

SOCIO-ECONOMIC IMPACT REVIEW OF THE UNIVERSITY OF BEDFORDSHIRE

An independent assessment by Cambridge Policy Consultants Ltd with foreword by the University.

Published in 2025

NATIONAL KE IMPACT

LOCAL GROWTH & REGENERATION

£9.4 million or
196 FTE Jobs



WORKING WITH BUSINESS




£5 million or
62 FTE Jobs

GRADUATE START-UPS



£14.5 million GVA
or 1,602 Employed

CPD & SHORT COURSES



£13 million or
161 FTE Jobs

RESEARCH SPILLOVERS



£14.4 million or
178 FTE Jobs

RESEARCH PARTNERSHIPS



£5.3 million or
65 FTE Jobs

Core
Non-Academic
Impacts:



CORE ECONOMIC FOOTPRINT

£198 million or 2,850 FTE Jobs



GRADUATE LIFETIME PRODUCTIVITY IMPROVEMENT

£168 million or 3,500 FTE Jobs

“THE END RESULT IS
ECONOMIC GROWTH

Anna Bosworth, Head of Investment, Employment & Skills
Central Bedfordshire Council



FOREWORD

Higher Education contributes around £27 billion to national exports alone, but it is the process of Knowledge Exchange that connects the latest research with solving key global challenges, and linking this to teaching students must be taken into account to fully understand the value of universities. Beyond guiding graduates into the world of work, university research makes a real difference to people's lives. It expands our knowledge, solves today's major problems, and leads to the inventions that drive future growth and prosperity.

Knowledge Exchange involves the wide range of research related activities that universities undertake with businesses, the public sector, and community groups for the benefit of the economy and society. The diverse nature of Knowledge Exchange means any robust, well-executed review must be conducted by an independent external body, and it must focus on a specific time period so that data can be cross-checked with other sources.

A national-level report on Knowledge Exchange was undertaken by London Economics so **we commissioned this study by Cambridge Policy Consultants** for our own local benchmarking. The report looks back at what we have achieved and provides us with an evidence base to support our research and innovation work. In light of national discussions around the development of an industrial strategy and growth-driving sectors put forward in the *Invest 2035: The UK's Modern Industrial Strategy* green paper, it is apt to now release this study for wider viewing.

The activities of our university's strategy *Transforming Bedfordshire* can be seen both regionally in our work with partners, such as the local authorities, and nationally through working with business and government. Our *Research and Innovation Strategy* explicitly stated that we wanted a strong reputation for collaboration and to co-create impact with our civic partners. It is genuinely gratifying to see the quantifiable impacts of these activities.



For excellence to be maintained in challenging times for universities, the government also needs to invest in local capacity to harness and nurture the clusters of strength that exist in Bedfordshire and the surrounding region. We want to thank our partners, such as these above who co-create these impacts, our academics and students who deliver them, and our staff who enable them. I hope you enjoy reading the results of the **study by Cambridge Policy Consultants** as much as I did.



Professor Andrew Church
Pro-Vice Chancellor,
Research & Innovation
University of Bedfordshire

TECHNICAL REPORT BY CAMBRIDGE POLICY CONSULTANTS



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TECHNICAL REPORT

Introduction and background

Study objectives

- 1 This report sets out the economic impact of the University of Bedfordshire's (UoB) activities. In keeping with a previous study in 2020¹, the report analyses the scale of the UoB activity in a particular academic year and, using a wide range of economic data and research evidence, produces economic impact estimates.
- 2 The UoB expects the report to provide a robust analysis of its activities that have economic impact, so that the report will provide businesses, public sector and other stakeholders' evidence of the significant contribution the UoB makes which may increase attractiveness as potential partners in projects to drive economic growth.
- 3 This economic impact estimate is a point-in-time calculation of the economic benefits arising from the UoB's operations over a single year. In discussions with the University, the year 2021/2022 was selected on the grounds that:
 - It is the most recent year for which most data is available.
 - And there are no obvious impacts in the scale of the University's operations from the Covid-19 pandemic, although some of the impacts from Covid persist.
- 4 The UoB operates from campuses in Luton, Bedford and to a lesser extent Milton Keynes, Aylesbury and Putteridge Bury. In this draft report, we have taken the local area to be equivalent to the boundary of the South East Midlands Local Enterprise Partnership (SEMLEP) sub-regional area². In economic impact terms the location of 'local' is important in establishing the flow of benefits to local people, businesses and institutions and through these to local supply chains etc. This is particularly important in determining the additionality of impacts – where benefits persist because stakeholders have participated when they might not otherwise if the UoB did not exist (e.g. local students not attending the University of Bedfordshire because living away from home is unaffordable for them).

¹ Hatch Regeneris (2020) University of Bedfordshire: Social and Economic Impact.

² Detailed impacts for each location would require that costs are apportioned and other data such as student numbers and KE activities are similarly attributed so that the contribution of each campus is appropriately recognised.



- 5 Our approach to undertaking economic impact assessments draws on a wide range of recent research evidence relevant to estimating the economic impact of the UoB operations and research and teaching activities. This has been undertaken in accordance with His Majesty's (HM) Treasury Green Book and Magenta Book principles to establish the added value generated by University activities. All references to external sources are included in the relevant sections.
- 6 The impact assessment uses two standard economic measures:
 - Gross value added (GVA) is the value generated by any unit engaged in the production of goods and services, measured in monetary terms,
 - And
 - Full-Time Equivalent (FTE) employment the equivalent impact measured in the number of full-time jobs.
- 7 These are the alternative measures of the same impact and should not be summed together.

University's impact goal and vision

- 8 The UoB's impact goal is set out in the Strategy for Research & Innovation 2022-2026:

The impact goal of the University's strategy "Transforming Bedfordshire" focuses our future research and innovation vision on actions that will enhance our reputation internationally and make a positive impact on our teaching and contribution to society.
- 9 The combination of high-quality research and teaching across multiple disciplines that engage with a wide range of stakeholders is seen as central to the future success of the University:

...to cultivate an interdisciplinary research culture and partnership environment that generates new knowledge, creates insights and resources that have a positive impact on society, inspires our students to push the boundaries of what's possible and transforms lives. By doing so, we'll stimulate business innovation and become a driving force behind policy and practice that will shape the future for the better.

10 A central plank of the UoB's approach to research and innovation is by building on research strengths in a number of inter-disciplinary areas to promote knowledge exchange:

■ **Health, wellbeing and social justice:** working across five interdisciplinary Institutes on a range of health and social policy and practice issues with a particular focus on involving those with lived experience to ground the research process. Key research involves a number of technical and digital advances alongside the introduction of more effective service delivery in health and social care services.

■ **Technology, business and productivity:** combines research expertise in industrial innovation and green technologies across four Institutes working across robotics, artificial intelligence, microbial ecology and genomics, operations management and information systems.

■ **Communication, learning and creativity:** four research institutes including the world-renowned centre for assessment of English language testing and wider expertise on inclusive approaches to teaching, special educational needs and disabilities provision.

11 The focus on knowledge exchange based on high quality research and teaching provides a firm foundation for the University to deliver an economic impact that is more than the sum of its parts.

Approach

12 In keeping with this focus on research and innovation, the brief for this research proposed that the economic impact estimates should be presented in line with a number of metrics that are based on Research England's Knowledge Exchange Framework (KEF)³. See Figure 1. This framework provides a clear and consistent breakdown of the UoB's knowledge exchange activities and offers the opportunity to structure the economic impact estimates in a manner that is consistent with the allocation of knowledge exchange funding. This will enable the University to report to partners and wider stakeholders in keeping with Principle 8 of the KEF.

³ <https://kef.ac.uk/about.html>

⁴ Spillover effects, also known as externalities, refer to the costs or benefits that are experienced by a third party as a result of an economic transaction. Spillover effects from knowledge exchange activity are generally considered to be positive, offering organisations not directly involved in the activity the opportunity to benefit from gaining insight and learning through networking, B2B exchange or recruitment of individuals involved in the knowledge exchange activity.

Figure 1: Summary of metrics and perspectives in the Knowledge Exchange Framework (KEF)

KEF3 PERSPECTIVE	ACTIVITY BEING MEASURED	INCOME SOURCE
Research partnerships	<ul style="list-style-type: none"> • Collaborative research income • Co-authorship with non-academic partners 	Any external partner N/A
Working with business	<ul style="list-style-type: none"> • KTP & IUK grant income • Contract research income • Consultancy & facilities equipment income 	Innovate UK Non-SME / SME firms Non-SME / SME firms
Working with the public & third sector	<ul style="list-style-type: none"> • Contract research income • Consultancy & facilities & equipment income 	Public & third sector Public & third sector
Continuing professional development (CPD) and graduate start-ups	<ul style="list-style-type: none"> • Continuing professional development & continuing education income • Student / graduate start-up rate 	Any N/A
Local growth and regeneration	<ul style="list-style-type: none"> • Regeneration and development income • Narrative statement 	Any N/A
Intellectual Property (IP) and commercialisation	<ul style="list-style-type: none"> • Current turnover of active firms • Average external investment • Licensing and other IP income 	N/A N/A Any

Source: Research England - <https://kef.ac.uk/about.html>

N.B.:

The Public and Community Engagement perspective is outside the scope of this research but is being assessed in a parallel research exercise into the universities social impacts. 'SME' refers to small to medium-sized enterprises.

- 13 However, the framework is focused only on knowledge exchange activities and so will not capture the full range of the UoB economic impacts – in particular the direct impact of the University’s operations (outside of knowledge exchange activity), any economic impacts arising from construction and maintenance activities and the long-term productivity benefits arising from graduate learning.
- 14 We have developed a number of logic chains to characterise the different channels from the UoB inputs through to economic impacts. Each distinct process between inputs through to impacts requires its own logic chain, reflecting differences in the type of spend and/or the nature of processes generating economic impacts. In particular, we have defined two operational logic chains to capture the economic impact of the UoB operations and five indirect logic chains that mirror the five KEF3 perspectives set out in the Lot 1 Brief. See Figure 2.

Figure 2: Logic chains

LOGIC CHAIN	DESCRIPTION
O1: Core UoB	Core UoB operations and impact of staff & student spend
O2: Construction and maintenance	Impacts arising from the operation and development of UoB
M1: Non-academic impact of UoB Research	Collaborative research
M2: Working with business	Including joint research, consultancy, or student projects
M3: Skills, enterprise and entrepreneurship	Is not defined in the brief but we have taken it to include Continuing Professional Development (CPD) funded by businesses individual learners and student start-ups
M4: Working with the public and third sector	In line with KEF3, this is defined by the value of research and consultancy contracts with the public and third sector
M5: Local growth and regeneration	Including the economic impacts arising from both generic and specific knowledge exchange activities
M6: Intellectual Property (IP) and Commercialisation	Includes impacts from UoB spinouts or commercial licensing agreements
M7: Spillover benefits ⁴	Organisations in the wider area may benefit from positive externalities from knowledge exchange activities through networking and recruitment

15 Each of the logic chains have transition mechanisms from inputs to impacts and will draw on different research evidence on the scale and nature of their economic impacts. These are set out diagrammatically below with exemplar transitions. See Figures 3 and 4.

Figure 3: Logic chains - Direct benefits

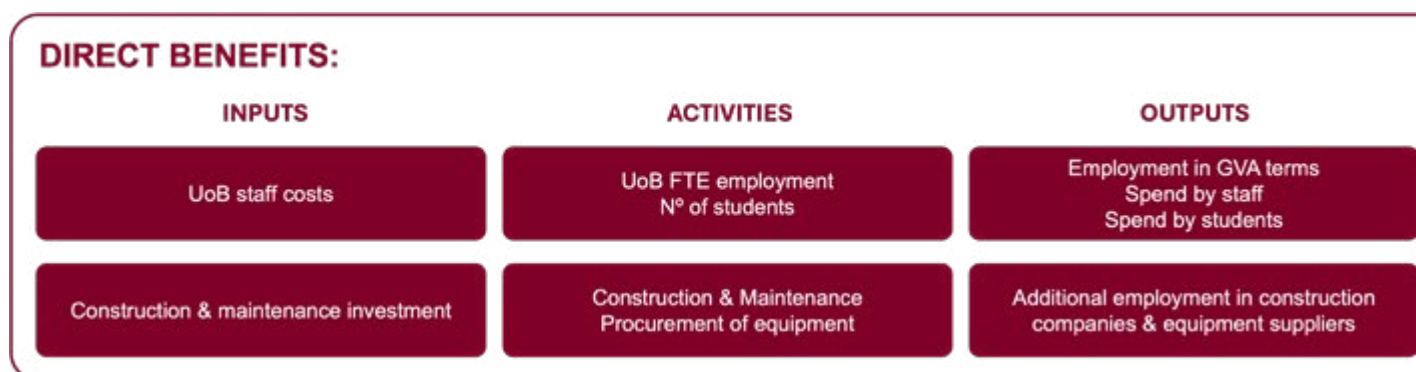
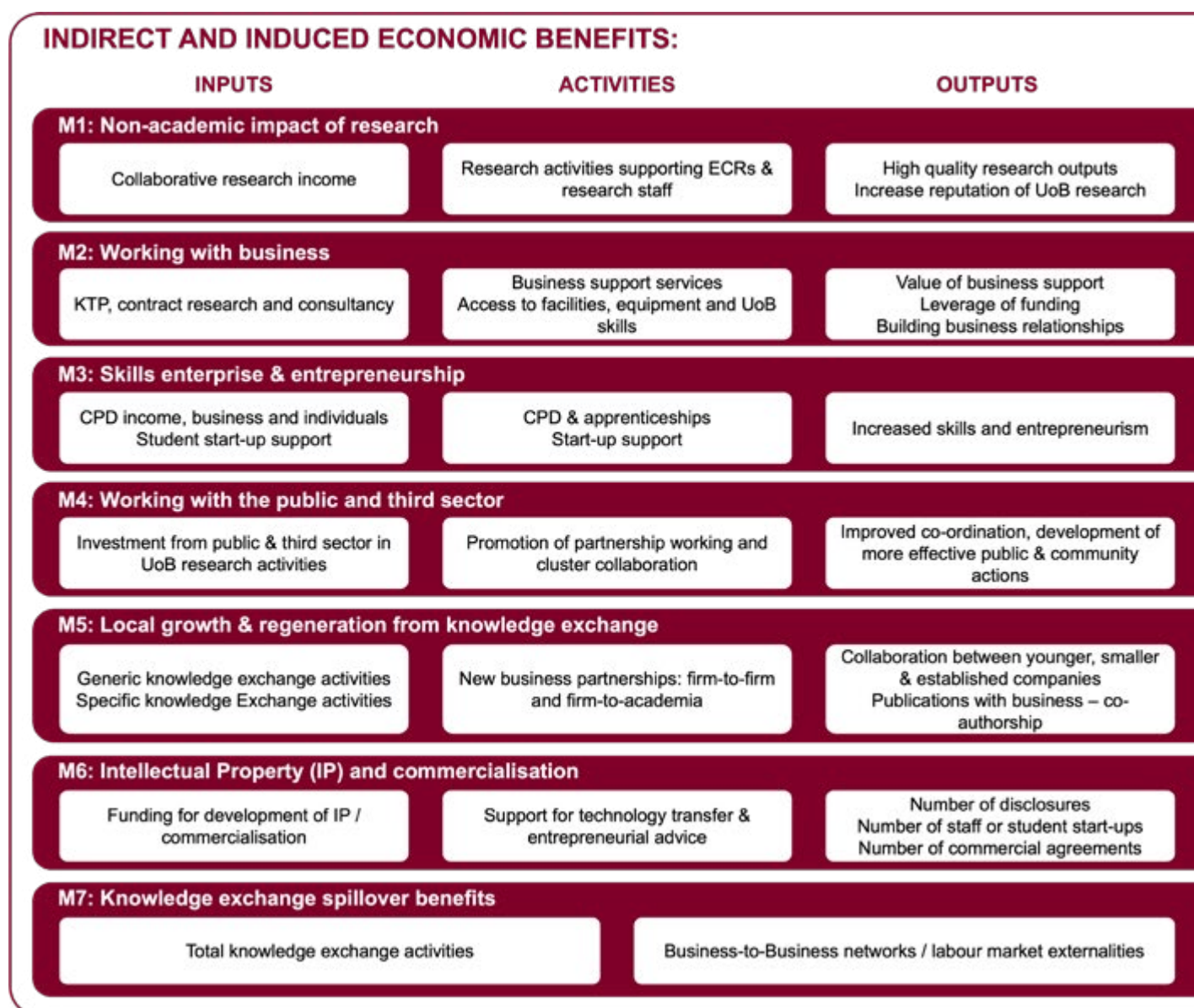


Figure 4: Logic chains - Indirect benefits



OUTCOMES

Local & regional expenditure and supply chain multiples

Supply chain multipliers from equipment / construction locally & regionally

IMPACTS

UoB employment GVA and job years locally & regionally

Construction GVA and job years locally & regionally

OUTCOMES

IMPACTS

Increased profile of UoB faculties
Increased attraction of students

Additional jobs & GVA created and sustained

Impact of business support / knowledge exchange activity on beneficiaries

Additional jobs & GVA created and sustained

Productivity improvement from graduate employment
Student start-ups

Employment & GVA impacts from productivity impact & new businesses

Increased investment in co-designed services, strengthened partnership and co-working arrangements

Greater efficiency in design & delivery
Synergy between key stakeholder

Agglomeration / spill-over benefits
Increased interdisciplinary research

Additional employment & GVA

New businesses established
Value of commercial agreements
IP / license revenue to UoB

Additional employment & GVA

Additional employment & GVA



HEADLINE FINDINGS

- 1 The University of Bedfordshire (UoB) has a significant impact on the local and national economy through its teaching activities but also undertakes a wide range of knowledge exchange activities that compare favourably to Higher Education institutions (HEIs) of similar size and characteristics.

National Economic Impacts for 2021/2022

University's impacts from knowledge exchange

- 2 At the national level, total gross value added (GVA) from the **UoB's Knowledge Exchange Framework (KEF) activities⁵ in 2021/2022 are estimated to be £51 million (or 2,130 Full-Time Equivalent (FTE) jobs)**. This represents a **return on investment (ROI) of £6.01 for every £1 invested** in knowledge exchange activities, a significant leverage of the UoB's £687k Higher Education Innovation Funding (HEIF).
- 3 In addition, these knowledge exchange activities generate further spillover benefits into the wider economy estimated to be over £14 million GVA, giving a total impact from knowledge exchange of £65 million (or 2,300 FTE jobs).

Working with businesses

- 4 The University has well-established business support programmes and knowledge exchange initiatives with businesses. Data for the year 2021/2022 shows post-Covid recovery in income to above pre-Covid levels following a dip in 2019-20 and 2020-2021 almost doubling in value in 2021/2022 to a total of £1.5 million.

Consultancy activities, contract research, and facilities and equipment hire have all increased in 2021/2022, generating a total of just over £5 million GVA.

5 As defined by Research England (2020) Knowledge Exchange Framework, March 2020. <https://www.ukri.org/wp-content/uploads/2021/10/RE-01102021-KEFClusteringNarrativeTemplateReport-Oct21deadline.pdf>



UNIVERSITY OF BEDFORDSHIRE: NATIONAL KNOWLEDGE EXCHANGE IMPACT

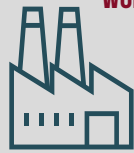
**ASSESSMENT
YEAR (AY)
2021/2022**

LOCAL GROWTH & REGENERATION

£9.4 million or
196 FTE Jobs



WORKING WITH BUSINESS



£5 million or
62 FTE Jobs



GRADUATE START-UPS

£14.5 million GVA
or **1,602 Employed**

CPD & SHORT COURSES

£13 million or
161 FTE Jobs



RESEARCH SPILLOVERS

£14.4 million or
178 FTE Jobs



RESEARCH PARTNERSHIPS

£5.3 million or
65 FTE Jobs



Core Non-Academic Impacts:



CORE ECONOMIC FOOTPRINT

£198 million or **2,850 FTE Jobs**

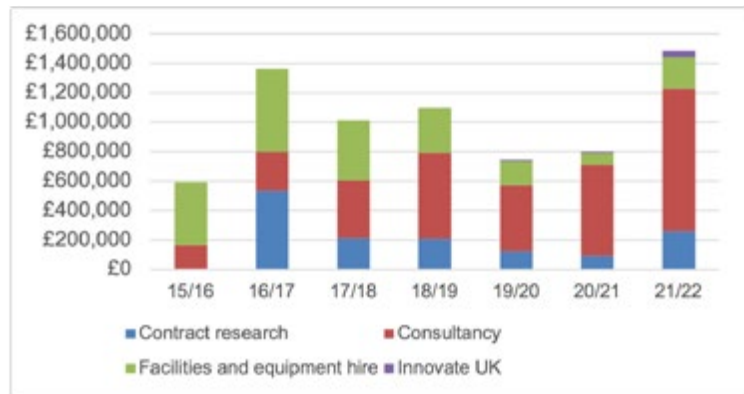


GRADUATE LIFETIME

PRODUCTIVITY IMPROVEMENT

£168 million or **3,500 FTE Jobs**

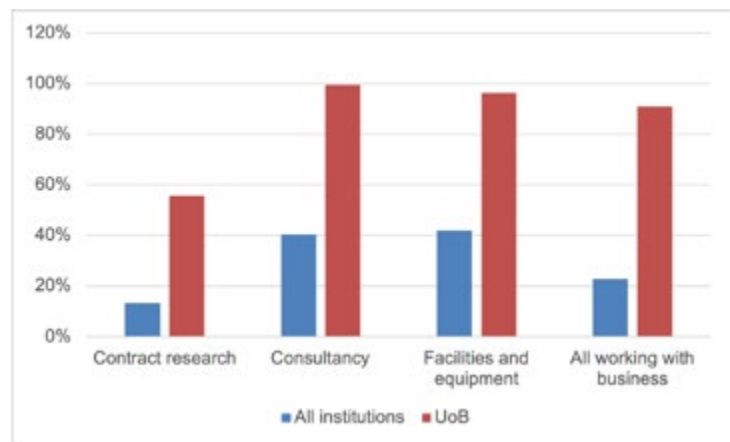
University's income from knowledge exchange activities with businesses



Source: Higher Education Statistics Agency (HESA), Table 1 - Income from collaborative research involving public funding, and Table 2a - Business and community services by Higher Education (HE) provider

- 5 The UoB has a strong focus on supporting small to medium-sized enterprises (SMEs) and this is evidenced in the income data with over 90% of commercial income from SMEs compared to 23% across all UK Higher Education (HE) providers. The majority of these firms are based in the sub-region⁶.

University's percentage of commercial activity undertaken with SMEs



Source: HESA, Table 2a - Business and community services by HE provider

Continuing Professional Development (CPD) and Apprenticeships

- 6 **The University offers a significant programme of Higher and Degree Apprenticeships** (just under 130 in 2021/2022) **and a range of short professional courses** for businesses and individuals seeking to improve their skills and develop their careers. Total income for these activities was just under £3 million in 2021/2022 and the estimated impact was £13 million or 161 FTE jobs.

⁶ The impact estimates have used the administrative boundary for the South East Midlands LEP (SEMLEP) as this encapsulates UoB main sites in Luton, Bedford and Milton Keynes.

UOB STUDENT START-UPS AND SOCIAL ENTERPRISES, COMPARED TO UK HEIS



ACTIVE SOCIAL ENTERPRISES



ACTIVE STUDENT START-UPS



FTE EMPLOYMENT IN STUDENT START-UPS & SOCIAL ENTERPRISE
1,602 IN 2021-22

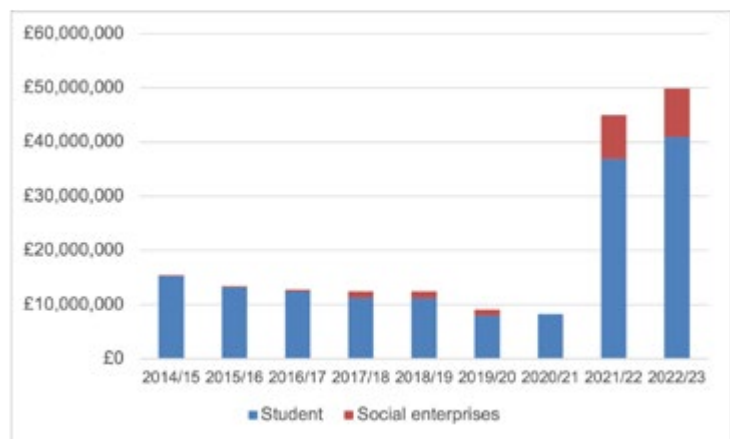


TURNOVER IN STUDENT START-UPS & SOCIAL ENTERPRISES
£45M IN 2021-22

University's impacts on Entrepreneurship

- The UoB ranks in the highest KEF quintile in relation to graduate startups. It has a long history of helping students and alumni to develop successful start-up companies through business support and advice offered from the Research & Innovation Service (RIS) including workshops and one-to-one sessions. In 2021/2022, those active graduate startups and social enterprises were turning over £45 million and employing 1,602 people. This generated an associated **£14.5 million GVA at UK level and £9.4 million GVA at the sub regional level.**

Turnover of active student/graduate start-ups



Source: HESA, Intellectual property - Spin-off activities by HE provider

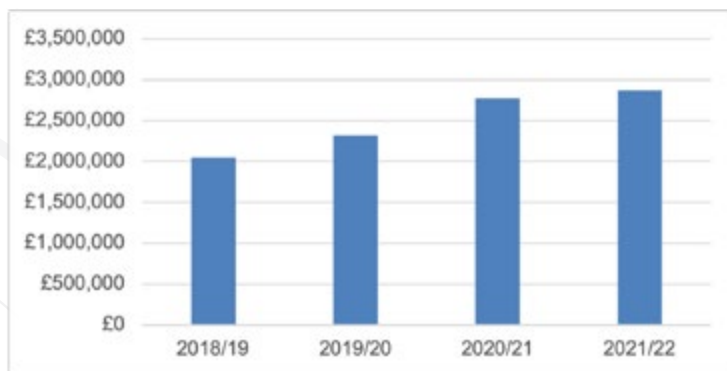
Note from the University:

The University was using estimates of turnover up to 2020/2021, using a figure that hadn't updated with inflation. A survey was conducted during 2021/22 to capture the turnover of all companies the UoB assisted, providing radically different figures which will be used going forward.

Research partnerships

- The extent of the University's collaboration with external partners has seen significant growth over the past four years. In 2018/2019, the UoB received around £2 million income from collaborative research and by 2021/2022 this had grown 34% to £2.9 million. **This is estimated to generate £5.3 million GVA or 65 FTE jobs at the UK level.**

Collaborative research income over time



Source: HESA, Table 1 - Income from collaborative research involving public funding by HE provider

- 9 Research partners vary significantly depending upon the issue that is being addressed and the aims of the knowledge exchange activity but are predominately SMEs and microbusinesses, larger businesses and charities and the public and third sectors.

University's impact on place

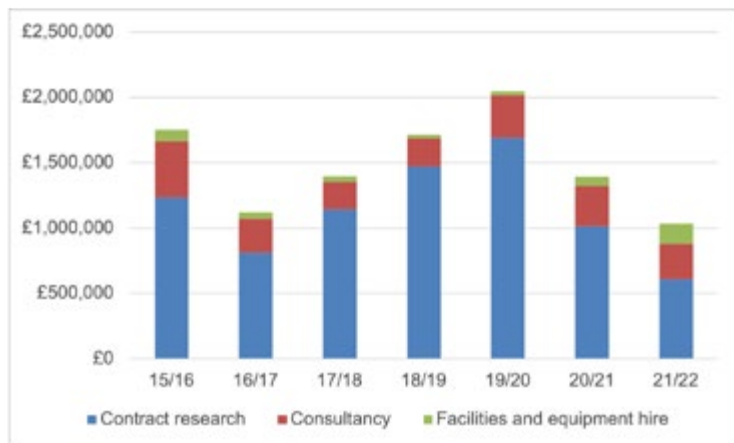
- 10 The University is an anchor institution and one of the largest employers in Luton and plays an important role in the local and regional economy. **In 2021/2022 the UoB employed 1,355 FTE staff, a large proportion of which were in highly-skilled roles with high value added** - a GVA per job of around £70,000, around 23% higher than the average for Luton of £57,000⁷.
- 11 The operation of the UoB, through the purchasing of goods and services and the spend of staff and students in the local economy, generates **a significant economic impact of £198 million GVA (or 2,850 FTE jobs)**. In 2021/2022, the UoB had 16,430 students, of which 13,980 were full-time and 2,450 part-time.

Working with the public and third sector

- 12 The assessment year (AY) 2021/2022 was selected for this assessment of economic impacts as the obvious impacts from the Covid-19 pandemic had faded. That said, the University income from the public and third sector is the one area where post-Covid income especially for contract research has declined.

7 ONS Sub-regional Productivity data, 2021

Income from activities with the public and third sector



Source: HESA Tables 1 - Income from collaborative research involving public funding by HE provider, and Table 2a - Business and community services by HE provider.

- 13 The UoB has signed a Civic Agreement with Luton Borough Council and has close working relationships with local NHS Trusts. A range of research contracts have commenced with the local authority to increase knowledge exchange with the public and third sector and increasing public and third sector income but all of these start after the AY 2021/2022.
- 14 **In 2021/2022, total income from working with the public and third sector was just over £1 million, which generated £3.5 million or 43 FTE jobs.**

Contribution to UK exports

- 15 In 2021/2022, the University generated £122 million in tuition fees of which 38% (£47 million) was from international students. These students also spent an estimated £71 million in the local economy while undertaking their studies. **Total export income is £177 million, which contributes to £34.9 million GVA.**

Long-term productivity impacts

- 16 The post-graduation employment rate of UoB graduates is in line with the average across UK institutions with 81% in employment, compared to 82% for all UK HEIs in 2021/2022. The impact of the University teaching on the careers of their graduates is highly regarded. Using Office for National Statistics (ONS) data to estimate the value of securing a Degree or Postgraduate qualification on future earnings calculates the lifetime productivity benefit for those students in employment in the UK. In total, this is estimated to be around **£168 million, generating around 3,502 FTE jobs**. This figure does not include international graduates who are assumed to return home post completion.

Total impact of the University

- 17 **The combined impact of the UoB activities and operations in 2021/2022 generates an estimated £431m GVA or 8,662 FTE jobs.**

Sub-Regional Economic Impacts for 2021/2022

University's economic impact on the local economy

18 The University's economic impact estimates have also been calculated for their impact on their local economy – for the purposes of this analysis this is taken to be the South East Midlands Local Enterprise Partnership (SEMLEP) area:

- **At the sub-regional level the knowledge exchange activity generated a total GVA of £38.2 million and 1,263 FTE jobs** with a return on investment (ROI) of £4.51.
- In addition, **research spillovers captured by the subregion amount to £7.2m or 89 FTE jobs**, giving a total impact from the University's knowledge exchange activities of £45.4 million or 1,352 FTE jobs in the sub-region.
- **The UoB's core economic footprint in the sub-region** including the day-to-day operations of the University, purchases and staff and student spend is **£164 million or 2,351 FTE jobs**.
- The lifetime productivity benefit from UoB graduates is based on the 12% of UK students that were originally from the sub-region. This generates a **sub-regional productivity benefit of £20m and 413 FTE jobs**.
- Altogether, the **combined impacts of the UoB on the local sub-region is £229 million GVA or 4,116 FTE jobs**.

Detailed impacts on this local area are presented on the right.

UNIVERSITY OF BEDFORDSHIRE: SUB-REGIONAL KNOWLEDGE EXCHANGE IMPACT

**ASSESSMENT
YEAR (AY)
2021/2022**

LOCAL GROWTH & REGENERATION

£9.4 million or
196 FTE Jobs



WORKING WITH BUSINESS



£4 million or
50 FTE Jobs



GRADUATE START-UPS
£7.3 million GVA
or **801 Employed**

CPD & SHORT COURSES

£10.5 million or
129 FTE Jobs



RESEARCH SPILLOVERS

£7.2 million or
89 FTE Jobs



RESEARCH PARTNERSHIPS

£4.2 million or
52 FTE Jobs



Core Non-Academic Impacts:



CORE ECONOMIC FOOTPRINT

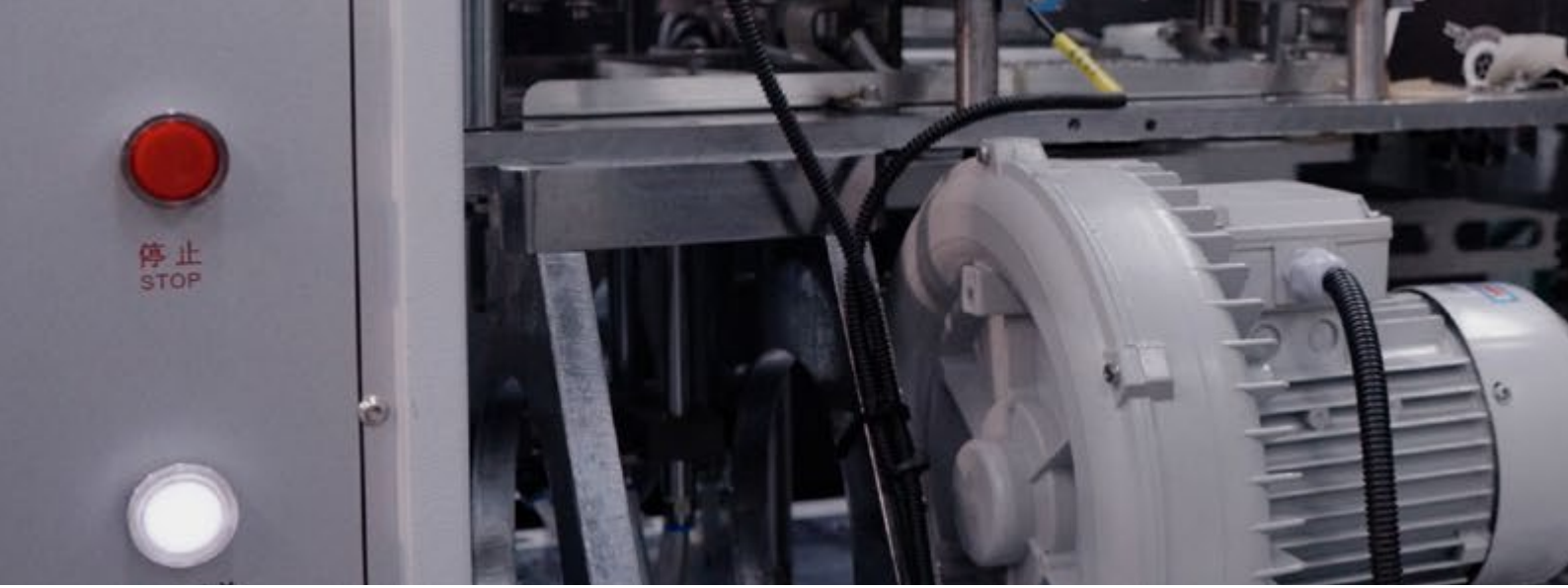
£164 million or **2,351 FTE Jobs**



GRADUATE LIFETIME

PRODUCTIVITY IMPROVEMENT

£20 million or **413 FTE Jobs**



ECONOMIC IMPACT OF CORE ACTIVITIES

Overview

- 1 This section of the report provides an overview of the impact of the core operations of the University of Bedfordshire (UoB) comprising direct employment, indirect employment, purchasing by the UoB and offsite purchasing by staff and students.

Direct employment

- 2 The UoB is one of the largest employers in Luton and plays an important role in the local and regional economy. In 2021/2022, the University employed 1,355 Full-Time Equivalent (FTE) staff, a large proportion of which were in highly skilled roles; 60% were in managerial and professional occupations, 20% were in associate professional occupations and 20% were in clerical and manual occupations.
- 3 This staff breakdown means that the UoB is a high productivity entity with a gross value added (GVA) per job of around £70,000, around 23% higher than the average for Luton of £57,000⁸.
- 4 Using data from the Annual Business Survey⁹ direct employment was converted into GVA showing that the “direct impact only” of the UoB generated a **total GVA of £101 million at the UK and sub-regional levels.**

Purchasing by the University

- 5 In 2021/2022, the University spent £7.1 million on goods and services in the UK. This expenditure data was converted to GVA using 2018 GVA per job data from Annual Business Survey inflated to 2021/2022 values. Type II composite multipliers from 2020 Scottish Government Supply, Use and Input-Output tables were then applied at national level¹⁰. At the national level, this **spend supported 97 FTE jobs and £4.7 million GVA.**
- 6 At the sub-regional level a Type II composite multiplier of 1.3 was applied to estimates of spend at the sub-regional level¹¹. Here sub-regional spend of around £4.2 million was estimated to support **80 FTE jobs and £3.0 million GVA.**

8 Office for National Statistics (ONS): Sub-regional Productivity data, 2021.

9 2018 GVA per job data from Annual Business Survey inflated to 2021/2022 values.

10 Scottish data is used because only Scotland and Wales have developed their own regional input-output tables through which indirect and enabled impacts can be assessed.

11 Sub-regional multiplier taken from Homes & Communities Agency's Additionality Guide Fourth Edition table 4.14, page 36.



Offsite expenditure by University staff

- 7 As direct staff – and those in the supply chain - spend their wages and salaries locally, this supports further economic activity and multiplier effects. We calculated this impact by applying an induced multiplier of 1.24¹² to the £101 million GVA figure for direct employment. We estimate that through these effects, the University supports **312 FTE jobs and £23 million in GVA in the UK economy**.
- 8 To calculate the sub-regional impacts we took into account the home location of staff into the estimation of spend, three-quarters of staff (74%) live in the sub-region and we assumed that 50% of their spend is in region. We estimate that spend by staff supports **115 FTE jobs and £8.6 million in GVA in the sub-region**.

Offsite expenditure by University students

- 9 The University is the second largest university in the sub-region by student numbers¹³. In 2021/2022, the UoB had 16,430 students, of which 13,980 were full-time and 2,450 part-time.
- 10 The Student Income and Expenditure Survey 2021/2022 found that after tuition fee costs, full-time students in England spent an average in term time of approximately £11,500 per annum and part-time students spent approximately £14,300 per annum¹⁴. For the UoB, this equates to a total student expenditure of £196 million.
- 11 Detailed categories of spend were used to convert spend to GVA at the UK and sub-regional level. To avoid double counting we removed student expenditure on direct course costs from this assessment. A Type II multiplier was used to calculate indirect and induced impacts. At the national level different Type II multipliers were used for each category of spend¹⁵. At the sub-regional level, due to the lack of availability of the sub-regional area multipliers, we used a low type II multiplier of 1.3 across all categories of spend¹⁶.

12 Induced multiplier calculated using Scottish Government Supply, Use and Input Output tables. Scottish data used because only Scotland and Wales have developed their own regional input-output tables.

13 In the South East Midlands Local Enterprise Partnership (SEMLEP) area it was second only to The Open University, where the majority of students are based off campus.

14 The relative spend of full-time and part-time students appears counter-intuitive, however, part-time students are typically older and often also in employment with dependents meaning that their expenditure is higher on average.

15 In order to measure the total contribution of student spending we used Office for National Statistics (ONS) multipliers. These are specific to the good or service purchased and we matched as precisely as possible the goods included in the Student Income and Expenditure Survey with the ONS industrial classifications.

16 Type ii Composite multiplier of 1.3 used at SEMLEP level from HCA Additionality Guide Fourth Edition table 4.14, page 36.

- 12 Table 1 provides a summary of the impacts from student expenditure. This **generates £69 million GVA and 1,087 FTE jobs at the UK level and £51 million and 800 FTE jobs at the sub-regional level.**

Table 1: GVA and employment supported by student expenditure

GROSS IMPACT	TOTAL SPEND	TOTAL FTE JOBS	GVA
UK	£195,886,720	1,087	£68,972,932
Sub-region	£195,886,720	800	£51,334,621

Total impact of core activities

- 13 Table 2 summarises the total impact of core University activities. At the **UK level these produce a gross GVA of £198m and 2,851 FTE jobs. At the sub-regional level these produce a gross GVA of £154m and 2,351 FTE jobs.**

Table 2: Total impact of core operations

UK	UK		SUBREGION	
	GVA	FTE JOBS	GVA	FTE JOBS
Direct employment	£100,793,334	1,355	£100,793,334	1,355
Purchasing by University	£4,739,378	97	£4,739,378	80
Spend by staff	£23,220,466	312	£23,220,466	312
Spend by students	£68,972,932	1,087	£51,334,621	800
Total core	£197,726,111	2,851	£163,737,641	2,351





RESEARCH AND KNOWLEDGE EXCHANGE IMPACT

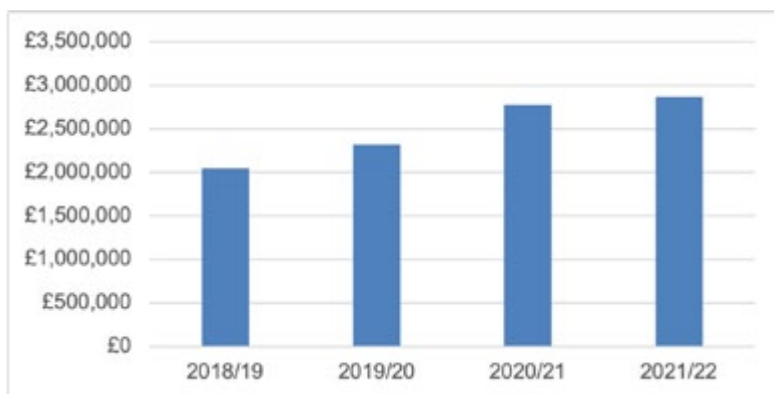
1 This section of the report considers the Knowledge Exchange Framework (KEF) areas of impact that related to research and knowledge exchange. These comprise:

- Research partnerships
- Working with businesses
- Working with public and the third sector
- Continuing Professional Development (CPD) and graduate start-ups
- Local growth and regeneration
- Intellectual Property (IP) and commercialisation

Research partnerships

2 The extent of the University of Bedfordshire’s (UoB’s) collaborations with external partners has seen significant growth over the past four years (Figure 5). In 2018/2019, the UoB received around £2 million income from collaborative research and by 2021/2022 this had grown 34% to £2.9 million¹⁷.

Figure 5: Collaborative research income over time



Source: Higher Education Statistics Agency (HESA), Table 1 - Income from collaborative research involving public funding by Higher Education (HE) provider

¹⁷ Higher Education Statistics Agency (HESA), Table 1 - Income from collaborative research involving public funding by Higher Education (HE) provider. Online at <https://www.hesa.ac.uk/data-and-analysis/providers/business-community/table-1>



- 3 Research partners vary significantly depending upon the issue that is being addressed and the aims of the knowledge exchange activity. However overall, the University predominantly works with:
- **Small to medium-sized enterprises (SMEs) and micro-businesses** - with the aim to support them to innovate and scale up across a range of sectors, but with a focus on the priority sectors outlined above.
 - **Larger businesses** – to provide higher and degree apprenticeship solutions to help them address skill gaps but, also, through wider knowledge exchange activity, to help solve sector wide problems that large businesses and their supply chains experience, such as data driven analytics, organisation culture and business strategy.
 - **Charities, public sector and the third sector** – to utilise the UoB’s research excellence and focus on community, health and social care. These organisations benefit from the business practice, good governance and data management expertise from the UoB, providing productivity and efficiency benefits, and routes to build sustainable income for the organisation.

CASE STUDY: Creative Entrepreneurship Development in Ukraine

The University of Bedfordshire’s Business School (UBBS) has strong expertise in providing high quality and practice-driven entrepreneurship education at vocational, undergraduate and postgraduate levels. In 2018, UBBS was approached by the Ukrainian Engineering Pedagogics Academy (UEPA) regarding the development of a joint proposal to the British Council, Creative Spark: Higher Education Enterprise Programme, for the establishment of a Centre of the Creative Entrepreneurship Development (CCED) in UEPA. The Creative Spark programme is a five-year initiative (2018-2023) to support university and institutional partnerships with the UK to develop entrepreneurship and enterprise skills for students and young entrepreneurs across seven countries: Ukraine, Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan) and South Caucasus (Azerbaijan, Armenia, Georgia).

Young people in creative industries are facing challenges in transforming their innovative ideas into viable business enterprises. In Ukraine, support for entrepreneurial development is very limited, which makes the need for Creative Spark even more important. The UBBS, with the UEPA - later joined by the Simon Kuznets Kharkiv National University of Economics (KhNUE), and the Innovation Generation (INNOGEN) - were awarded around £117k through this programme to:

- Provide skills development for students and young creative entrepreneurs in Ukraine.

- Support new business activation and incubation.
- Increase knowledge exchange including through an annual roadshow of the best entrepreneurial ideas and annual competition award for young creative entrepreneurs.

The UBBS ran workshops and worked with around 400 staff at universities from different regions of Ukraine to share information and experience on how UK Higher Education Institutions (HEIs) are supporting enterprises through education, research and knowledge transfer. Support was strongly focussed on capacity building and training the tutors and helping UEPA, KhNUE and other universities to:

- Create a new innovative educational model for developing creative enterprises and entrepreneurial oriented curriculum.
- Pilot a support portal to provide relevant educational materials and resources, and to link students, graduates and young entrepreneurs and other like-minded people to share their ideas and promote their business.
- Design new training programmes to develop essential entrepreneurial skills.

In total, the programme supported over 600 Ukrainian students, alumni and young entrepreneurs with training on entrepreneurship skills, interpersonal skills, confidence, and leadership. Through attending these events, participants were able to build their personal and professional networks. The programme also successfully increased participants' English language abilities, confidence, and interest in the UK. For example, the UBBS ran a series of start-up project competitions for students in Ukraine where student teams presented their project ideas and first achievements to expert panel members from UBBS and to successful entrepreneurs in the creative industry.

The partnership also resulted in the development of a nationally available online resource manual. The UEPA, KhNUE, and INNOGEN gained from local exposure and secured financial support from local government partnerships from work with the Department of Innovative Development and Image Projects of the Kharkiv City Council and Kharkiv Municipal Startup Center who pledged financial support to the partnership's start-up competition and advertised it on their local TV channel.

The University of Bedfordshire supported the UEPA, KhNUE, and INNOGEN to secure two grants via the House of Europe Programme. Both projects were based on direct learning from the University, one on raising awareness of and developing leadership capability for social enterprises, and another on the use of Lego simulation and the development of entrepreneurship and business skills training materials using gamification.

The project contributed to the UBBS securing the Gender Equality Partnerships grant within the Going Global Partnerships programme run by the British Council to carry on working with the UEPA, KhNUE, and INNOGEN on Women's Career Enhancement in Higher Education. This project built on the success of the long-term partnership and continued the focus on capacity building but with a specific focus on overcoming the challenges of equality, diversity and inclusion in higher education.

CASE STUDY: University of Bedfordshire and Lands Improvement Collaboration

The University is a leading provider of training for physical education teachers in the UK and has actively participated in national and international initiatives to elevate the quality of physical education in schools.

Lands Improvement, a land developer dedicated to creating healthy, happy environments that are conducive to health and well-being, has collaborated with the University of Bedfordshire on a physical literacy and active environment project at Linmere, a new housing development situated north of Houghton Regis, Luton. Lands Improvement has a strategic objective to long-term placemaking, striving to deliver sites which continue to benefit residents over time. However, a key challenge is that environments often fail to meet resident's needs, leading to increased disengagement. To address this, robust research was needed to demonstrate to local authorities and stakeholders that environmental design must go beyond a tick box approach (i.e., going against the typical 'springy thing, swingy thing, and slidey thing' in play parks).

To facilitate comprehensive resident engagement, Lands Improvement approached the University for assistance. The University's research team, led by Dr Joanne Hill, Professor Angel Chater and PhD Candidate Olivia Flemons, worked on assessing residents' attitudes towards physical activity and identifying motivating and deterring factors. This data generation led to the creation of the *'MoveScape Toolkit'*, a toolkit of methods for Lands Improvement to use to assess the impact of active environments over time. The research has already had multiple impacts. It fostered community activation, bringing residents together and forming a community bond. Focus groups helped to catalyse the creation of a community activation group responsible for arranging local events and activities, such as Park Play.

The developer plans to apply the *'MoveScape Toolkit'* to three further developments, and share the approach with other developers, advocating for a paradigm shift away from the typical tick box approach to more co-productive methods. Lands Improvement intends to continue working closely with the University in the future, offering work experience opportunities for the University of Bedfordshire students at their community centre. Overall, the project has been highly successful, with hopes that the research will bolster national policy by contributing to the evidence base underpinning the Sport England Physical Literacy Consensus.

- 4 In 2022, the University entered into a [Civic Agreement with the Luton Borough Council](#) to formalise their collaborative working on the future prosperity of Luton through delivery of Luton 2040 Vision: A Place to Thrive. The Civic Agreement provides a framework for greater partnerships working across the development of skills for the local economy, improve knowledge exchange activities across a range of health, social, community and cultural interventions, support innovation for Luton's net zero pathway and sustainable working and jointly promote the benefits towards improvements towards the Luton 2040 vision. The Civic Agreement sets out a higher level of collaborative working but because many of these projects commenced or will achieve impacts outside the timescale of this report, their impact will be reported on elsewhere.
- 5 To assess the gross value added (GVA) of this activity we reviewed the literature for a benchmark return on investment (ROI). We have used an average ROI of £1.85 per £1 at the national level from research for the Department of Business, Innovation and Skills (BIS)¹⁸, which reviewed the social returns of the Research Council's research & development (R&D) over a 7-year period. Applying this return to the collaborative investment generates a **total GVA of £5.3 million at the UK level and £4.2 million at the sub-regional level**. Using GVA per job data from the Annual Business Survey we estimate that this GVA supports **65 Full-Time Equivalent (FTE) jobs at the UK level and 52 FTE jobs at the sub-regional level**.

¹⁸ Frontier Economics (2014) Rates of return to investment in science and innovation, BIS. Online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/333006/bis-14-990-rates-of-return-to-investment-in-science-and-innovation-revised-final-report.pdf

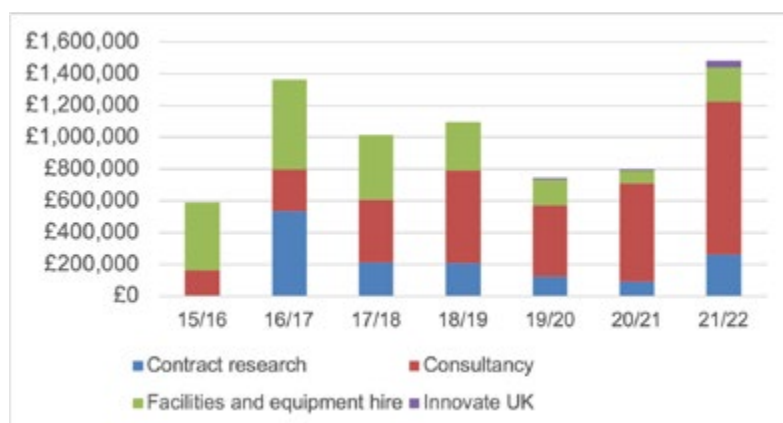
Working with businesses

6 This section focusses on the impact derived from the University’s work with businesses including joint research. Activities covered here comprise:

- Contract research with businesses
- Consultancy activities
- Facilities and equipment related services
- Knowledge Transfer Partnerships (KTPs) and Innovate UK grants

7 The UoB receives income from a variety of activities with businesses as detailed in Figure 6, comprising consultancy, contract research, facilities and equipment hire and Innovate UK’s KTPs and grants. Data for the year 2021/2022 shows post-Covid recovery in income to above pre-Covid levels following a dip in 2019/2020 and 2020/2021 and in 2021/2022 a total of £1.5 million was received.

Figure 6: UoB income from activities with businesses



Source: HESA, Table 1 - Income from collaborative research involving public funding by HE provider, and Table 2a - Business and community services by HE provider

CASE STUDY: Student Live Projects with Businesses

A strategic use of government-funded Higher Education Innovation Funding (HEIF) at the University of Bedfordshire has been to support academic-led projects with businesses, as part of applied teaching and research.

Academics from the University work with local small and medium-sized enterprises (SMEs) to identify business challenges and create practical, outcome-based tasks for students. These “Live Projects” address both student learning objectives and the growth needs of the regional business community.

Students take part in real-world consultancy projects, including challenges in business strategy, sustainability (net zero), digital systems, marketing, and productivity. Past projects have included the development of digital marketing strategies, risk analysis of digital systems, and the implementation of project management tools to address recurring issues.

The aim of Live Projects is to foster growth through innovation by connecting students with local businesses. Almost all Business School units now incorporate Live Projects, ensuring students gain valuable work experience during their studies.

Initial SME enquiries are managed by the University's Business Partnership Officers, who match business needs with the appropriate academic lead. The academic defines the scope and assessment tasks, and students—supervised throughout—engage with the SME to develop solutions. Results are first submitted to the academic for marking, before being shared with the business either through a presentation or written report.

Live Projects are designed to be flexible and responsive. SMEs can choose how results are delivered, and may use the findings to pursue further support, such as funding bids through UKRI, KTP or Horizon Europe, or by hiring a student to continue the work.

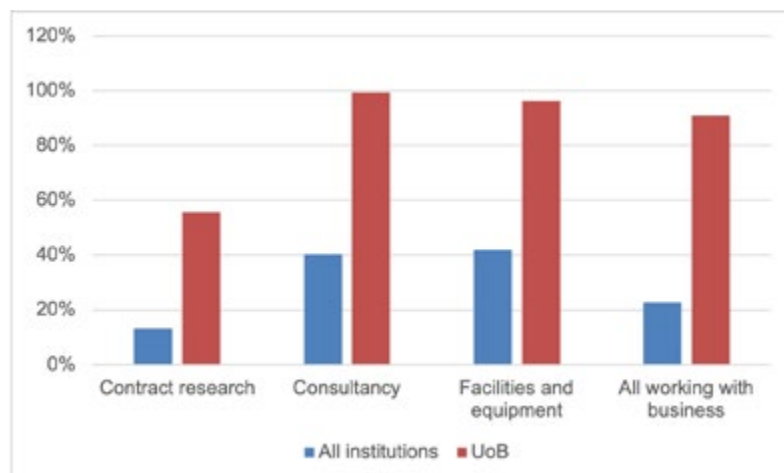
Since the programme began, over 250 projects have been delivered with SMEs, involving around 5,500 students. Evaluation shows students benefit from enhanced practical, technical, research, and employability skills.

Businesses have also seen significant impact. One SME sought help with growth planning and brand development, receiving in-depth feedback to improve their marketing approach. Another SME gained valuable support in exploring growth opportunities and understanding how to meet certification standards for social and environmental performance.

Following these successes, the University has secured £98,000 to expand student-business collaboration across Central Bedfordshire and West Northamptonshire. This funding is supporting further research into the long-term impact of Live Projects on both students and the business community.

- 8 The UoB has a strong focus on supporting SMEs and this is evidenced in the income data with over 90% of commercial income from SMEs compared to 23% across all UK Higher Education (HE) providers (Figure 7).

Figure 7: Percentage of commercial activity undertaken with SMEs



Source: HESA, Table 2a - Business and community services by HE provider

Contract research with businesses

- 9 In 2021/2022, the University received £261,000 from contract research of which around 56% was from SMEs. This includes income identifiable by the HE provider as meeting the specific research needs of external partners, excluding any already returned in collaborative research involving public funding and excluding basic research council grants.

Consultancy activities

- 10 Income from consultancy activities has shown strong year-on-year growth from around £159,000 in 2015/2016 to £965,000 in 2021/2022. This comprises advice and work crucially dependent on a high degree of intellectual input from the HE provider to the client (commercial or non-commercial) without the creation of new knowledge. In 2021/2022, 99% of this income was from SMEs.

Facilities and equipment related services

- 11 This comprises income associated with the use of the University's physical academic resources by external parties and captures provision which can be uniquely provided by the HE provider. In 2021/2022, it shows a post-Covid recovery in this income and in this year £212,000 was secured of which 96% was from SMEs.

Impact of working with businesses

- 12 To assess the GVA of these activities we reviewed the literature for a benchmark return on investment (ROI). We have used a ROI of £3.40 which is from our previous assessment of the economic impact of investment by the Economic and Physical Sciences Research Council in research equipment¹⁹. This assessment used in-depth case studies with businesses and academics to quantify the return on investment of both the investment in equipment and the downstream impacts from its use and associated research. Although the focus of this research was on the equipment, many of the projects included both consultancy and contract research elements.
- 13 The average ROI of £3.40 per £1 investment has been applied to income from working with businesses to derive total impacts from collaborative activities with businesses. This generates a **GVA of £5.3 million at the UK level and £4.0 million at the sub-regional level**. Using GVA per job data from the Annual Business Survey we estimate that this GVA supports **62 FTE jobs at the UK level and 50 FTE jobs at the sub-regional level**.

Working with the public and third-sector

- 14 This covers the impact derived from the UoB's work with the public and third sector. The University has a long history of community engagement and through its Transforming Bedfordshire Strategy it sets out goals aimed at optimising its civic role, working with key public authorities and services, business and industry, community and voluntary sector organisations, and contributing to their strategy development. Examples of this joint working include the Active Herts programme.

CASE STUDY: Active Herts Programme

The **Active Herts** programme is a community-based initiative designed to reduce inactivity and sedentary behaviour by increasing physical activity among inactive adults – those engaging in less than 30 minutes of moderate to vigorous physical activity (MVPA) per week – who also have cardiovascular disease risk factors and/or mental health concerns.

Active Herts was informed by research undertaken at the University of Bedfordshire's Centre for Health, Wellbeing and Behaviour Change. The Director of the Centre, Professor Angel Chater, was approached by the Director of Public Health at Hertfordshire County Council to support the training of public health consultants in behaviour change delivery.

The Council had secured £1 million in funding from Sport England and partners to deliver the Active Herts programme. However, the initial design lacked a theoretical basis for behaviour change, so Professor Chater's research was incorporated to strengthen its approach.

The **Active Herts** programme is available to individuals referred by healthcare professionals - typically through participating GP practices, or via self-referral. It was launched in 2015 across four areas of deprivation in Hertfordshire and received over 3000 referrals over a four-year period.

Participants received a 45-minute consultation with a 'Get Active Specialist' (a registered exercise professional), who were trained by Professor Angel Chater (UoB) and Dr Neil Howlett from the University of Hertfordshire to use motivational interviewing and health coaching techniques. During the session, the specialist guided individuals through the **Active Herts** self-help booklet, performed a real-time COM-B behavioural analysis (to assess Capability, Opportunity and Motivation towards Behaviour), and delivered a series of Behaviour Change Techniques (BCTs). Participants were then signposted to either a free 12-week programme or subsidised local exercise sessions. They also received a follow-up call two weeks later, along with motivational text messages. Further follow-ups were conducted at 3, 6 and 12 months, and participants were invited to 'conversation cafes' to support programme evaluation.

The evaluation demonstrated the effectiveness of the COM-B model and the specialised behaviour change training of the Get Active Specialists for both increasing physical activity and reducing sedentary behaviour.

After the initial funding period, further investment was secured to continue the service. This included the re-branded Active Watford and Three Rivers programme, funded by the Premier League, and the continuation of **Active Herts** in Broxbourne, funded by the local authority. Camden Council are also now implementing the same programme.

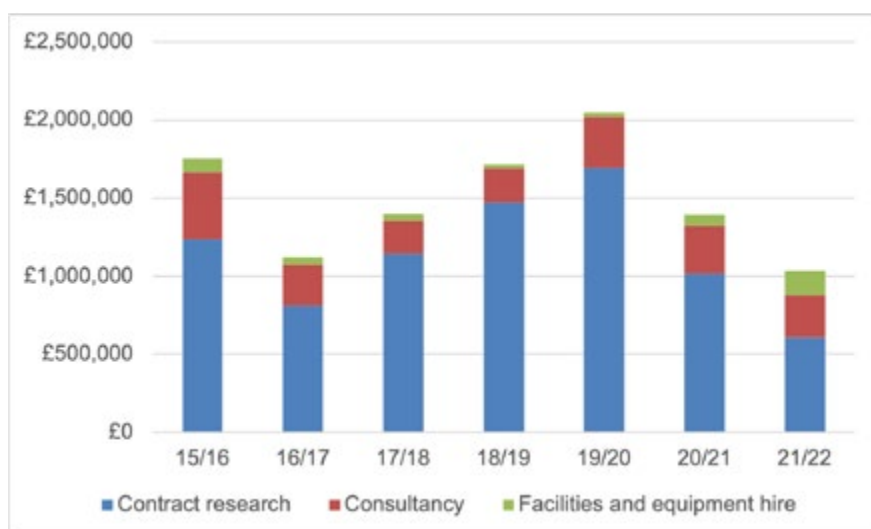
The techniques developed in **Active Herts** have been applied in other research trials aimed at reducing inactivity, including the *Frail-LESS trial* (targeting sarcopenia in frail older adults), the *RESIT trial* (targeting people with Type 2 Diabetes), and the *A-REST trial* (addressing prolonged sitting in police staff).

The success of **Active Herts** has attracted considerable attention. It has been highlighted as a good practice case study by the Local Government Association and was showcased at the Cheltenham Science Festival. The **Active Herts** programme also featured in the BBC One documentary *The Truth about Improving Your Mental Health* and in the *Achieving Behaviour Change Guide* published by Public Health England.

15 Income from this source comprises contract research, consultancy activities and facilities and equipment related services (Figure 8).

16 This covers the impact derived from the University's work with the public and third sector. Activities covered here comprise contract research, consultancy activities and facilities and equipment related services (Figure 8).

Figure 8: University income from activities with the public and third sector



Source: HESA, Table 1 - Income from collaborative research involving public funding by HE provider, and Table 2a - Business and community services by HE provider

17 Since Brexit, the loss of nationwide European Regional Development Fund (ERDF) investment means income from this source has declined and in 2021/2022 a total of £1 million was received. This comprised:

- £610,000 from contract research
- £269,000 consultancy income
- £155,000 from facilities and equipment related services

18 The average ROI of £3.40 per £1 investment has been applied to this income and generates a **GVA of £3.5 million at the UK level and £2.8 million at the sub-regional level**. Using GVA per job data from the Annual Business Survey we estimate that this GVA supports **43 FTE jobs at the UK level and 35 FTE jobs at the sub-regional level**.

Continuous Professional Development (CPD)

19 The University ranks in the highest Knowledge Exchange Framework (KEF) quintile in relation to CPD and in 2021/2022 generated £2.9 million from CPD activities of which £1.9 million was from individuals and £1 million was from businesses²⁰. There is a paucity of robust evidence on the economic impact of CPD activities and a review of the literature has identified limited benchmarks. For example:

- Association for Talent Development (ATD) has confirmed through their research that companies which offer comprehensive training programs have 218% higher income per employee than companies without formalised training. Also, these companies have a 24% higher profit margin than those spending less on training.
- A study by Accenture found that the average ROI for training was 353%. They found that for every dollar spent, it returned \$4.53.
- A randomised controlled trial across five factories in Bangalore, found that a 12-month, in-factory training programme identified that the soft skills training returned roughly 250 percent on investment within eight months of its conclusion.

20 We have taken the Accenture benchmark ROI here as the short course and high level of the training appears to fit most closely with the University's offer. Applying this evidence suggests that this **CPD activity generated £13.1 million in GVA and 161 FTE jobs at UK level and £10.4 million and 129 FTE jobs at the sub-regional level**.

²⁰ HESA Table 2b – Continuing Professional Development (CPD) and Continuing Education (CE) courses for business and the community by HE provider

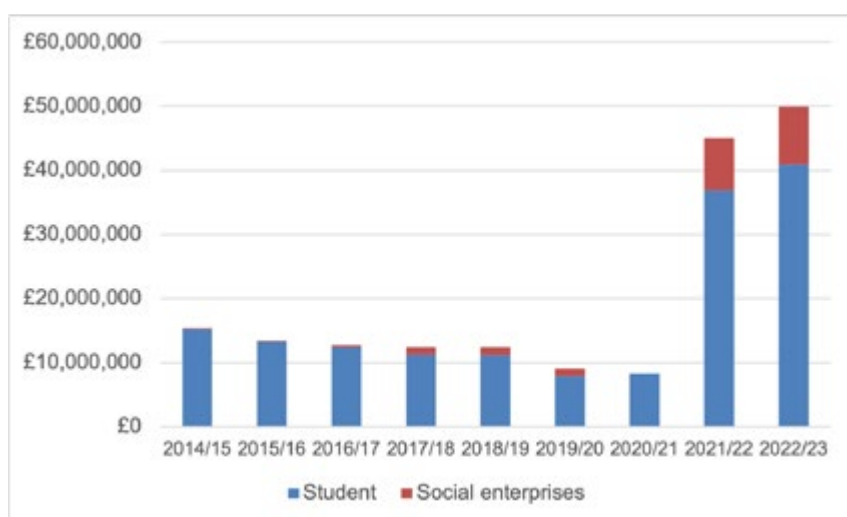
Student/graduate start-ups

21 The University of Bedfordshire ranks in the highest KEF quintile in relation to graduate start-ups. It has a long history of helping students and alumni to develop successful startup companies through business support and advice offered from the Research & Innovation Service (RIS) including workshops and one-to-one sessions. Key achievements in 2021/2022 include:

- Ranking 2nd in the UK for the number of active student/graduate start-ups and social enterprises with a total of 429 recorded in 2021/2022:
 - ▶ Ranking 1st in the UK for the number of active social enterprises (which have survived at least 3 years) with 77 recorded in 2021/2022. The University of Edinburgh, which is second on the list, recorded 29.
 - ▶ Ranking 3rd in the UK for the number of active student/graduate start-ups (which have survived at least 3 years) with 352 recorded in 2021/2022.
- Ranking 6th in the UK in relation to the estimated FTE employment of all active student and social enterprise start-ups with a total FTE employment of 1,602.
- Ranking 11th in the UK in relation to the estimated turnover of all active student and social enterprise start-ups with a total turnover of £45 million.

22 In 2021/2022, those active graduate start-ups and social enterprises were turning over £45 million and employing 1,602 people. By 2022/2023 this had increased to £50 million and 1,777 employees (Figure 9).

Figure 9: Turnover of active student/graduate start-ups



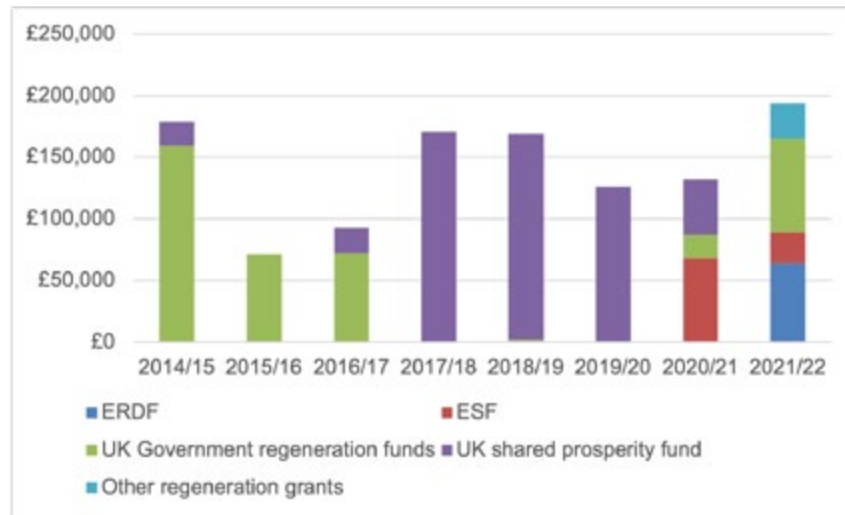
Source: HESA, Intellectual Property (IP) and Spin-off activities by HE provider

23 Applying turnover/GVA ratios to this number from the Annual Business Survey, we estimate that in 2021/2022 this generated an associated **£14.5 million GVA at UK level and £9.4 million GVA at the sub-regional level.**

Local growth and regeneration

24 In 2021/2022, the University received £194,000 of regeneration funding of which £64,000 was European Regional Development Fund (ERDF), £25,000 European Social Fund (ESF), £76,000 UK Government Regeneration Funding and £25,000 from other sources (Figure 10).

Figure 10: Regeneration funding



Source: HESA, Income from regeneration and development programmes by HE provider

25 This funding was used to support a wide variety of projects which have been subject to separate evaluations of impact²¹. The impacts for each of these five projects are summarised in Table 3, please see overleaf.

21 Focus (2023) SEMLEP Summative Assessment of the Growth Curve Project, Final Evaluation; Focus (2022) ALPHAS: Summative Assessment; Deyton Bell Limited (2023) Productivity Escalator Summative Assessment Report; Deyton Bell Limited (2021) Time2Grow Summative Assessment Report; Deyton Bell (2023) Innovation Bridges: Summative Assessment Report.

Table 3: Regeneration projects

PROJECT NAME	PROJECT OVERVIEW	TOTAL PUBLIC FUNDING	FTE EMPLOYMENT
Accelerating Leadership & Productivity in High Ambition SMEs (ALPHAS) project (ERDF)	ALPHAS was created to establish a knowledge exchange channel between universities and small to medium-sized enterprises (SMEs) to solve business problems that was impeding SME growth, helping to build capacity within the businesses for future employment, and supporting the sub-regional goal of retaining graduate talent. ALPHAS focused on knowledge exchange projects (KEPs) which involved placing a recent and business-ready graduate within a SME to boost the company's capacity for scale-up and to provide opportunities for graduates to work in local firms rather than leaving the sub-region.	£1,968,637	27
SEMLEP Growth Curve (ERDF)	Launched in July 2019, the Growth Curve was created to support sub-regional organisations by providing university-led masterclasses for business leaders, meetings with business advisers, and access to funding. Led by South East Midland Local Enterprise Partnership's (SEMLEP's) Growth Hub in collaboration with three local universities, the masterclasses were delivered by Cranfield University (for scale-ups), the University of Northampton (pre-scale-ups), and the University of Bedfordshire (pre-scale-ups). The project sought to stimulate growth within the sub-region's most promising SMEs.	£5,066,995	418
Productivity Escalator (ERDF)	The project provided practical assistance over a 30-month period, from January 2021 to June 2023, supporting SMEs from the South East Midlands Local Enterprise Partnership (SEMLEP) area to do more online or with digital technology, thus improving their productivity, potential to export and recovery from Coronavirus impacts.	£505,888	4
Innovation Bridges (ERDF)	The project was designed to 'handhold' SMEs through their first investment in research & development (R&D) and / or their first knowledge collaboration project. The programme aimed to increase the number of SMEs, making productive use of modern technologies, supporting their capacity to grow in the sub-regional, national, and international markets, and helping them to engage in innovation processes.	£2,058,984	44
Time2Grow (ESF)	Time2Grow initiative helped businesses in the SEMLEP area to solve some of their most challenging problems by offering access to skilled graduate workforce. Businesses benefited from graduates' support for up to 10 weeks. The University employed the graduate and funded 60% of the salary, with the graduate reporting directly to the business.	£1,515,546	55
TOTAL		£11,116,050	548

GVA	ROI	BUSINESSES SUPPORTED	GVA PER BUSINESS SUPPORTED
£1,885,205	£0.96	85	£22,179
£29,602,397	£5.84	319	£92,797
£283,277	£0.56	103	£2,750
£3,116,042	£1.51	210	£14,838
£3,895,052	£2.57	157	£24,809
£38,781,973	£3.49	874	£44,373

- 26 In total these five projects received around £11 million of public sector funding. They were found to generate 548 additional FTE jobs and £38.7 million in GVA giving ROI of £3.49. Around 870 new businesses were supported with a GVA per business supported of £44,000.
- 27 Data from the University shows that in the year 2021/2022 there were 212 businesses directly supported through one-to-one knowledge exchange projects. Applying the GVA per business supported £44,000 to this figure and provides a **total GVA of £9.4 million from the UoB support for local growth and regeneration in this year at a total of 196 FTE jobs at both UK and sub-regional levels.**

Intellectual Property (IP) and commercialisation

- 28 In 2021/2022, two disclosures were filed for or on behalf of the University, one patent application was made and two licences have been granted to SMEs. There was no IP revenue in 2021/2022.

Total impact from KEF areas of knowledge exchange

- 29 In summary in 2021/2022, the UoB received £8.5 million income for KEF activities. At the UK level this activity generated a total GVA of £50.9 million and 2,131 FTE jobs with ROI of £6.01. At the sub-regional level, this knowledge exchange activity generated a total GVA of £38.2 million and 1,263 FTE jobs with ROI of £4.51 (Table 4).

Table 4: Research and knowledge exchange impact

UK LEVEL	INCOME	GVA	FTE JOBS
Research partnerships	£2,867,000	£5,303,950	65
Working with businesses	£1,484,000	£5,045,600	62
Working with the public and third sector	£1,034,000	£3,515,600	43
Continuing Professional Development (CPD)	£2,886,000	£13,073,580	161
Graduate start-ups	-	£14,520,724	1,602
Local growth and regeneration	£194,000	£9,407,069	196
Total income	£8,465,000	£50,866,523	2,131
ROI		£6.01	
SUB-REGIONAL LEVEL	INCOME	GVA	FTE JOBS
Research partnerships	£2,867,000	£4,243,160	52
Working with businesses	£1,484,000	£4,036,480	50
Working with the public and third sector	£1,034,000	£2,812,480	35
CPD	£2,886,000	£10,458,864	129
Graduate start-ups	-	£7,260,362	801
Local growth and regeneration	£194,000	£9,407,069	196
Total income	£8,465,000	£38,218,416	1,263
ROI		£4.51	

Source: Cambridge Policy Consultants' calculations





OTHER AREAS OF IMPACT

- 1 This section of the report considers areas of impact that fall outside the KEF. These comprise:
 - Research spillovers
 - Educational exports
 - Lifetime productivity improvements

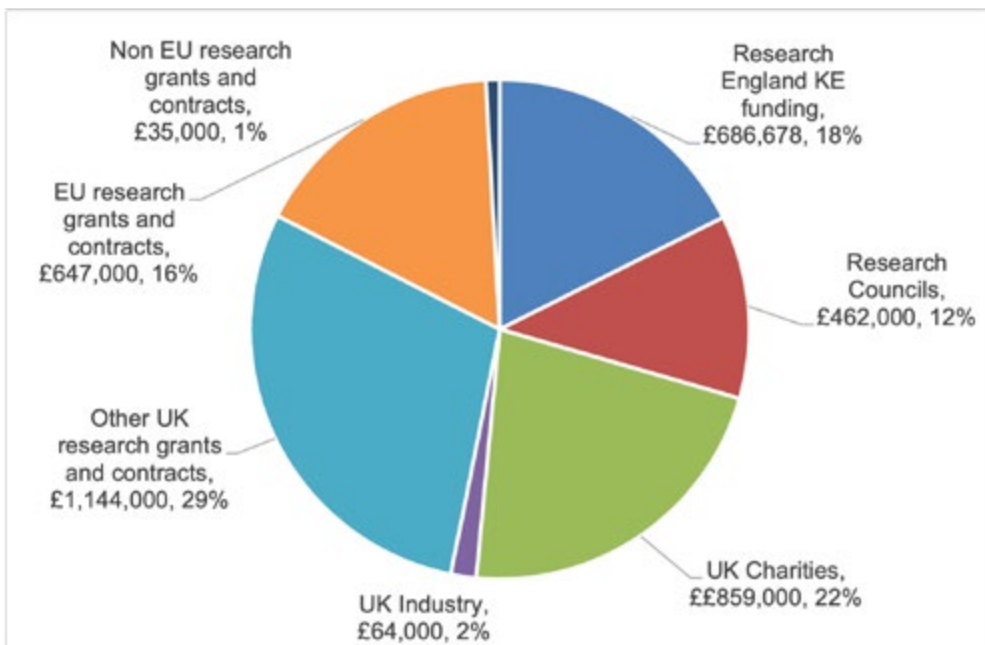
Research spillovers

- 2 Although the impact of collaborative research with businesses and other partners has already been considered in the section titled 'Research and Knowledge Exchange Impact', spillovers can also arise when an activity leads to impacts that are not fully captured by those directly involved, for example when an innovating company does not capture the full commercial benefits from the innovation. Spillovers can include market spillovers, where the benefits arising from the use of the new technology are not fully captured in the price paid by the buyer; knowledge spillovers, when knowledge created by one organisation passes onto others without full payment, creating value for them and their customers; and product spillovers, when new goods and services create demand for complementary goods in other sectors or are adapted to other markets.
- 3 Spillovers are hard to identify, measure and quantify and evaluation evidence provides a range of national return on investment (ROI) figures for research investment. We have reviewed this evidence for the most appropriate benchmark and concluded that research by Frontier Economics²², based on spillover benefits, the research & development (R&D) was the most appropriate metric as it reviewed the social returns to Research Council R&D over a 7-year period and concluded that social returns are typically 2 to 3 times larger than private returns. We have therefore applied a conservative multiplier of 2 to the private returns of £1.85 detailed in chapter 3 to give a total estimated return of £3.70.
- 4 We sourced data from Higher Education Statistics Agency (HESA) and Research England on the University of Bedfordshire's (UoB) research income. Aggregating across these sources, the total research-related income accrued by the UoB in the 2021/2022 academic year amounted to £3.9 million (see Figure 11). Over two fifths (38%) of this income was from UK Research Councils and other UK research grants and contracts, 18% was knowledge exchange funding from Research England, 22% was from UK Charities, 2% from UK industry and 18% (£1.1m) from other UK sources. The UoB also received income from European Union (EU) (16%) and other overseas non-EU sources (1%).

²² Frontier Economics (2014) Rates of return to investment in science and innovation, BIS. Online at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/333006/bis-14-990-rates-of-return-to-investment-in-science-and-innovation-revised-final-report.pdf



Figure 11: University sources of research income, 2021/2022



Source: HESA Table 5 Research grants and contracts - breakdown by source of income & Research England

- Applying this return to research generates a **total gross value added (GVA) from research spillovers of £14.4 million and 178 Full-Time Equivalent (FTE) jobs at UK level and £7.2 million and 89 FTE jobs at the sub-regional level.**

Educational exports

- The University's educational exports comprise both the tuition fee income from international students and their spend. In 2021/2022, the UoB generated £122 million in tuition fees of which 38% (£47 million) was from international students.

- 7 Data from the Student Income and Expenditure Survey 2021/2022 was used to calculate the UoB's international student spend in the UK. This was then converted to **GVA** using the methodology detailed in the *Economic Impact of Core Activities* section.

Table 5 shows the GVA from educational exports, which in 2021/2022 amounted to £34.9 million of which £9.5 million was from tuition fees, and £25.3 million from spend.

Table 5: Income and GVA from educational exports

	INCOME	GVA
International tuition fees	£46,569,000	£9,546,645
Non tuition fee spend	£70,607,610	£25,336,316
Total	£117,176,610	£34,882,961

Source: Cambridge Policy Consultants' calculations

Lifetime productivity improvements

- 8 We used Graduate Outcomes data from HESA for 2021/2022 to source the number of the University of Bedfordshire graduates in employment in the UK. This data is collated via the Graduate Outcomes Survey, an annual survey that asks about activities 15 months after graduation.
- 9 The employment rate of the UoB graduates is broadly in line with the average across UK institutions with 81% in employment, compared to 82% for all UK Higher Education Institutions (HEIs). See Table 6.

Table 6: Graduate outcomes at 15 months, 2021/2022

	ALL HEIs	UOB
Full-time employment	61%	60%
Part-time employment	11%	11%
Unknown pattern of employment	0%	1%
Employment and further study	10%	9%
Total employment	82%	81%
Voluntary or unpaid work	1%	1%
Full-time further study	6%	2%
Part-time further study	0%	1%
Unknown pattern of further study	0%	0%
Total further study	7%	4%
Other including travel, caring for someone or retired	6%	9%
Unemployed	5%	6%
Total with known outcomes	100%	100%

Source: HESA, Table 1 - Graduate activities by provider and sex

- 10 For the year 2021/2022, 1195 University students were in employment in the UK, of which 860 were undergraduates and 335 were postgraduates (Table 7).

Table 7: University's student outcomes, 2021/2022

	POSTGRADUATE		UNDERGRADUATE		TOTAL	
Non-UK domiciled	1,465	80%	615	36%	2,080	59%
Paid employment	335	18%	860	50%	1,195	34%
Voluntary or unpaid work	5	0%	10	1%	15	0%
Further study	5	0%	35	2%	40	1%
Other, including travel, caring for someone or retired	15	1%	115	7%	130	4%
Unemployed	5	0%	70	4%	75	2%
Total known	1,830	100%	1,705	100%	3,535	100%
Non-respondents	255	-	895	-	1,150	-
Total	2,085	-	2,600	-	4,685	-

Source: HESA, Graduate Activities by provider 2021/2022

- 11 To estimate the impact of productivity improvements, we used data from the Office for National Statistics (ONS) on employed human capital per head. This essentially allows us to calculate a degree premium relative to workers with A-levels. This lifetime estimate assumes a nominal earnings growth rate of 2%, with a discount rate of 3.5% and 2022 as the base year.
- 12 Table 8 calculates the lifetime productivity benefit for those students in employment in the UK. In total this is estimated to be around **£168 million generating around 3,502 FTE jobs**.
- 13 We have estimated the sub-regional benefit to be 12% of the UK benefit based on the assumption that 12% of students will stay in the sub-region (this is the proportion of UK students that were originally from the sub-region). This generates a **sub-regional productivity benefit of £20m and 413 FTE jobs**.

Table 8: Productivity benefit derived from degree premium

	UK		SUB-REGION	
	PRODUCTIVITY BENEFIT	FTE JOBS	PRODUCTIVITY BENEFIT	FTE JOBS
Total	£167,880,000	1195	£19,806,956	413

Source: Cambridge Policy Consultants' calculations





IMPACT SUMMARY AND RECOMMENDATIONS

University of Bedfordshire’s overall impacts

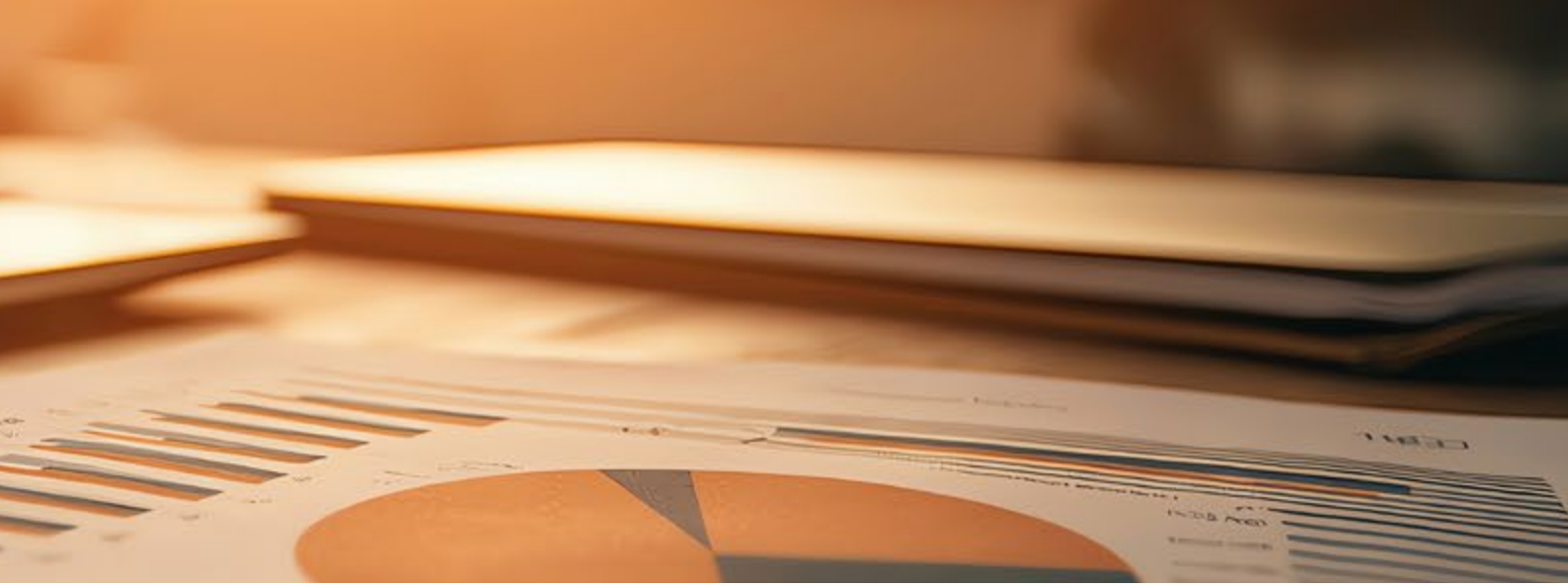
- Table 9 sets out the principal elements of the University of Bedfordshire’s (UoB’s) economic impact estimates. These can be combined depending on the audience and the purpose of the required estimates. For example, the Knowledge Exchange Framework (KEF) areas are designed to fit Research England’s KEF definitions, while the other elements sit outside of these definitions. **The overall impact of the UoB at UK level is £431 million gross value added (GVA) or 8,662 Full-Time Equivalent (FTE) jobs.** A comparison with recent economic impact assessments for other UK Higher Education Institutions (HEIs) suggest that these are broadly in-line with both the basic method for the assessment and the overall impacts relative to income.

Table 9: Overview of the economic impact of the UoB, 2021/2022

UK LEVEL	GVA	FTE JOBS	INCOME/ROI
Core economic footprint	£197.8m	2,852	-
KEF areas (Research & knowledge exchange, CPD, start-ups, growth and regeneration)	£50.9m	2,131	£8.5m /£6.01
Research spillovers	£14.4m	178	-
Lifetime productivity improvements	£167.9m	3,502	-
Total impact	£431m	8,662	-
SUBREGION LEVEL	GVA	FTE JOBS	INCOME/ROI
Core economic footprint	£164.0m	2,351	-
KEF areas (Research & knowledge exchange, CPD, start-ups, growth and regeneration)	£38.2m	1,263	£8.5m/£4.51
Research spillovers	£7.2m	89	-
Lifetime productivity improvements	£19.8m	413	-
Total impact	£229m	4,116	-

Source: Cambridge Policy Consultants calculations

- At the sub-regional level, the primary difference in estimated impact is the ‘leakage’ of benefits to areas outside of the South East Midland Local Enterprise Partnership (SEMLEP) area. **Total impact for the sub-regional area is £229 million GVA or 4,116 FTE jobs.** Given the University’s strong relations with local organisations (businesses, public and third sector) these are not significantly different from the national estimates. The lifetime productivity contribution from UoB graduates is one area where most beneficiaries are likely to be residents outside of the SEMLEP area, this is reflected in the comparatively low sub-regional impact estimate.



Recommendations

- 3 The focus of this research has been on providing more up-to-date economic estimates that are based on robust research benchmarks. However, there are a number of areas the UoB may consider in future:
 - Future economic impact assessments should continue to retain a focus on metrics that are based on Research England's Knowledge Exchange Framework (KEF). Given that many of the inputs into these calculations are updated annually by the Higher Education Statistics Agency (HESA), this would ensure that future assessment exercises are low-cost and relatively straightforward.
 - Economic impact assessments based on single year's activities suffer from year-to-year variations. Future planning should take into account the long-term impacts, extending over a period of around three years.
 - The UoB is effective at securing knowledge exchange income from a range of private, public and third sector sources and these provide a platform for engagement with a wide range of small and medium-sized businesses (SMEs), public and third sector organisations. Alongside the University's teaching impacts, the knowledge exchange impacts need to be celebrated with the UoB staff.
 - The University's Customer Relationship Management (CRM) system offers the potential to better understand how and why external organisations engage with the UoB. At present this is not straightforward to access and the UoB has now embarked on scoping an upgraded institution-wide system to enable a better understanding of what types of organisations engage and then progress to work with the University. Gaining a greater understanding of the nature of interactions with business and potential opportunities for cross-engagement with other student-facing activities such as Apprenticeships is an area where an upgraded system would deliver benefits to teaching, research and knowledge exchange.
 - The University's student start-ups and social enterprise are amongst the highest in UK HEIs. The UoB already offers support to student start-ups but given the scale of active firms it may also help to establish a mentor-network engaging those who have successfully created a business to provide informal support to those who are considering their own start-up. Mentor networks with enterprise-experienced individuals have been developed for spin-out businesses in Cambridge and Oxford and while they don't contribute measurably to turnover, they provide an incentive effect to other entrepreneurs who want to relocate to a different area.



UNIVERSITY OF BEDFORDSHIRE'S IMPACT CASE STUDIES

The following case studies offer a more detailed exploration of selected initiatives previously summarised in earlier parts of the report. They highlight the practical application and real-world impact of these programmes, while also introducing additional case studies that further demonstrate the breadth and depth of work across different communities and settings.

Active Herts Programme

44

A community-based initiative that has successfully increased physical activity and reduced sedentary behaviour among inactive adults with health risks, using behaviour change techniques informed by academic research.

University of Bedfordshire and Lands Improvement Collaboration

46

A collaboration between the University of Bedfordshire and the Lands Improvement to develop the 'MoveScape' Toolkit, promoting active neighbourhoods and community engagement through physical literacy-informed design.

Student Live Projects with Businesses

48

A collaboration between the University's academics, students, and local businesses on live consultancy projects, delivering real-world solutions while enhancing student skills and supporting regional business growth.

Creative Entrepreneurship Development in Ukraine

50

The University's Business School partnered with Ukrainian institutions through the British Council's Creative Spark programme to build enterprise skills, support creative start-ups, and enhance entrepreneurial education.



Advancing Fair and Accessible Language Testing

52

World-leading research transforming English language assessment through the socio-cognitive framework, influencing global testing standards and enabling fairer, more accessible digital testing.

Smart Pumps, Smarter Partnerships

54

A partnership between the University and Deckpro Pumps that led to the development of a patented IoT sensor system for predictive pump maintenance, showcasing impact through research-driven innovation and collaboration.

Improving Outcomes for Care Leavers

56

Internationally recognised research shaping policy and practice to improve outcomes for care leavers, including through major studies on the impact of COVID-19 and the implementation of innovations in support services.

Partnership with Bedfordshire, Luton and Milton Keynes Integrated Care Hub

58

The University's £3m NHS-funded Integrated Care Research and Innovation Hub driving collaborative, community-focused research to reduce health and social care inequalities across the BLMK region.





Active Herts Programme

The Active Herts programme is designed to reduce inactivity and sedentary behaviour and is a community-based physical activity programme that was developed for inactive adults (achieving less than 30 minutes of moderate to vigorous physical activity [MVPA] per week), with cardiovascular disease risk factors and/or mental health concerns.

Active Herts was informed by research undertaken at the University of Bedfordshire's Centre for Health, Wellbeing and Behaviour Change situated within the Institute for Sport and Physical Activity Research (ISPAR). The Director of ISPAR, Professor Angel Chater, leads research focussing on the use of psychological theories, models and techniques to influence behaviours that impact on health.

In 2015, Angel was approached by the Director of Public Health at Hertfordshire County Council for assistance in training their public health consultants in how to deliver behaviour change. The Council had been awarded £1m from Sport England and other partners to deliver the *Active Herts* community physical activity programme however it did not contain any behaviour change theory. Professor Chater was asked to incorporate the findings from her research into the design of the programme.

Active Herts is available to people referred by a health care professional, usually through participating

GP practices or by self-referral. It was rolled out in Hertfordshire from 2015 in four areas of deprivation. Over four years it received more than 3000 referrals.

The programme provides users with a 45-minute consultation with a 'Get Active Specialist' (Registered Exercise Professional), who uses motivational interviewing and health coaching to take them through a research-informed self-help booklet, performing a real-time COM-B analysis (identifying levels of Capability, Opportunity and Motivation to Behaviour) and delivering a series of Behaviour Change Techniques (BCTs). They were then signposted to 12 weeks of free or subsidised local exercise sessions and received a follow-up call two weeks later, along with motivational text messages. Programme users were further followed up at 3, 6 and 12 months, and invited to 'conversation cafes' to assist programme evaluation.

Professor Chater trained the exercise professionals in aspects of health psychology, behavioural science

and her IDEAS approach (Intervention Design, Delivery, Evaluation and Adoption System). This approach draws from a combination of motivational interviewing, the GROW model of health coaching (Goal, Reality, Options, Will/Way Forward), and the Behaviour Change Wheel, to conduct a behavioural analysis using the COM-B model to decide upon and deliver tailored, relevant BCTs within a consultation.

The programme evaluation²³ demonstrated the effectiveness of the training and the use of the COM-B model for both increasing physical activity²⁴ and reducing sitting. A longitudinal study of the programme was completed in 2022 and observed 717 programme users over the 12 months of the programme. At the end of the programme users showed sustained improvements in physical activity (by +1331 Metabolic Equivalent Time - METs a week)

with over 1200 METs representing a change of 150 minutes of vigorous intensity, 300 minutes of moderate intensity, or over 350 walking minutes per week over the duration of the programme. This change highlights the success of the programme and exceeds the recommended weekly physical activity level for health benefit. Sitting was reduced by over an hour a day and sporting participation, and perceptions of health were also improved, along with improvements in mental wellbeing in the first 3 months.



After the original funding period for the programme ended, additional funding was secured to continue the service. This included support from the rebranded *Active Watford and Three Rivers* programme, funded by the Premier League, as well as Broxbourne's ongoing delivery of the *Active Herts* programme, funded by the local authority. Camden Council are also now rolling out an adapted version of the programme with Professor Chater training their exercise professionals and supporting the evaluation. Professor Chater has also trained physical activity leads from the Richmond group of charities, training their physical activity leads in behaviour change strategies and techniques.

The same techniques are continuing to be used and found to be successful in other trials to reduce inactivity, including in the *Frail-LESS trial* to reduce Sarcopenia in frail older adults²⁵; the *RESIT trial*²⁶ to manage Type 2 diabetes and the *A-REST trial* to reduce prolonged sitting in police staff²⁷.

The success of *Active Herts* has attracted considerable attention and has been used as a good practice case study by the Local Government Association²⁸ and presented at the Cheltenham Science Festival. In 2019 Professor Chater drew on her experience from *Active Herts* to lead a chapter for the British Psychological Society (BPS) on Changing Behaviour for their Technical Report on Addressing Obesity²⁹. She has also been a BPS speaker and representative in Parliament in both the House of Commons and House of Lords. Professor Chater, a Get Active Specialist, and one of the participants of the *Active Herts* programme also featured in the BBC One documentary, *The Truth About Improving Your Mental Health* and features in the *Achieving Behaviour Change Guide* published by Public Health England³⁰.

23 <https://pubmed.ncbi.nlm.nih.gov/34615740/>

24 <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2022.903109/full>

25 <https://pilotfeasibilitystudies.biomedcentral.com/articles/10.1186/s40814-022-01225-7>; and the findings - <https://pubmed.ncbi.nlm.nih.gov/39251904/>

26 <https://pilotfeasibilitystudies.biomedcentral.com/articles/10.1186/s40814-021-00816-0>; and the findings - <https://dmsjournal.biomedcentral.com/articles/10.1186/s13098-024-01336-6>

27 <https://pubmed.ncbi.nlm.nih.gov/35954543/>

28 <https://www.local.gov.uk/case-studies/active-herts>

29 <https://www.bps.org.uk/blog/psychological-perspectives-obesity-policy-practice-and-research-priorities>

30 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/875385/PHEBL_Achieving_Behaviour_Change_Local_Government.pdf

University of Bedfordshire and Lands Improvement Collaboration

The University of Bedfordshire (UoB) is a leading provider of training for physical education teachers in the UK. It has actively participated in national and international initiatives to elevate the quality of physical education in schools.

The concept of physical literacy, defined by the International Physical Literacy Association (IPLA) as 'the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life'³¹, was first developed by Dr. Margaret Whitehead, a visiting professor at the UoB and president of the IPLA. The University continues to run a Bachelor of Arts Qualified Teacher Status (BA QTS) course which is founded on this principle.

Lands Improvement, a land developer dedicated to creating healthy happy environments that are conducive to health and well-being, has collaborated with the IPLA and the University on a physical literacy and active environment project at Linmere, a new housing development situated north of Houghton Regis, Luton. Lands Improvement has a strategic objective to long-term placemaking, striving to deliver sites which continue to benefit residents over time³². However, a key challenge is that environments often fail to meet resident's needs, leading to increased disengagement. To address this, robust research

was needed to demonstrate to local authorities and stakeholders that environmental design must go beyond a tick box approach (i.e., going against the typical 'springy thing, swingy thing, and slidey thing' in play parks).

To facilitate comprehensive resident engagement, Lands Improvement approached the UOB for assistance. The University's research team, including Dr Joanne Hill, Professor Angel Chater, and PhD Scholar Olivia Flemons, worked on assessing residents' attitudes towards physical activity and identifying motivating and deterring factors:

'We wanted to make the most of the open space at Linmere and maximise its potential to create an active environment. We had not worked with the University before but saw they had relevant expertise and approached them as we wanted to bring academic rigour and robustness to the process' - Ben Phillips, Strategy and Place Director, Lands Improvement

A survey of around 90 Linnmere residents collected data on their levels of flourishing, perceptions of their neighbourhood environment, physical activity levels, and demographics. Focus groups further explored what residents found meaningful in their local space and gathered an understanding of what needs to occur within environmental design in order to make their neighbourhood more engaging. This data generation led to the creation of the 'MoveScape' Toolkit, a toolkit of methods for Lands Improvement to use to assess the impact of active environments over time.



'The research enabled us to speak to the residents in more depth and provided us with early feedback on what is working and what we can change to meet local needs. It really helped having an independent body to engage with the residents as people tend to treat developers with more suspicion' - **Ben Phillips, Strategy and Place Director, Lands Improvement**

The research has already had multiple impacts. It fostered community activation, bringing residents together and forming a community bond. The focus groups catalysed the creation of a community activation group responsible for arranging local events and activities, such as Park Play.

'Before the focus groups, the residents did not know each other very much, being a brand-new community. Now neighbours talk to each other and have a community bond. The focus groups really helped to start that process by giving the residents the opportunity to come together and make friends. There is now a community activation group who are responsible for arranging events in the community and regular activities such as Park Play, where families get together to play games outside' - **Dr Joanne Hill, Principal Investigator and Senior Lecturer, University of Bedfordshire**

Olivia Flemons is now employed by Lands Improvement as a Community Activation Officer and is involved in implementing the research outcomes across the development. The developer plans to apply the MoveScape toolkit to three further developments, and share the approach with other developers, advocating for a paradigm shift away from the typical tick box approach to more co-productive methods:

'If you listen to residents' voices and design spaces with residents rather than for them, they are more likely to engage in their environment and reap the benefits of meaningful physical activity experiences' - **Olivia Flemons, PhD Scholar, University of Bedfordshire**

The research has attracted international interest, and Olivia was recently invited to India to discuss the research on behalf of the IPLA at the International Conference for Physical Education and Sports in Perspective of the National Education Policy and Vision-2047, which is currently exploring ways to incorporate physical literacy into their educational policy. Lands Improvement intends to continue working closely with the University in the future, offering work experience opportunities for Bedfordshire students at their community centre. Overall, the project has been highly successful, with hopes that the research will bolster national policy by contributing to the evidence base underpinning the Sport England Physical Literacy Consensus.

31 <https://www.physical-literacy.org.uk/>

32 https://www.lih.co.uk/wp-content/uploads/2022/04/Final_Placemaking.pdf



Student Live Projects with Businesses

A strategic use of government-deployed Higher Education Investment Funding (HEIF) to support academic-led projects with business as part of applied teaching and research.

Academics at the University of Bedfordshire work closely with local small and medium-sized enterprises (SMEs) to identify business challenges and design practical, outcome-focused projects that involve students. These live projects not only support the growth of regional businesses but also offer students meaningful opportunities to apply their learning in real-world contexts.

Students are involved in employer-led challenges and consultancy tasks, covering areas such as business strategy, sustainability (including net zero goals), digital systems, marketing, and productivity. Examples include developing a digital marketing strategy to increase sales, conducting a risk analysis of digital systems, and introducing project management tools to resolve recurring issues.

The core aim of these live projects is to drive innovation-led growth by connecting students and SMEs in a collaborative problem-solving process. As a result, most units within the University's Business School now integrate live projects, ensuring that all

students gain valuable, hands-on work experience during their studies.

The process begins with the University's Business Partnership team, who triage initial enquiries from SMEs, identify their specific needs, and connect them with a suitable academic lead. The academic then scopes the project and defines assessment questions, which guide the students' work. Following an introductory meeting between the SME and the student group - supervised by the academic - students begin work on the project as part of their assessment.

Once complete, students present their findings to the academic, who marks the work in line with university standards. The academic also prepares a summary of the key findings for the SME. Depending on the SME's preference, results are delivered via an online or in-person presentation or in a written report outlining practical recommendations.

Businesses may then decide on further steps, such



as seeking additional support to develop funding bids (for example through UKRI, Knowledge Transfer Partnerships, or Horizon Europe) or hiring a student to continue the work.

Since the initiative began, more than 250 projects have been completed with local SMEs, involving approximately 5,500 students. Ongoing evaluation highlights a broad range of benefits for students, including the development of entrepreneurial, technical, research, and employability skills.

The impact on participating businesses has also been substantial. For example, one SME approached the University seeking support with business growth and brand management. They needed detailed feedback on marketing and branding improvements:

'I lack marketing expertise and social media prowess. I have 40 years of experience in business however a major challenge is selling products online. The feedback on each of the modules was very comprehensive and has given me some very significant, practical pointers as to how I can take my business forward The project with Beds Uni uncovered so many black holes in my competence and expertise and became the catalyst for me to invest in the company in a completely different way' - SME

Another SME sought advice on business growth opportunities and the steps needed to gain certification for high standards in social and environmental performance, transparency, and accountability:

'With every start up, funding and financials are a challenge. I cannot visualise my jump to the next scale and do not know how to bridge that gap. The research from students has saved me hours of work' - SME

Due to the demonstrable success of the programme and positive feedback from businesses, the University of Bedfordshire has secured £98,000 in funding to support further student-business collaborations across Central Bedfordshire and West Northamptonshire. This investment is enabling further research into the long-term impact of live projects for both students and the local economy.



Creative Entrepreneurship Development in Ukraine

The University of Bedfordshire's Business School (UBBS) has strong expertise in providing high quality and practice-driven entrepreneurship education at vocational, undergraduate and postgraduate levels.

The Business School delivers teaching modules of Business Enterprise, Enterprise and Innovation, Entrepreneurship, Small Business Planning and Entrepreneurship, Entrepreneurship and Small Business Management, Project Entrepreneurship, Organisational Creativity Entrepreneurship and Innovation.

In 2018, the UBBS was approached by the Ukrainian Engineering Pedagogics Academy (UEPA) regarding the development of a joint proposal to the British Council, Creative Spark: Higher Education Enterprise Programme, for the establishment of a Centre of the Creative Entrepreneurship Development (CCED) in UEPA.

The Creative Spark programme is a five-year initiative (2018-2023) to support university and institutional partnerships with the UK to develop entrepreneurship and enterprise skills for students and young entrepreneurs across seven countries: Ukraine, Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan) and South Caucasus (Azerbaijan, Armenia, Georgia).

Young people in creative industries are facing challenges in transforming their innovative ideas into viable business enterprises. In Ukraine, support for entrepreneurial development is very limited, which makes the need for Creative Spark even more important. The UBBS with the UEPA - later joined by the Simon Kuznets Kharkiv National University of Economics (KhNUE) and Innovation Generation (INNOGEN), a non-governmental organisation - were awarded around £117k through this programme to:

1. Provide skills development for students and young creative entrepreneurs in Ukraine.
2. Support new business activation, as well as incubation.
3. Increase knowledge exchange including through an annual roadshow of the best entrepreneurial ideas and annual competition award for young creative entrepreneurs.

The UBBS ran workshops and worked with around 400 staff at universities from different regions of

Ukraine to share information and experience on how UK Higher Education Institutions (HEIs) are supporting enterprises through education, research and knowledge transfer. Support was strongly focussed on capacity building and training the tutors and helping the UEPA, KhNUE and other universities to:

1. Create a new innovative educational model for developing creative enterprises and entrepreneurial oriented curriculum.
2. Pilot a support portal to provide relevant educational materials and resources, and to link students, graduates and young entrepreneurs and other like-minded people to share their ideas and promote their business.
3. Design new training programmes to develop essential entrepreneurial skills.



In total, the programme supported over 600 Ukrainian students, alumni and young entrepreneurs with training on entrepreneurship skills, interpersonal skills, confidence, and leadership. Through attending these events, participants were able to build their personal and professional networks. The programme also successfully increased participants' English language abilities, confidence, and interest in the UK. For example, the UBBS ran a series of start-up project competitions for students in Ukraine where students' teams presented their project ideas and first achievements to expert panel members from the UBBS and to successful entrepreneurs in the creative industry.

The partnership also resulted in the development of a nationally-available online resource manual. It aims to bring together materials prepared by the partnership over the course of the programme, acting as a tutorial guide with learning and teaching materials for both students and lecturers.

The UEPA, KhNUE, and INNOGEN gained local exposure and secured financial support from local government partnerships from work with the Department of Innovative Development and Image Projects of the Kharkiv City Council and Kharkiv Municipal Startup Center, who pledged financial support to the partnership's start-up competition and advertised it on their local TV channel.

The University of Bedfordshire supported the UEPA, KhNUE, and INNOGEN to secure two grants via the House of Europe Programme. Both projects were based on direct learning from the University of Bedfordshire, one on raising awareness of and developing leadership capability for social enterprises and another on the use of Lego simulation and the development of entrepreneurship and business skills training materials using gamification.

The project contributed to the UBBS securing the Gender Equality Partnerships grant within the Going Global Partnerships programme by British Council to carry on working with the UEPA, KhNUE, and INNOGEN on Women's Career Enhancement in Higher Education. This project built on the success of the long-term partnership and continued the focus on capacity building but with a specific focus on overcoming the challenges of equality, diversity and inclusion in higher education.



Advancing Fair and Accessible Language Testing

Establishing the quality of a candidate's English language skills is fundamental to ensuring prospective students or employees have the language skills to take full advantage of educational, training or employment opportunities.

The University of Bedfordshire's Centre for Research in English Language, Learning and Assessment (CRELLA) has an outstanding worldwide reputation for their research and the various language tests that the Centre have developed and are now in use across the world.

CRELLA was established in 2005 and built on the foundational research undertaken by Professor Weir and colleagues reviewing the concepts of test validity to produce the socio-cognitive framework (SCF). The initial development of the SCF provided a key insight that high quality and robust English language tests need to consider wider contextual factors alongside the more basic measurement test scores. Does the test assess language in the same context in which candidates will need to use the language in practice and so does the test measure the same intellectual processes that they will need to deploy? What other factors in the candidates' background might influence their test scores? How does the need to take a test affect their learning? This makes the CRELLA

approach to testing far more accurate and insightful.

These concepts are particularly important in test situations where many thousands of candidates need to be assessed fairly and accurately. The CRELLA SCF approach and associated English Language question sets have been adopted by large-scale providers of English Language tests – The British Council, Cambridge Assessment English and Pearson who provide English language testing to academic institutions in the UK and worldwide. Users of test results advised by CRELLA include professional bodies such as the General Medical Council and Nursing and Midwifery Councils for overseas-trained medical staff.

Academic research undertaken by CRELLA has continued to develop the SCF approach and provided a further platform for knowledge transfer, particularly around computer-based tests covering vocabulary, grammar, reading and listening and online speaking tests. CRELLA research has not

simply transferred the test approach into a digital environment but has considered whether the change of platform itself has an impact on test performance, particularly for users with different characteristics. Do candidates with particular characteristics perform better in a digital environment or using a pen and paper? How do those with dyslexia perform across vocabulary, grammar, reading and listening and speaking tests and what adjustments are required to take their needs into account? CRELLA has investigated this by tracing the eye movements of test candidates. Lessons from research are fed into further development of the SCF approach.



Current research is exploring online tests on platforms such as mobile phones, exploring how tests can be adapted to offer greater access to candidates with a range of conditions. A Knowledge Transfer Partnership (KTP) grant of £150,000 supported research into the skills

required to write workplace texts helping CRELLA to develop new kinds of test task that assess contemporary writing skills with an evidence-based scoring system that supports language learning. The project was run in conjunction with the British Council and a spin-out company, BC Englishscore, that was established to provide the tests on mobile phones to help increase accessibility.

The KTP grant supported the development of an adaptive question set that can measure the candidate's core English competencies across grammar, vocabulary, reading and listening skills. Responses to an initial question set determine subsequent questions in the test such that these are in-line with the candidate's performance on the initial question set. In this way the test self-adjusts to fit the candidate's ability, so more successful candidates are automatically presented more challenging questions and can achieve a test score that reflects their ability.

The question set is related to the globally recognised Common European Framework of Reference (CEFR) for Languages. It provides a detailed assessment of a candidate's level within each CEFR band by assessing language elements such as tenses, prepositions, modality and meaning. The scores cross-reference other English language tests such as the International English Language Testing System (IELTS). To date almost 10 million tests have been taken using the BC Englishscore mobile app.



Smart Pumps, Smarter Partnerships

Research and knowledge exchange sits at the heart of the University of Bedfordshire's commitment to making a significant social and economic contribution to the local and national economy.

In Assessment Year (AY) 2021/2022, over 4400 companies were engaged by the University or contacted the institution seeking information, support or advice with over half (57%) being based in the South East Midlands Local Enterprise Partnership (SEMLEP) area³³.

Deckpro Pumps Ltd are a leading independent supplier of building services pumps based in Leighton Buzzard. They initially contacted the Research & Innovation Service (RIS) to explore whether the University could help them exploit a gap in their market.

Deckpro Pumps install, maintain and repair pumps in a variety of systems. Regular maintenance inspections are essential to avoid catastrophic pump failures and this is relatively expensive as pump specialists are required to travel to pump locations so that they may check pump operations and diagnose potential problems. The costs involved in such a comprehensive maintenance programme

are relatively expensive (up to twice the initial purchase costs) as most inspections do not reveal any maintenance issues.

Deckpro Pumps were interested in developing low-cost sensors that would enable remote monitoring of centrifugal pump performance (around 70% of all pumps are of this type), that they considered to be a gap in the market. Remote monitoring would provide real-time assessment of pump performance and a platform for proactive maintenance.

Following discussions with RIS, the company held discussions with Professor Velisavljevic, Director of the Institute for Research in Engineering and Sustainable Environment, (IRESE) at the University of Bedfordshire. These initial discussions led to a successful application to Innovate UK for a Knowledge Transfer Partnership (KTP) award of £105,301 (70% of total costs) and a contribution of £45,129 (30% of total costs) from Deckpro Pumps.



The award was to undertake a proof of concept for a low-cost sensor unit that monitored transducers to the pump power supply to monitor pump health through motor current signature analysis (MCSA) – essentially detecting normal or unusual patterns in electricity signals as an early warning of potential pump failure.

The sensor box was developed as an Internet of Things (IoT) predictive maintenance solution, enabling real-time monitoring of MCSA data. This data is uploaded to the cloud and analysed by custom software - also developed as part of the KTP - using a combination of signal processing and machine-learning algorithms to detect and predict potential failures. The resulting data is stored and presented to the user through a visual interface.

The KTP award in late 2019 was delayed by Covid-19 and completed in May 2023. The system was successfully tested and led to the registration of a Patent by the members of the research team and Deckpro Pumps to protect their intellectual property rights³⁴.

The remote sensor has yet to be launched into the market as the remote and often underground siting of many pumps means that depending on location, the sensors cannot secure reliable connection to the internet. Deckpro Pumps are currently exploring low-cost options for ensuring such sites can secure connectivity.

33 Data from UoB Customer Relations Management system Quarter 3 2021 to Quarter 2 2022 businesses and sole traders with a successful interaction with UoB only.

34 Fault detection and monitoring for electric pump motors, Patent file GB2402869.8, pending.



Improving Outcomes for Care Leavers

Emily Munro is the Goldberg Professor of Social Work Research, Director of the Institute of Applied Social Research (IASR) and Director of the Tilda Goldberg Centre for Social Work and Social Care at the University of Bedfordshire.

Professor Emily Munro has an international reputation for research aimed at improving outcomes for young people negotiating the transition from care to adulthood. Young people leaving foster or residential care can face challenges as they make this transition at a younger age than their peers in the general population, and many do not have practical, emotional or family support. Professor Munro has been Principal and Co-Investigator on national and international research projects which promote the development and implementation of best practices³⁵.

The Care Leavers and COVID-19 study collected data on the transition pathways of over 1000 young people, complemented by interviews with strategic and operational managers from children's services and health, and 50 care leavers and key workers. The involvement of care experienced by young people was central to the study, and findings highlighted the ways in which the COVID-19 pandemic presented new challenges and exacerbated poverty, housing difficulties and mental ill-health.

Findings from the research and recommendations have been widely disseminated, including presentations to the Chair of the Independent Review of Children's Social Care, local authority practitioners and managers, carers and policy makers from several government departments including the Department for Education (DfE), Department of Health and Social Care (DHSC), Department of Work and Pensions (DWP) and the Office for Standards in Education, Children's Services and Skills (Ofsted)³⁶.

Further research has sought to address the gap between policy recommendations and effective implementation of innovations aimed at improving outcomes for care leavers in practice. The EXploring Innovations in Transitions study, which is ongoing, examines factors that help embed innovations and spread best practice - recognising the importance of leadership, outcome measurement to evidence change and engagement of frontline professionals.



35 Care leavers' transitions to adulthood in the context of Covid-19: Understanding pathways, experiences and outcomes to improve policy and practice (CCTC study), £300K; November 2020 – May 2022; and Exploring innovations in transition to adulthood (EXIT study) £1.65m, December 2019 – March 2024

36 Moving from 'what we know works' to 'what we do in practice': An evidence overview of implementation and diffusion of innovation in transition to adulthood for care experienced young people.



Partnership with Bedfordshire, Luton and Milton Keynes Integrated Care Hub

In November 2022, the Institute for Health Research (IHR) at the University of Bedfordshire (UoB) was awarded £3 million by NHS England to develop a research and innovation hub in collaboration with the NHS Bedfordshire, Luton & Milton Keynes (BLMK) Health & Care Partnership

The collaboration focuses on ways to improve health and social care inequalities across the region. The objective of the research partnership is to focus on service improvement and to deliver an impact on service users.

The award builds on IHR's reputation led by Professor Gurch Randhawa as a centre for excellence in health service organisation. The Director of the Integrated Care Research and Innovation Hub, Professor Yannis Pappas, emphasises that the approach adopted is firmly rooted in IHR's expertise in change centred on their holistic systems-thinking approach that take a broader view of the need for change that traditional institutional re-organisation methods.

Engaging all stakeholders, including the health and social care workforce, local communities in the process of change provides greater insight into the problem at hand and crucially leads to more durable outcomes.

The Hub has developed a *'Talk, Listen, Change'* model to ensure that all groups are included and provided with an opportunity to have their voices heard on their experience of services such as outreach to engage people living on the streets and ensuring the research process involves all groups in the community so that the factors around inequality can be better understood and addressed.

This approach has been adopted across the seventeen individual studies undertaken so far, including community champions and ensuring lay members sit on each project group alongside representatives from local and regional partners.

The Integrated Care Research and Innovation Hub works across four areas:

- **Pillar 1:** Inclusive workforce and building resilience uses a 'Talk, Listen, Change' workforce research programme to increase diversity of workforce improvement recruitment and staff retention. This programme has led to the development web app to support both organisational and personal emotional resilience across the BLMK health and care partnership and thereby reduce staff stress burnout and increase job satisfaction.

Update from the University:

Professor Nasreen Ali and her team won the Patient and Caregivers Partner Award at the 25th International Conference on Integrated Care for their work with the Community Targeted Outreach Programme (CTOP). The CTOP addresses stigma and misconceptions about careers in health and social care, provides underrepresented groups with a platform to discuss relevant courses and careers, and supports them in pursuing higher education.



- **Pillar 2:** New ways of working – embracing innovation includes co-produced research studies that seek to improve the effectiveness of services particularly to ensure culturally diverse participation. For example, 'age well' proactive interventions to support older people to stay independent and healthy for as long as possible, and research on improving access to and take-up of ante-natal care among mothers in ethnic diverse and socio-disadvantaged areas of BLMK.
- **Pillar 3:** Safeguarding children and adults with complex needs has undertaken a range of studies based on engaging the views of service-experienced people to explore outcomes and practice developments to reduce inequalities. For example, mental health and wellbeing support for care leavers in BLMK, the development of Street inclusion health groups to improve engagement of very vulnerable service users, and building on previous UoB research for the Department of Education on tackling child exploitation to guide multi agency responses in BLMK.
- **Pillar 4:** Building the research and innovation capacity of BLMK Health & Care Partnership so that they themselves become an evidence-based learning organisation is one of the key objectives of the Hub to ensure that effective research practice was embedded into their care systems, especially in addressing health and social care inequalities. The executive team of the BLMK Integrated Care Board have set an ambition to become a nationally-recognised leader in the development of evidence-based interventions that successfully tackle health inequalities in local communities.

The work of the Hub is on-going and impacts will take time to become measurable. One intermediate impact of this research partnership has been increased collaboration with six anchor Higher Education Institutions (HEIs) in the East of England through a structured learning partnership. This led to the University bidding for funding for Doctorate Training Grant in partnership with Cambridge and Anglia Ruskin Universities that will support 6-8 additional PhDs (Doctor of Philosophy) funded annually based at Institute for Health Research.

GLOSSARY

ALPHAS - Accelerating Leadership & Productivity in High Ambition SMEs

ATD – Association for Talent Development

AY – Assessment Year

B2B – Business to Business

BA QTS – Bachelor of Arts Qualified Teacher Status

BCTs – Behaviour Change Techniques

BLMK – Bedfordshire, Luton and Milton Keynes

BPS – British Psychological Society

CCED – Centre of the Creative Entrepreneurship Development

CEFR – Common European Framework of Reference

COM-B – Compatibility, Opportunity, Motivation, Behaviour

CPC – Cambridge Policy Consultants

CPD – Continuing Professional Development

CRM – Customer Relationship Management

CRELLA – Centre for Research in English Language, Learning and Assessment

DfE – Department of Education

DHSC - Department of Health and Social Care

DWP – Department of Work and Pensions

ERDF – European Regional Development Fund

ESF – European Social Fund

EU – European Union

FTE – Full-Time Equivalent

GVA – Gross Value Added

HCA – Homes and Communities Agency

HE – Higher Education

HEIF – Higher Education Innovation Funding

HEIs – Higher Education Institutions

HESA – Higher Education Statistics Agency

HM – His Majesty's

IASR – Institute of Applied Social Research

IELTS – International English Language Testing System

IHR – Institute of Health Research

INNOGEN – Innovation Generation, Non-governmental organisation

IoT – Internet of Things

IP – Intellectual Property

IPLA – International Physical Literacy Association

IREESE – Institute for Research in Engineering and Sustainable Environment

ISPAR – Institute for Sport and Physical Activity Research

KE – Knowledge Exchange

KEF – Knowledge Exchange Framework

KhNUE -Kharkiv National University of Economics

KTP – Knowledge Transfer Partnership

MCSA – Motor Current Signature Analysis

MVPA – Moderate to Vigorous Physical Activity

Ofsted – Office for Standards in Education, Children's Services and Skills

ONS – Office for National Statistics

PhD – Doctor of Philosophy

R&D – Research and Development

RIS – Research & Innovation Service

ROI – Return on Investment

SCF – Socio-Cognitive Framework

SEMLEP – South East Midlands Local Enterprise Partnership

SMEs – Small to Medium-sized Enterprises

UBBS – University of Bedfordshire's Business School

UEPA – Ukrainian Engineering Pedagogics Academy

UKRI – UK Research and Innovation

UoB – University of Bedfordshire





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