uk/business/access-entrepreneurship-and-innovation/spinouts
76 Assessment Micro-Analytics Ltd http://www.microanalytics.co.uk/
Public and Community Engagement

Public and Community Engagement, like all knowledge exchange activities, is not a new idea. All universities recognise that their mission includes realising their role in local communities. The recent COVID-19 pandemic has severely reduced the ability for universities to perform this activity in a face-to-face setting, but institutions are working to innovatively engage members of the public and local communities and there are many examples of universities forming a core part of the local response to the crisis.

The most visible methods of public engagement include events, performances, exhibitions, museums and galleries. But public engagement can also include providing community access to sporting, cultural and other assets and as well as access to expertise. Universities also involve the public and local community in research, teaching and university governance. 77

Public and Community Engagement has several important benefits that are often hard-to-quantify:

- The public can see, and feel the benefits of public expenditure in higher education
- Involving the public can enhance research so that it has greater contribution to society 78
- Being embedded in the community, research and education can have greater relevance, accountability and transparency
- Attracting the public to events and to use facilities and resources can help to address distrust of experts, and improve cohesion between universities and their local area

In the KEF, this activity is captured by a narrative submission and a self-assessment of the university’s performance in engagement strategy, support for engagement activities, the activities undertaken, the results and learning, and how the university has acted on these results. 79

Table 7: KEF metrics for Public and Community Engagement 80

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Metric</th>
<th>Evidence sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public and Community Engagement</td>
<td>Self-assessment-based metric - optional in year 1</td>
<td>Direct submission to Research England</td>
</tr>
<tr>
<td></td>
<td>Additional narrative/contextual information - optional in year 1</td>
<td></td>
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</tbody>
</table>

78 UKRI Concordat for Engaging the Public with Research https://www.ukri.org/files/legacy/scisoc/concordatforengagingtherepublicwithresearch.pdf/
Ports, Past and Present

Growing cultural assets in Wales and Ireland

**Key case study disciplines**
History and Archaeology, Creative Arts and Design, Celtic Studies, Geographical and Environmental Studies, Languages, Linguistics and Classics

**Types of knowledge exchange**
Public and Community Engagement, Research Partnerships, Local Growth and Regeneration

Ports, Past and Present: Cultural Crossings between Ireland and Wales is a joint initiative between Aberystwyth University, the University of Wales Trinity Saint David, University College Cork and Wexford County Council in Ireland. The programme is part-funded by the European Regional Development Fund through the Ireland-Wales Cooperation Programme.

Wales and Ireland have much shared history but also many differences. Port towns on both sides have attracted and absorbed migrant labour throughout history from other cultures and languages.

The programme explores the cultures of the ports of Dublin, Rosslare, Holyhead, Fishguard and Pembroke Dock and brings their heritage to public awareness with a view to attracting visitors and offering an enhanced cultural experience for tourists and locals alike. The programme encourages communities to capitalise on their natural and cultural assets to drive growth.

Creative works in the visual arts, literature and film are under commission with the intention of bringing the history of the ports to life while a public heritage website and app engage new audiences.

The programme has received €3.2million of funding from the European Union’s European Regional Development Fund (ERDF) and matched funding from partners.

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York Curiouser

Combining art and history to reimagine the city and attract 40,000 visitors

In 2014 York Curiouser curated new artworks in a range of media in hidden corners of the city. The work invited well-known and emerging contemporary artists to respond to academic research on the city’s heritage sites and reimagine the city.

The artworks including light, sound, ceramics, poetry and textiles developed specifically to be installed in a range of locations such as the city walls and ‘Snickleways’. These encouraged residents and visitors to explore new areas of the city, and buildings such as the Red Tower, Fishergate Postern Tower, Merchant Adventurer’s and St. Anthony’s Hall gardens, and also encourage owners to improve access to both sites and stories of the city. In 2015, after further research and development, and with additional artist-led talks workshops and events, around 40,000 people had visited the artworks or participated in events.

The programme was funded by Arts Council England, the University of York, York St John University, City of York Council and other partners. The project was led by the Faculty of Arts and Humanities and two curators/research associates of the Department of Archaeology. Staff and students from across the Faculty were invited to ‘pitch’ sites to selected artists and mentored throughout the project to develop new skills in working with heritage sites and public arts. Public talks and workshops involved local schools, residents and visitors.

The team are using the knowledge and experience gained from York Curiouser to lead cross-disciplinary seminars and workshops exploring the legacy of the project for future collaborations between universities and public art in heritage sites.

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82 York Curiouser 2014 https://pure.york.ac.uk/portal/en/projects/york-curiouser/8288c5ff-e38f-4a7e-83f0-d02b2ae97a7c.html The project was led by Dr Kate Giles and curators Lara Goodband and Hazel Colquhoun.
83 York Curiouser 2014 https://www.yorkcuriouser.com/about/
Proposed Additional Perspectives

The KEF is a valuable step in recognising all the benefits which derive from our world-leading university and research sector. As this report has explored, the seven perspectives of the framework capture a diverse array of knowledge exchange activities and benefits. However, as Research England acknowledge, the current policy is a first iteration, and there are many possibilities to develop the KEF to capture more activities and collect better evidence.

There are three additional areas of knowledge exchange in which SHAPE disciplines are closely involved which could be considered for future inclusion: Policy Engagement and Influence, Engaging Schools and Colleges, and EDI. We suggest these fully aware that proper consultation would be needed between Research England and the university sector to assess both the benefits of using KEF to capture universities’ valuable input in these additional areas and the extra burden any expansion of KEF would cause them.
The relationship between research and policy is complex, multidirectional and non-linear in terms of knowledge exchange inputs and developments in public policy. Knowledge, skills and methods derived from universities, including from SHAPE disciplines, inform policy and politics, but are also informed by them. Further, as demonstrated in page 21, some of the most successful models involve the co-production of policy knowledge.

While policy ‘impact’ is a dimension of the Research Excellence Framework, and policy engagement forms part of Research Partnerships and working with the public sector in the KEF, these mechanisms do not capture the full nature of policy engagement, especially given how it will regularly be fully represented by income generated or number of jobs created. This has become especially clear during the COVID-19 pandemic where the academic community has mobilised to assist governments and services in ways that will not, and should not necessarily, appear in balance sheets.

The Institute for Government explored the relationship between academia and government in How government can work with academia outlining some of the bilateral areas of knowledge exchange and models of co-production.

Examples can include contributions to, or memberships of government advisory panels such as SAGE or Legal Support Advisory Group, giving evidence to Select Committees, responding to public consultations, secondment positions between universities and government departments or local or regional government, or assisting the Government Office for Science. Equally important are instances where policy makers and politicians are involved in, or initiate university investigations beyond formal commissions for example through issuing statements of Areas of Research Interest, involvement in conferences and expert networks of areas of public policy, and co-production in What Works Centres.

Even informal individual relationships and meetings between university students and staff and MPs or public servants can be high leverage instances of knowledge exchange. On the surface these activities may seem to only involve a small number of high-profile academics liaising with parliamentarians or senior civil servants, however the knowledge, skills and evidence provided has routinely involved a workforce of students and staff.

We have presented a specific example here of a significant knowledge exchange activity that would not be entirely captured by the KEF as it stands. Additionally, Case Study (2) Nuffield BioEthics, and Case Study (9) The Greater Manchester Prosperity Review are highly relevant to Policy Engagement and Influence.
London School of Economics
Care Policy and Evaluation Centre

Improving health practice and policy

Key case study disciplines
Economics

Types of knowledge exchange
Policy Influence, Working with the Public and Third Sector, Research Partnerships

The Care Policy and Evaluation Centre at LSE is a leading international research centre carrying out world-class research in the areas of long-term care (social care), mental health, developmental disabilities, and other health issues - across the life course - to inform and influence policy, practice, and theory globally.

CPEC hosts the NIHR Policy Research Unit in Adult Social Care, the School for Social Care Research, and the International Long-term Care Policy Network (ILPN). Since 2009, CPEC staff have been awarded over 130 grants at over £67 million. It has established Research Partnerships with central and local Government, multiple universities (including several Research Partnerships across low- and middle-income countries) and with global institutions such as WHO.

CPEC’s work on long-term care projections regularly feeds into the Office of Budgetary Responsibility’s fiscal sustainability reports and has informed many policy discussions linked to funding reform and Government Spending Review plans. Their models regularly underpin analyses by the Treasury, 10 Downing Street analytical unit and the Department for Health and Social Care who, in 2016, commissioned CPEC researchers to independently review improvements in dementia care and support to help the Government prepare its national policy framework.

CPEC research has contributed to key social care policy. Its research on eligibility helped drive reforms including the new minimum national eligibility threshold for social care, implemented in the Care Act 2014. CPEC research fed into a review of perinatal maternal mental healthcare costs, influencing Government decisions to allocate £75 million to support mothers with perinatal mental illness, and £290 million for specialist support for mothers during pregnancy and after birth.

CPEC also works closely with research and NGO partners in several low- and middle-income countries to help develop national dementia plans, contribute to mental health policy and support developments in long-term care. For example, Kenya’s Ministry of Health is working with the team too develop a national dementia plan, the first in Africa. A similar project has been established in Brazil.

91 London School of Economics Care Policy and Evaluation Centre https://www.lse.ac.uk/cpec/about-us
93 Strengthening responses to dementia in developing countries https://stride-dementia.org/project-partners/
Universities, schools and colleges work together in many ways to share subject expertise, improve their offering to pupils and students, make education more effective and develop the future teaching workforce. The models of collaboration are therefore diverse and are specific to local circumstances. They can occur from the regional level to the individual teacher-researcher level.

Knowledge exchange activities between schools, colleges and universities can include:

- joint provision of summer/residential schools
- provision of initial teacher training (ITT)
- offering continuing professional development to teachers
- collaborative teaching provision, especially in FE colleges
- curriculum development
- educational research to help improve teaching effectiveness

In 2013 UKRI launched the School-University Partnerships Initiative - a four-year initiative to create mechanisms for universities to partner secondary schools and further education colleges.

The initiative recognised that school-university partnerships can work to:

- inspire the next generation through engagement between secondary school students and researchers, bringing latest research into the school setting to enhance the curriculum and raise ambition
- reach school students and teachers from a diversity of backgrounds and improve teaching quality and learning, widening participation and addressing inequalities
- provide university researcher opportunities and training to engage with school students and develop transferable skills
- increasing participation in strategic subjects including languages
- create strategic, long-term and equitable models for joint work promoting interactions between researchers, teachers and students

In 2017 around 60 universities were providing support to schools through formal sponsorship, co-sponsorship or an educational partnership.
Routes into Languages North East

Demonstrating the power of languages to school pupils

Key case study disciplines
Languages, Linguistics and Classics

Types of knowledge exchange
Engaging Schools and Colleges, Working with the Public and Third Sector, Skills, Enterprise and Entrepreneurship

In our globalized world, there may be some truth in the claim that ‘monolingualism is the illiteracy of the 21st century’. As the Academy argued in Languages: A Call to Action, the ability to communicate with others who do not speak English is not the only valuable skill that language-learning gives the workforce; another is a mindset of cultural agility and acceptance.

However, take up of languages within schools to GCSE and A level has been steadily falling for the last 20 years, with a growing north-south divide in access to provision. Routes into Languages (RiL) was a programme in England and Wales that aimed to:

- Increase the take-up in languages and associated cultures in schools and higher education
- Promote working and studying abroad in language degrees and other subjects, encouraging students to spend a year abroad
- Promote greater national capacity in areas of employment that require language skills and intercultural competence
- Promote raised aspirations and attainment of students in secondary school and higher education, thereby widening access to language study
- Promote overall collaboration between universities, schools and stakeholders, including between academic communities, academics and managers in widening participation and careers services.

Routes into Languages North East was a consortium of five north-eastern universities, led by Newcastle University and worked with regional schools from Berwick upon Tweed through to Yarm. The group organised regional events including roadshows, masterclasses, contests and film days, and also creates resources to support their aims such as careers profiles, interview guidance and course information. Between 2007 and 2017, over 300 schools and 35000 pupils were involved in 700 events. Today a version of the programme still operates from Newcastle University. It involves student language ambassadors visiting schools, on-campus activities, web-based language resources and more recently on-line peer assisted language and culture activities with schools in the region. For the last three years an average of 1000 pupils in the region have had contact with RiL language activities.

100 Routes into Languages https://www.routesintolanguages.ac.uk/about
101 Routes into Languages North East https://www.routesintolanguages.ac.uk/news/look-ahead-routes-languages-north-east
102 Routes into Languages North East https://www.routesintolanguages.ac.uk/activities/north-east
Equality, Diversity and Inclusion

Higher education still faces significant challenges in Equality, Diversity and Inclusion; for example in 2016-17 there were just 25 black women and 90 black men among the 19,000 university professors in the UK.\(^{103}\) Simultaneously, universities, the research and education they provide and their knowledge exchange activities with the public and external organisations are among the most powerful forces to address such challenges in society.

Crucially, some knowledge exchange activities are those with the greatest leverage over widening participation and reducing inequality. By engaging with schools, university departments can help attract a greater diversity of pupils into higher education and postgraduate research (page 39). Many of the SHAPE partnerships with public and third sector organisations draw upon disciplines that work to understand inequality and injustice and use this to mitigate them, for example the **Case Study (5) - N8 Policing Research Partnership**.

The UK higher education funding bodies are committed to supporting and promoting equality and diversity in research assessment. However it is noteworthy that while REF oversight includes the Equality and Diversity Advisory Panel (EDAP),\(^{104}\) and for the TEF academic leaders will be required to reflect on Equality, Diversity and Inclusion and their metrics within their narratives, there are currently no explicit metrics, narratives or perspectives capturing EDI in the KEF.

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Centre for Market and Public Organisation

Tackling issues of equality, diversity and inclusion to address perceived barriers to study

Key case study disciplines
Geography, Economics, Law

Types of knowledge exchange
Equality, Diversity and Inclusion, Engaging Schools and Colleges, Working with the Public and Third Sector, Policy Engagement and Influence

The Centre for Market and Public Organisation at the University of Bristol investigated the intersection of the public and private sectors to inform public policy and has been expanded into the Centre for Evidence-Based Public Services (CEPS).

While some programmes are funded through the ESRC and other public and private sources that would be captured within the KEF, some programmes have been funded and supported by the university itself such as the widening participation programme ‘Removing barriers: Financial transparency, peer effects and prior attainment’.  

A key theme of work was the role that universities themselves can play in addressing Equality, Diversity and Inclusion as vessels for social mobility. ‘Removing barriers’ is a partnership between the University of Bristol and Teach First involving a range of interventions in local schools that include aspirational talks from mentors about their student experiences and a financial tool designed with the governments Behavioural Insights Team to provide clear financial information to pupils making post-18 career choices.

Other programmes have influenced, and been cited in departmental research and policy on raising the attainment of disadvantaged pupils106, while other research has informed news articles and programmes, reaching a wide public audience on ‘Higher Education Cold Spots’. 107

University centres such as the CMPO and the wide-ranging activity of the researchers demonstrate the interdisciplinary and blurred nature of knowledge exchange, and how hard it is to quantify the magnitude and quality of the knowledge exchange.

105 University of Bristol, Removing barriers: Financial transparency, peer effects and prior attainment https://www.bristol.ac.uk/cmpo/schoolsteam/wideningparticipation.html
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