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Innovate  
UK

Knowledge  
Transfer  
Partnerships

This is the place to  
**unlock your  
business' potential**



Businesses we've collaborated with




## Discover Knowledge Transfer Partnerships

This is the place where businesses and world-leading research come together to solve real-world challenges.

Here at the University of Nottingham, we've delivered over 160 Knowledge Transfer Partnership (KTP) projects, securing more than £16.5 million in government funding to help businesses unlock their potential.

KTPs are a unique three-way collaboration linking forward-thinking businesses with the UK's leading research institutions. Designed to drive innovation, projects are led by a skilled and inquisitive graduate, known as a KTP Associate.

Part-funded by Innovate UK, KTPs are available to UK registered businesses and charities looking to solve a strategic business challenge. Projects are designed collaboratively to address a specific business need, by transferring knowledge and expertise from within the university and embedding it into the organisation.

Start your KTP journey with us



[nott.ac/ktp](https://nott.ac.uk/ktp)

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# How KTPs work

KTPs are a dynamic three-way collaboration between:



A UK registered business or charity



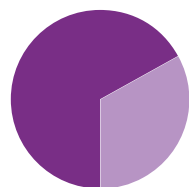
An academic or research base i.e. the University of Nottingham



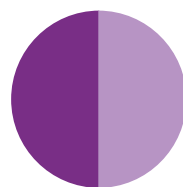
A qualified graduate, capable of leading a strategic business project, known as a KTP Associate

Project duration: 12 months to 3 years

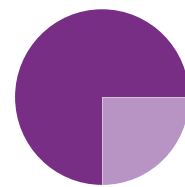
Funded by Innovate UK, KTP grants vary depending on size and type of business:



67% grant eligibility for SMEs



50% grant eligibility for large businesses



75% grant eligibility for charities



Skip to the inside back cover for FAQs or scan the QR code for more details  
[nott.ac/ktp](http://nott.ac/ktp)

# How can a KTP benefit your business?

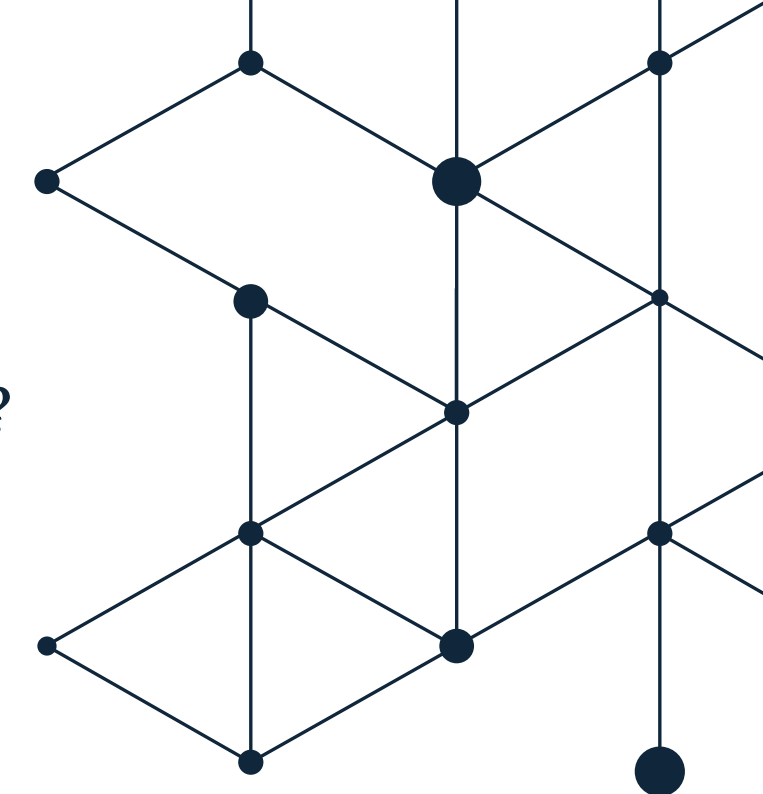
- Gain access to world-leading expertise from the university to help expand your capabilities and drive innovative ideas and solutions.
- Attract and retain a high-calibre graduate. During your project the graduate will be based at your business, delivering your project with full support, supervision and backing from the university.
- Generate a significant increase in profitability.
- Boost productivity through improved operations.
- Increase revenue through access to new markets and new product development.
- Develop a long-term, strategic relationship with the university.

You'll be supported throughout the project by our expert KTP team, plus one of Innovate UK Business Connect's Knowledge Transfer Advisers.



**Our Knowledge Transfer Partnership with the University of Nottingham has been a gamechanger, revolutionising our approach to construction cost prediction with cutting-edge AI and data analytics.**

James Garner  
Head of Data, Insights and Analytics  
Gleeds





## Case study

# Farm-grown spirits, crafted with nature, boosted by science

## Warner's Distillery

Warner's Distillery is a world-leading premium farm-born spirits producer. Its spirits are crafted using natural ingredients directly from the botanical gardens, hedgerows, and natural springs on its farm estate in Harrington, Northamptonshire.

### The challenge

The family-run business was keen to develop a deeper understanding of the interactions between botanical ingredients in the gin distilling and post-distillation process. Passionate about investing in R&D, the company's long-term goal was to become market leaders and category innovators within the spirits industry by driving product development and increasing consumer engagement and sales.

### What we did

Taking place over three years, we partnered Warner's Distillery with KTP Associate Rachel Sutherland and Dr Rebecca Ford, Associate Professor in Sensory and Consumer Science at the Sensory Science Centre in the School of Bioscience at the University of Nottingham.

The partnership focused specifically on flavour chemistry, seasonal variation in raw materials, quality testing and sensory capabilities. Key natural ingredients were analysed to identify and address

the potential for flavour 'drift' over multi-batch and multi-year cycles. Samples from across the company's product range underwent an accelerated shelf-life study, assessing the impact of temperature and light, to measure the flavours lost over time, resulting in the development of a predictive model for shelf-life for UK and international export.

### The impact

The partnership exceeded all aims and objectives established at the outset of the KTP and was awarded an Outstanding grade by Innovate UK, enhancing Warner's reputation as market leaders. They went on to win multiple gold awards across the globe, leading the way in artisan spirit production. The company are now B Corporation Certified, solidifying their commitment to making business decisions that create positive impact for the environment, customers, suppliers, employees, and the community.



Scan to watch a film with Warner's Distillery  
[nott.ac/warners](https://nott.ac/warners)



Rachel was a pivotal part of the brand's success. Her connection with the marketing and commercial team was incredibly useful and helped our brand move at pace, whilst she crafted and developed beautiful, award-winning products based on consumer insights.”

Lucy Rose Hewitt  
Former Brand Manager  
Warner's Distillery

## Case study

# Improving highway maintenance with innovative software solutions

## XAIS-PTS

XAIS-PTS is a highway infrastructure and asset management company providing a range of services and software solutions to local authorities, highway network operators, and international transport organisations.

### The challenge

XAIS-PTS was keen to complement its services by creating a software solution that could forecast future condition and maintenance requirements of infrastructure assets. The company recognised that in terms of reputational significance, driver satisfaction and public sector value for money – roads are one of the top priorities for its customers.

### What we did

Over a span of two years, a dynamic partnership unfolded, uniting XAIS-PTS with civil engineer and KTP Associate Dr Leonardo Rodrigues. He was guided by the academic prowess of Associate Professor Neves, from the Resilience Engineering Research Group in the Faculty of Engineering at the university.

Applying methodologies developed within the research group and supported by Associate Professor Neves, Leonardo developed an advanced life-cycle model for roadway assets based on Petri nets. By exploiting large datasets, the framework produces prediction scenarios and addresses risks associated with different decisions.

### The impact

This collaboration resulted in transforming XAIS-PTS's XA© Infrastructure Asset Management System (IAMS) and the inclusion of predictive analysis in the web-enabled front end XA© Explorer. Central to XAIS-PTS's portfolio, the XA© IAMS captures, manages, integrates, and analyses vital information on road infrastructures and presents it in an easy-to-use online dashboard, allowing local authorities and agencies to make key decisions about service levels and delivery.



**The KTP has catalysed a vibrant exchange of knowledge and ideas within XAIS, blending Leonardo's specialised expertise with the company's established knowledge base. This interaction has spurred innovation, encouraging a holistic and forward-thinking approach to asset management that permeates the company culture.**

James Wallis  
Executive Director  
XAIS-PTS



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## Case study

# Pioneering data analysis boosts biotechnology company's commercial strategy

## Phenotypeca

Phenotypeca are revolutionising drug development, helping to produce life-saving medicines such as vaccines and therapies for cancer and infectious diseases, produced using innovative yeast strain engineering and genomics.

### The challenge

In an industry where the use of data brings significant competitive advantage, Phenotypeca identified the need for in-house capabilities for big data analytics and machine learning (ML) to deliver the needed step-change to its operations and increase productivity. By introducing ML and identifying complex genomic traits to improve yeast strains, called quantitative trait loci (QTL), Phenotypeca projected they could enhance their commercial offering and secure new contracts and high-value intellectual property (IP) manufacturing licenses.

### What we did

The partnership paired Phenotypeca with data scientist and KTP Associate Yue Hu, guided by Markus Owen, Professor of Mathematical Biology and supported by Professor of Computational Chemistry, Jonathan Hirst and Simon Preston, Professor of Statistics and Applied Mathematics from the University of Nottingham. Previously hampered by the complexity of analysing such a diverse range of data, the partnership has helped

Phenotypeca generate QTLs, IP, and data for predictive modelling and ML, while eliminating much of the complexity in diverse datasets.

### The impact

The KTP has been transformative in informing the yeast strain development process; this has resulted in optimised strains with associated IP, which are the company's main products. Yue's expertise and team approach have led to the development of new practices that have become a cornerstone of Phenotypeca's business strategy.



**Yue quickly became established as a valuable team member and has significantly enhanced the company's capabilities and patent portfolio. We now have increased confidence in managing this critical part of our business in-house, and this has been embedded with the wealth of resources created by Yue.**

Dr Chris Finnis  
Intellectual Property Director  
Phenotypeca



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Case study

# New AC switching technology set to revolutionise the manufacturing industry

## Sprint Electric

Sprint Electric is a world-leading manufacturer of drives for industrial motor control. The team at Sprint Electric are no strangers to KTPs, having completed their second collaboration with us.

### The challenge

Sprint Electric was looking to expand its market reach by diversifying into the alternating current (AC) market – by developing patented AC drive switching technology suitable for high reliability applications.

### What we did

Sprint Electric were partnered with power electronics engineer and KTP Associate Dr Azlia Abdul Rahman, supported by the academic expertise from the Power Electronics, Machines and Control (PEMC) Research Group in the Faculty of Engineering. Fully embracing the collaborative opportunity, the company opted to establish a base at the PEMC Centre on Nottingham's Jubilee Campus. Azlia created a low voltage simulation model of an AC drive using bi-directional switching technology for AC-AC power conversion to gain a better understanding of the underlying principles. Working alongside engineers at the company, the team created a 22kW prototype converter designed to work at 400V.

### The impact

The collaboration resulted in the creation of the Generis AC regeneration drive. Designed to not only lower running costs, benefits also include reduced heat generation, motor control accuracy and improved system efficiency. Sprint went on to secure funding from Innovate UK's Investor Partnerships programme, enabling it to accelerate the development of the Generis range.



**Our experience with KTPs has been a wholly positive one. Not only has it quickly and effectively embedded understanding of a complex technology in our business but it has also established a relationship with the PEMC group that I am confident will continue to deliver benefits to both parties in years to come.”**

**Mark Gardiner**  
Director  
Sprint Electric



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**I was based at Sprint Electric's office at the Power Electronics and Machines Centre on the Jubilee Campus for the duration of the second KTP, which meant I was right there in the thick of it and involved at every stage of the research and development lifecycle.”**

**Dr Azlia Abdul Rahman**  
KTP Associate  
Sprint Electric



# Frequently asked questions

## How much does it cost?

KTPs are part-funded by an Innovate UK grant. For small and medium-sized enterprises the grant rate is 67% of the project cost; for large companies 50%; and for charity organisations the grant rate is 75%.

Project costs are variable, but the typical budget for a two-year programme with a single Associate is approximately £230,000 made up as follows:

- Associate employment costs (salary plus NI and pension)
- Associate supervision, support, and overheads
- Associate development, travel and subsistence, consumables etc.

An independent business with fewer than 250 employees will contribute 33% of the project costs, approximately £35,000 – £40,000 p.a.. Large businesses, or businesses that are ultimately owned by a large organisation or group, contribute 50% of the costs, approximately £55,000 – £60,000 p.a.. Charities contribute 25% of the costs, approximately £25,000 – £30,000 p.a.. This is a cash contribution and will be subject to VAT.

The grant is awarded to the university to administer, therefore a KTP does not count as state-aid and the business contribution towards the KTP may be eligible for R&D tax credits.

## How to apply

KTP proposals are submitted as an online grant application through Innovate UK open competitions. There are five deadlines each year. The proposal is jointly written by the business and university and outlines the project objectives and deliverables.

The partnership receives support and guidance throughout the application process from the university's KTP Team and an Innovate UK Knowledge Transfer Adviser. This support enables a very high success rate. The process takes a minimum of four months from first contact to the awarding of a grant.

## How long does a KTP last?

Projects can run from 12 months to 3 years, depending on the time required to transfer the knowledge and deliver the outputs; the average project duration is two years.

## Can we have more than one KTP?

A business may have up to four projects running at the same time, however the business will need to demonstrate how the proposed projects differ from each other.

## What are the financial arrangements?

As the budget holder for the KTP, the university will administer the finances and grant claims. The university's KTP Team will invoice the business to request the business' contribution to the budget. The invoicing arrangements will be agreed up front prior to the start of the KTP (normally in equal amounts each quarter in arrears). Any equipment bought from the KTP budget usually remains the property of the university at the end of the KTP, however this can be negotiated towards the end of the project.

## How is the partnership managed?

The KTP is monitored by a Local Management Committee (LMC) made up of all the key project members: senior business representative, business and academic supervisors and the Knowledge Transfer Adviser. The Associate attends and reports on project progress. The committee meets every four months throughout the KTP and many of the key decisions on the project are made at the LMC meetings.

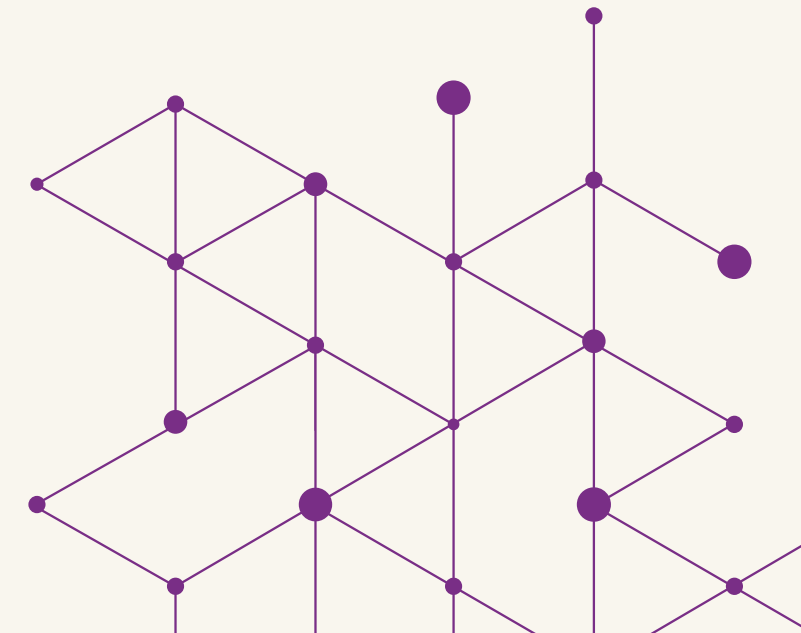
In addition to the LMC meetings, monthly three-way project meetings are held between the Associate, business, and academic supervisors, to review progress against planned objectives and agree short-term targets.

## What are the intellectual property arrangements?

In line with the KTP funding criteria, the partners are required to enter into an agreement over confidentiality and Intellectual Property Rights (IPR) before the project begins.

## How is the associate recruited?

The Associate will be recruited on the open market, facilitated by the university's HR Team. The recruitment process is agreed between the business and the university. Interviews usually take place at the business premises and the decision on who to appoint is taken jointly. The recruitment process takes an average of six months from the date of the grant offer.





## Start your KTP journey with us

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details or get in touch



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