



Productivity

Through

Innovation

Higher Education and SME collaboration:

a pandemic success story in the D2N2 Local Enterprise Partnership area.



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Productivity Through Innovation (PTI)

From April 2019 to June 2023, University of Nottingham, Nottingham Trent University and University of Derby supported 200 businesses with talent support projects as part of a £7,000,000+ collaborative knowledge transfer programme, delivering fully funded and sustainable productivity and innovation support to SMEs in the D2N2 Local Enterprise Partnership area.

The project gave valuable support to local SMEs by providing academics, postgraduates, graduates and undergraduates from UoN, NTU and UoD to work directly with them to help realise their productivity potential.

Overall and despite the challenges brought about by the pandemic the PTI project surpassed its output goals, while remaining on budget. This demonstrates the strong need and demand from local businesses for innovation support, something which Universities remain uniquely placed to deliver.

The success of the project demonstrated the Universities' ability to pivot and adapt to the changing needs of what businesses required, as they sought to change their ways of working and business models.



235

businesses supported with postgraduate placements and consultancy projects



£7,000,000+

collaborative knowledge transfer project

Key successes



£29.5m

estimated total GVA impact of the programme for the D2N2 Local Enterprise Partnership area.

Increase in turnover



52%

of businesses that participated saw, or expect to see, an increase in turnover.



235

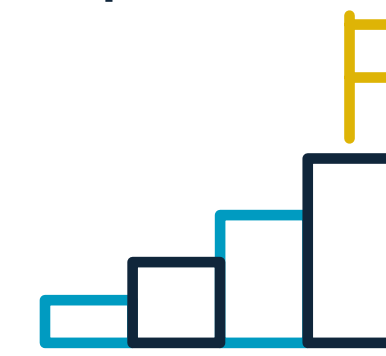
SMEs supported by providing direct intervention to businesses through academic / technical placements and a minimum of 68 businesses receiving non-financial support.



92

new jobs – estimated to have been created by the PTI programme so far, with the creation of up to 320 FTE roles anticipated in total.

Speed of business improvement



80%

of businesses said they would not have achieved their improvements as quickly without the PTI scheme.

Satisfaction with the support offered



94%

of businesses were extremely satisfied, and 20% were satisfied.

Beneficial aspects of the support reported by participant businesses also included:

- Having new or improved products or services
- Improved quality in providing services
- Increased revenue or profit
- New jobs created
- Increased business opportunities
- Academic feedback with the latest knowledge in industry practices
- Fresh perspectives on the business



Testimonials from businesses

“... As a newly established business, the project has helped us to achieve what we needed to, much more efficiently than we would have been able to. This has helped us to achieve some shorter-term goals and has lasting impact for future service delivery and funding streams. We are grateful to the whole team who have helped with this – the whole process has been supportive and clear; this is particularly helpful in a fast-paced environment.”

“PTI provided an impartial opportunity to provide staff-specific insights into our efforts to engage with our colleagues. It helped highlight areas where we could further improve our staff engagement activities and provide better company communications.”

“One placement was specifically to help us drive forward our environmental, social and governance (ESG) agenda from which we have gained significant competitive advantage and brand reputation. We have also been supported with our diversification through the remaining 3 placements which have developed our service innovation and helped us to access new customers and markets.”

“...Automation of software scheduling and delivery has provided more time to innovate and engage with more customers, helping to reach market penetration faster.”

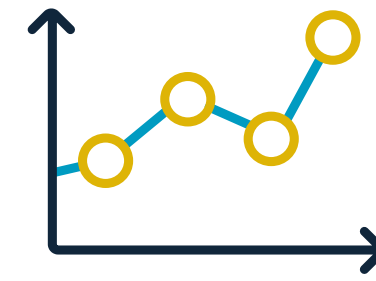
The context

Professor Richard Kneller’s 2017 ‘D2N2 Productivity Gap’ report suggested that productivity in the D2N2 region, measured by GVA, was £10,700/worker/annum behind the national average, representing an annual productivity gap of more than £8.2 billion when compared to national figures. A major contributor to this gap was the tendency of middle productivity firms to export relatively little, have lower management scores and under-utilise recent technologies.



£10,700

/worker/annum behind the national average



More than

£8.2bn

annual productivity gap



“UK economic productivity has hardly improved at all since 2008 and is now the lowest in the G7” while in November 2017 a Confederation of British Industries (CBI) study found that “...almost 70% of UK workers were employed by firms where productivity is below the median.”

- Institute of Directors (IoD), 2018

PTI sought to address some of these issues through Higher Education and Business collaboration on a number of practical interventions, as well as careful monitoring and evaluation of project impacts.

In particular, the project aimed to address:

1.

A lack of absorptive capacity for innovation or leadership in local firms combined with a lack of access to external knowledge exemplars.

2.

The need to stimulate higher levels of graduate employment and enterprise in the area, and to build on existing research strengths, particularly relationships with the local business base.

The concept

Stimulate the adoption of innovative techniques and technologies in small to medium enterprises (SMEs) by connecting them to the extensive research base and graduate talent of three universities.

PTI aimed to deliver an in-depth programme of support, working directly with participating businesses to identify and deliver meaningful and sustainable improvements. Academics, postgraduates, graduates and undergraduates from UoN, NTU and UoD worked directly with participating businesses to identify and deliver meaningful and sustainable productivity improvements.

Key ambitions of the PTI project



Create partnerships:

Facilitate productive innovation partnerships, leading to ongoing SME / Higher Education relationships. Engage with and tie in Innovate UK Research & Innovation funded initiatives.



Enhance project teams:

Connect specific business projects with temporary, specialist staff to complement a business's existing workforce.



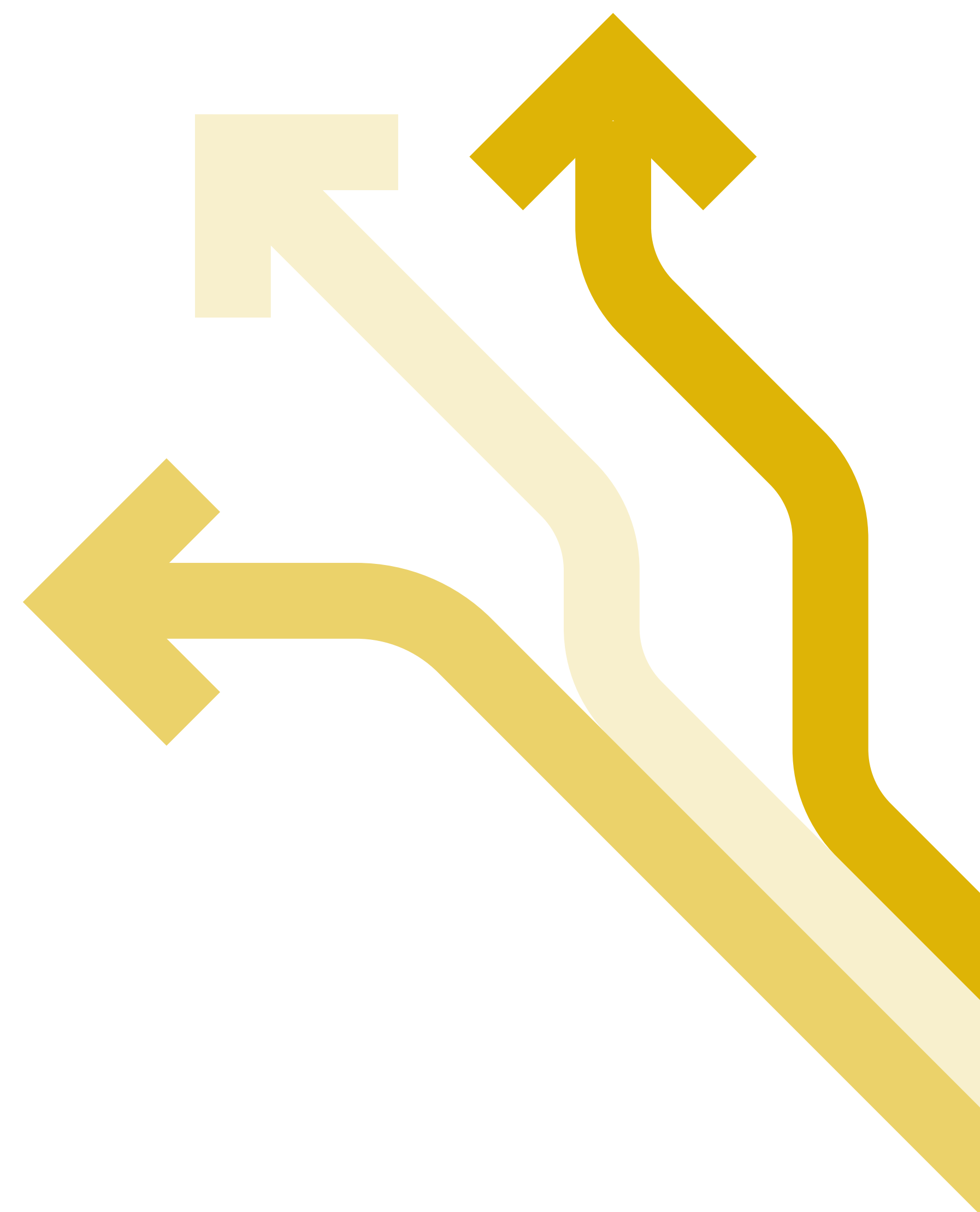
Knowledge transfer:

Share academic research and innovation expertise leading to productivity improvements relevant to local/regional SMEs. Offer a direct connection to the academic/research base in order to draw on current knowledge.



Focus existing offers:

Combine the complimentary offers of three university placement processes into a coordinated programme of productivity support for local businesses.



The approach

Academically rigorous, the Productivity through Innovation programme used a standardised productivity diagnostic to inform and assess all business intervention activities, as well as to develop a wider best practice framework for supporting productivity growth in D2N2 businesses.

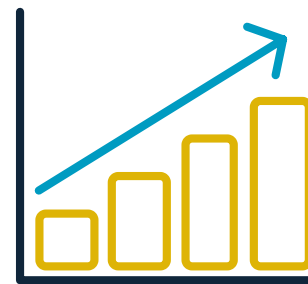
The diagnostic focused on five key productivity drivers namely:



Research and development



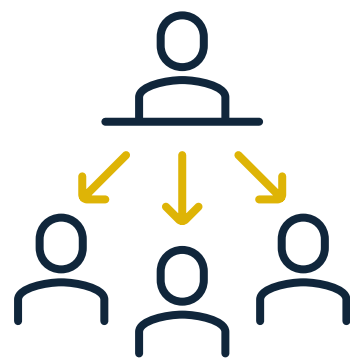
Skills and talent



Investment



International trade



Management and leadership



Analysis of these drivers were used to determine the correct business intervention for each individual SME. For example:

- provision of appropriately skilled temporary project staff in the form of researcher placements lasting for up to 12 months.
- academic support for technical and or Management & Leadership interventions.



Intervention activities had to be:

- led by business need
- innovation focused
- fully supported by the research base.

Project oversight was the responsibility of the 'Productivity Through Innovation Project Group' consisting of the senior institutional/project staff with prior experience and knowledge of working together on large-scale complex funded projects. They had the authority to make changes as per the market demand and facilitate referrals between the delivery partners. Each delivery partner also had 'Academic Productivity Champions' who provided specific advice on the Project Group and had meetings regularly or on an ad-hoc basis if requested.

Types of support offered



University of Nottingham

Postgraduate placements ranging from 3 to 6 months were provided to participating businesses, with an additional resource targeted specifically at identifying, presenting and potentially implementing innovative productivity improvement solutions. These individuals were able to draw on additional university expertise during their placement should the need arise. This connection back into the knowledge base could lead to further engagement activities.

The medium-term placements offered the host business an ideal opportunity to assess the capability, added value and potential of the individual(s) working on their productivity challenges. Equally, the placement participants gained a real insight into their host business, its values, strategic direction, supply chain integration etc. The relationship built during the placement period sometimes encouraged either or both parties to consider a permanent employment situation which, once again, formed direct connections back into the HEI knowledge base.

Key successes

For researchers on PTI business placement

Ability to secure a job improved



of placement participants reported an improvement in their ability to secure a job.

Expectations of the placement exceeded



said that their placement exceeded their expectations.

Satisfaction with support provided by the business



satisfaction during their placement and with the types of placement opportunities available.

“In an increasingly competitive job market, aligning graduates’ skills and employability with those of the local and national economy is a crucial part of the universities’ remit, something reflected in the new Office for Students benchmarks.”

- Office for Students



Specialist support offered

“I’ve made valuable contacts during my placement – I’ve been offered further employment opportunities as a result.”

“It has given me the platform to integrate the skills and knowledge that I’ve gained since coming here to Nottingham, with the ones I’ve gained in the past through work, and having the opportunity to discover how I could apply them was rewarding for me.”



Types of support offered



20%

Grant contribution towards the salary of a graduate role



Nottingham Trent University

NTU's support offered a choice between the following two options for SMEs:

Assistance recruiting new talent into the business

A 20% grant contribution towards the salary of a graduate role in an SME to address an area of innovation need within the business for up to 12 months. This was to enable SMEs to bring in new talent to their business where they didn't have sufficient capacity or capability in a given area. NTU's support also extended to providing recruitment support from our Employability Team including advice on how to attract, select and retain talented individuals within the business.

A fully funded consultancy to solve an innovation challenge

NTU academics and/or technical experts with industry expertise worked with SMEs on an agreed innovation challenge to look at improving operational efficiency or the introduction of new products and services. This provided SMEs with access to NTU's expertise and world class facilities, potentially supporting them with technical support such as detailed product design, proof of concept or creating early stages prototypes for testing. NTU's award winning Nottingham Business School ran workshop programmes on a range of Management and Leadership challenges such as supply chain management, employee engagement and flow management which then led to a bespoke 1:1 support package depending on the specific needs of the business.

Key successes

58

Graduate level jobs supported

64

Bespoke consultancies

3442

Hours of bespoke consultancy delivered

Case Studies



Testimonials from placement participants

Platelet Services Ltd

Founded in 2018 and based in Biocity, Nottingham Platelet provide support to the pharmaceutical industry in early stage drug development. The company approached NTU in January 2020 as they needed support to employ a research scientist to carry out venepuncture work.

“The NTU support offered a major difference to how we operated. It did free some time for myself , the research scientist joining allowed that growth to start”.
Natalia Dvolora, CEO

The company reported in December 2022 they had seen year-on-year growth as global demand for the company's core platelet function testing offering, reporting a 60% increase in turnover over the previous twelve months.

Types of support offered



University of Derby

PTI at the University of Derby enabled SMEs to access a suite of interventions. Working with business, UoD designed bespoke, in-depth programmes of productivity support to deliver meaningful and sustainable improvements.

Knowledge Exchange for Innovation (KEI) grants

KEIs provided recipients 30% grant towards a graduate’s salary for 12 months. Along with technical support from an academic expert, recent graduates were introduced to the company to lead the delivery of projects aimed to assist a step change in the company’s usual activity. UoD also provided support with recruitment for both the graduate and the business.

Industry Research Projects (PhDs and MPhils)

1 to 3 year focused on research and development, bespoke to the company and designed to tackle business critical issues. Postgraduate student researchers working closely with the business and with the support from an experienced academic supervisor from UoD, lead research focused on the development of new products, services or systems. Under PTI, student researchers were offered a fully funded studentship and earned a postgraduate or doctoral qualification.

Full Consultancy Support

UoD’s consultancy service offered businesses the opportunity to work alongside research and technical teams to bring innovative new solutions to their organisations.

400h Graduate Placements

A grant contribution towards the salary of a graduate to boost capacity and/or skills within the SME and take forward a specific innovation project.

80h Undergraduate Internship

Fully funded internships for University of Derby students, aiming to support companies with short term projects transferring new knowledge to the company and giving the student invaluable experience.

Key successes

340

Hours of bespoke consultancy delivered

68

Graduate level jobs supported

5

Industry Sponsored PGR studentships



Testimonials from placement participants

British Canoeing

British Canoeing is responsible for leading and setting the overall framework for coaching, competition and representing canoeing interests at a UK level. They approached UoD to help them understand how coaches facilitate technical improvements in their athletes. Using cutting edge screen-based eye tracking technology, UoD identified common visual search strategies amongst expert coaches enabling British Canoeing to inform and formalise future coach education initiatives.

‘My job is to support the coaches to be the best they can be so we are looking for anything that would give us an advantage in enhancing their performance. Drawing on the expertise of UoD enabled me to address an area that I probably wouldn’t have done very well so it’s much more efficient and effective using their expertise.’

Sid Sinfield, Performance Coach Developer

Supporting data

Environmental sustainability

PTI partners worked together to ensure their activities have minimal negative impact on the environment and have undertaken measures to ensure minimal use of energy, water and have reduced waste. Companies were encouraged to use the public transport while travelling to events/workshops in the Universities as they are centrally located.

UoN and NTU have measures in place to reduce carbon emissions by 2020 and are in the top 10 sustainable Universities of 'Green Metric of World Universities' and UoD has achieved an EcoCampus Gold Award.

Costs

From a sample of 164 businesses that received financial support in the form of placements and KEIs, 49% were micro-businesses with less than 10 FTEs (Full-Time Employees). 40% of companies are small companies with less than 50 FTEs. The remaining 11% (18 companies) had 50-250 FTEs, making them medium-sized.

40%

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49%

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11%

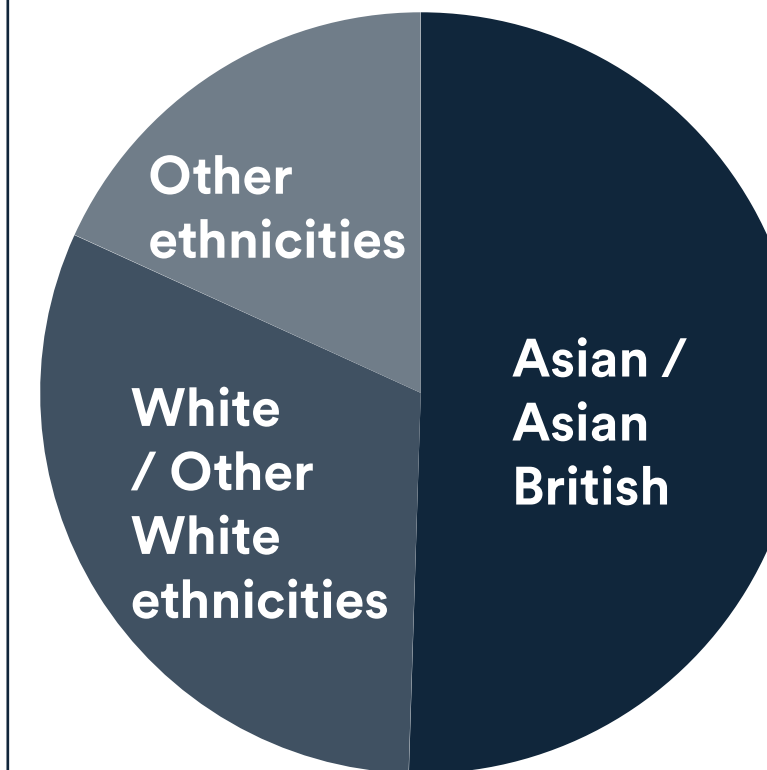
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Equality and diversity

The project was compliant with the provisions of the Equality Act, 2010.

Additional measures undertaken to ensure PTI program is accessible were:

- Equal opportunities policy extended to all recruitment activities: the postgraduates came from all ethnic and economic backgrounds and was monitored in the researchers selected for the placements for PTI.
- All three University buildings used for business facing activities are fully compliant with all accessibility requirements.
- Program publicity materials and case studies included both men and women.



Among 132 UoN - PTI placements alumni who completed a post project survey there were 50% Asians / Asian British, 31% of White / Other White ethnicities and 18% of other ethnicities.

10% of the 132 placements alumni who completed the post project survey reported a disability, including AD(H)D, learning impairment, dyslexia and mental health conditions. The gender of the respondents was 46% women and 54% men.

Data sources

This document is based on the Evaluation of Productivity Through Innovation: Final Evaluation Report April 2023 compiled by:

- Richard Kneller, Professor of Economics, School of Economics, University of Nottingham
- Lynn Oxborrow, Professor of Practice in SME Leadership & Management, Nottingham Business School, Nottingham Trent University
- Sanjana Hiremath, Bachelor of Commerce & MSc Accounting and Finance Student
- Staff Survey Completed by Prathamesh Vidhale, Bachelor of Technology, Instrumentation Engineering & MSc Information Systems & Operations Management Student

Data for the report included feedback from 84 participant businesses, ERDF financial and output monitoring returns and progress report, Project Change Requests (PCRs) amending project expenditure and output targets, the project's SME and Graduate beneficiary survey, staff and stakeholder surveys, staff interviews, and an independent evaluation.

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