

Powerful collaboration for innovation and business growth



Knowledge Transfer Partnerships



**UNIVERSITY OF
GREENWICH**
LONDON | KENT

Contents

What is a Knowledge Transfer Partnership?	1
The power of KTPs for academics	2
Understanding the process	3
A proven track record in KTPs	4
Powerful results	5
KTP Case study 1	6
KTP Case study 2	8
KTP Case study 3	10

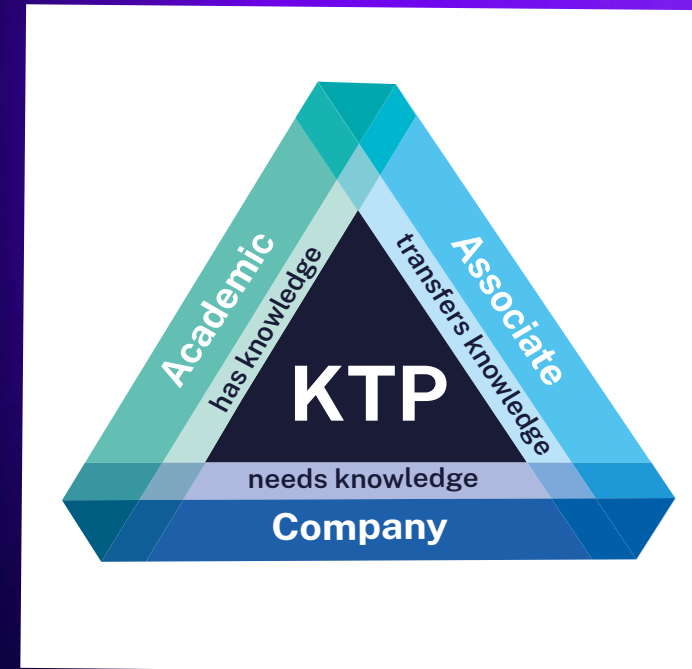
What is a Knowledge Transfer Partnership?

A Knowledge Transfer Partnership (KTP) is a unique, three-way partnership between academics, businesses, and graduates. Funded by the government's innovation department, Innovate UK, KTPs are designed to benefit all three partners, creating positive impact and driving innovation.

KTPs have been helping academics and leading, forward-thinking businesses work in partnership since 1975, and are the longest running and most successful knowledge transfer programmes in the UK.

There are currently around 800 businesses, 100 knowledge bases and over 800 graduates involved in KTPs.

Could you benefit by being involved?



The power of KTPs for academics

Academics have an opportunity to secure funding to apply their knowledge and skills to real world projects and business problems.

KTPs offer a vehicle for academics to work with established businesses and graduates by leading projects that will solve a strategically important business challenge. A project allows academics to test, apply, and translate their research and expertise into industry, creating real-world impact. Projects can be in any relevant sector, within a business with more than 3 employees, and typically last between 12 and 36 months.

Current KTP funding stands at £30m and is set to increase to £60m by 2024. Nationally, the KTP scheme has an 80% success rate for applications, compared to 5% for many other grants. There are 7 submission dates for 2023/24.

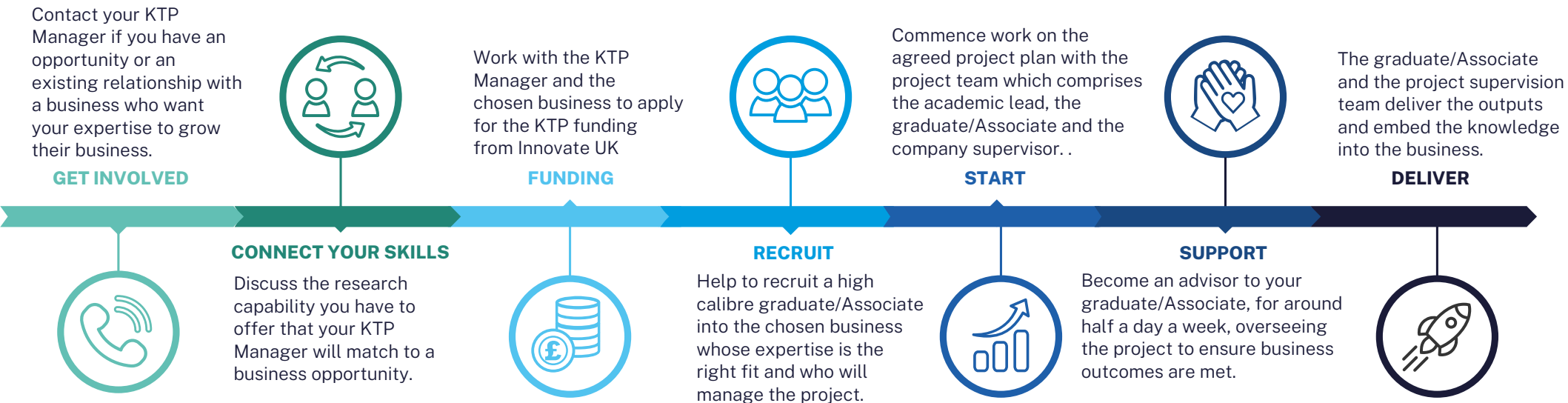
Benefits of getting involved with a KTP include:

- Addressing strategic business problems using applied research and innovative solutions.
- Developing a REF/KEF impact case study.
- Career progression on the Enterprise route.
- Acquiring cutting edge material for research informed teaching.
- Building your publications record and enhancing your research profile.
- Potential for the graduate/Associate to register for a Phd, overseen by the academic supervisor.



Understanding the process

A KTP is a unique three-way partnership that gives academics the opportunity to work on live businesses and to develop business relevant teaching materials. Here's how the process works.



A proven track record in KTPs

The University of Greenwich has been involved in 87 KTP projects since 1986 and has a proven track record of placing academics with the right expertise and knowledge into businesses to enable business transformation.

The University's current KTP Manager has over 22 years' experience of facilitating and working with academics and businesses on 54 KTP projects. The KTP Manager works with academics, IP, HR, and Finance Offices, along with the Innovate Advisor and businesses to ensure the projects run smoothly. The manager works with the project team throughout its lifetime to ensure all objectives are successfully met.





Powerful results

The University of Greenwich has delivered KTPs across a wide range of sectors including financial services, software development, pharmaceuticals, charities, fire safety, and retail.

Our academics have worked on award winning projects. They have presented their work on innovation from KTPs at conferences and have been published in peer reviewed journals. Academics have used their knowledge and expertise to create real world impact for REF/KEF Impact Case Studies. Those involved in projects have co-authored teaching case studies with businesses, and the University has widely incorporated the learning from projects into its teaching.

In addition, involvement in KTPs has enabled academics to progress on the Research and Enterprise pathway.



KTP Case study 1

Company name: Transforming Systems Ltd (now Vitalhub)

Academic department: Dept of Computing

& Mathematical Sciences - Faculty of Engineering and Sciences

Project duration: 36 months

The company business is to build information technology solutions to healthcare organisations, interpret and analyse data, to improve patient flow and better co-ordinate patient care services across any geographical footprint. Transforming Systems' strategic plan was to integrate a set of existing tools and build new applications to help manage patient flow. This next stage of development will put the patient at the centre of their own health pathway, able to see their own care plan and care interventions, and have opportunity to make choices. There are currently no readily available products which allow the secure transfer of care from one provider to another.

The challenge:

Transforming Systems has a good track record of showing operational pressure and predicting demand in a healthy economy. One of the challenges from this work is understanding patient flow and making sure patients receive the right care at the right time. Transforming Systems wanted to develop the tools which monitor patient flow throughout the whole economy, allow simpler transfer of care between different organisations, both inside and outside of the NHS, and provide the secure information sharing tools to move patients safely through the system. This data would provide better predictive models of patient flow. Although the company has the

expertise to share data securely between organisations, it did not have the expertise to deliver a secure patient ledger. This is an important component of the system as it will simplify the transfer process, allow tracking of different types of patients through the system, and meeting the NHS and social care's security requirements.

The solution:

The company had already worked on successful KTP projects with the University of Greenwich and knew the benefits of working with academics with the expertise they required for the new project. A second KTP 3-year project to develop a range of tools which will allow

secure transfer of information and allow decision making between different organisations. It would support the ingestion of heterogeneous data from multiple sources with the use of cloud native technologies; provide a platform that enables the creation of custom and highly flexible transformations; facilitate the secure transfer of patient journey audit trail information across multiple healthcare partners with the use of blockchain technology; provide visibility of the overall healthcare system state and support decision making by highlighting pressure points and record decisions, actions of the clinical staff and store securely an audit trail of these events.



The outcomes/benefits

The KTP provided a modern auto scalable and highly available data pipeline solution. This contributed to the company in the sense of being able to quickly add more customers and handle the increased amount of data feeds by increasing infrastructure automatically on demand. This was only done during the periods of the day where data feeds are increased, which is extremely cost effective.

The sales of the company software solutions were faster than the data feeds infrastructure could handle, thus the opportunity addressed was to build a solution to auto scale the infrastructure, enabling it to handle new customers data instantly.

The KTP project has been at the very heart of the motivation behind the acquisition of Transforming Systems by VitalHub in 2021, and on the back of the successful implementation and rollout of SHREWD (Transforming Systems' core product). This has been primarily a key revenue milestone.

The KTP has further inaugurated a stream of more in-depth research work on the area of Privacy Preservation and Serverless Software Architectures, a field that was not established before this project, leading to three joint academic publications, the initiation of the KTP Graduate/Associate's PhD, and one MSc dissertation project.

A group of employees was directly and indirectly involved

**Dr Georgios Samakovitis - Lead Academic,
Dept of Computing & Mathematical Sciences**

“ This was an excellent project on all accounts, where benefits for the KB were strongly evident. The experience was extremely positive, and I am confident that all involved parties felt that this has been a greatly beneficial project. ”

in the project, especially to connect the data pipeline solution to the company's software solutions. These employees acquired knowledge researched in the KTP such as AWS services, cloud architecture and python coding. These employees are spread across the UK, Sri Lanka and Canada.

Academic/institution outcomes

Elements of new techniques and methods developed as a result of the KTP are embodied in new MSc modules which were initiated in 2020: COMP1830 Blockchain for FinTech and COMP1831 Technological for Anti-Money Laundering and Financial Crime have both benefited from techniques and approaches explored with the KTP graduate/Associate during the project. Similarly, there has been one MSc dissertation on serverless pipeline development and deployment that resulted from the project.

The KTP has benefitted the University Of Greenwich both by adding to the experience with managing a KTP project and opening up the opportunity for expanding to novel research fields that were previously untapped by the University. More specifically, discussions for follow-up KTP applications are in place with VitalHub, while the technological expertise built on the back of this project allows for further expansion of KTP proposals in the FinTech space.

A PhD was initiated, and three academic publications have been so far produced. It is anticipated that research dissemination will continue to deliver academic outputs of high quality.

Publications

3 academic publications
2 post-graduate projects



KTP Case study 2

Company name: Prior Clave Limited

Academic department: Faculty of Engineering

Project duration: 36 months

Prior Clave Ltd was established in 1988 and is one of the leading autoclave manufacturers in the UK. They had completed two successful KTPs with the University and knew the benefits from having a KTP project. This project was to integrate the supply chain into the new ERP (Enterprise Resource Planning system), including design, planning, manufacturing, sales, marketing, after-sales services, maintenance and purchasing strategies.

The challenge:

Prior Clave operated 5 different legacy systems covering sales enquiries, sales order processing, processing and invoicing of product service records, production control records, and central accounts system. The design and production departments lacked systematic processes and as a result, there was failure to achieve customer delivery promises. The company was extremely sensitive to staff absences and resultant specific skills imbalance making forecasting and fulfilling of customer orders difficult. There was also a lack of records of production time and manufacturing costs. The company lacked expertise in supply chain integration and ERP systems and lacked database management

and processes experience for implementing an effective production scheduling system. There was limited expertise within the company for structuring bills of materials for highly customised products and little experience of current best practices.

The solution:

The partnership enabled academics with expertise in implementing an ERP system and optimising the production system to work with a graduate /Associate based in the company and working full time on the project for 36 months. Together with a company supervisor, they integrated the supply chain (internal and external), design

processes and documentation linked with manufacturing scheduling and control. The new processes impacted directly on inventory by reducing stock levels due to more accurate planning and improved communications with customers (leading to increased sales) and with suppliers. The overall effect of this implementation reduced the cost and environmental impact of the company's activities. The knowledge gained throughout the project was transferred and embedded into the company to enable them to have the internal expertise and knowledge after the project ended. The company also recruited the graduate/Associate.



The outcomes/benefits

The KTP has achieved its aim of integrating and expanding the full scope of company activities, Accounting, Service, Sales, Manufacturing and Design into a single system. The ERP system has been implemented during the KTP to give more than the company's separate legacy systems could provide.

There is improved communication and information exchange both within and between the company's departments that has enabled flexibility giving rise to better informed decision making. This has contributed significantly to the company's ability to maintain turnover, profitability and employment levels.

Before the KTP, information could be months out of date. Now, senior management has more accurate and current financial information which has greatly improved strategic decision making.

The manufacturing department in particular has changed from using barely any IT to enthusiastic users of it. The improvements in accuracy and timeliness of manufacturing cost and stock level information have assisted greatly in maintaining the company's competitiveness.

Academic/institution outcomes

The partnership has enabled us to work with a major supplier in a niche market of scientific equipment, which would otherwise not have been possible, and has

Tony Collins - Managing Director, Prior Clave Ltd

“ Once again, a KTP has had a beneficial effect on this Company far in excess of the money invested into it. The injection of fresh ideas and current knowledge into the Company thanks to this scheme has gone beyond the boundaries of the project itself. Having a knowledgeable and dedicated Associate on-board and the input and support of the University of Greenwich has helped us to achieve our original aims and more in a way that would not have been possible had we attempted to do it ourselves. ”



helped us understand not just the company but also the whole supply chain. The project has helped the academics understand a great deal of the problems in implementing an ERP system in a manufacturing SME specialising in High Variety Low Volume manufacturing. Staff had the opportunity to study data from an ERP system working in a live manufacturing SME, enhancing staff knowledge and expertise.

One lecturer – not connected with the KTP – has used Prior Clave as a case study for his Introduction to Mechatronic Systems course delivered to our second year BEng Electrical & Electronic Technology degree. Without the KTP, the case study related to autoclaves

would have been impossible.

Students have been made aware that engineering is not only concerned with the traditional industry – automobiles, airplanes, defence etc.

The partnership helped provide data for the setting up of case studies for final year projects – for example, comparing commercially available ERP systems as used by SMEs with open access ones. Tutorials based on real life data were used to teach students at level 5 and 6 in their core Engineering Management I and II courses.

More than 140 students benefited from this each year of the project.

KTP Case study 3

Company name: London Mutual Credit Union

Academic department: Faculty of Business

Project duration: 29 months

LMCU is a not-for-profit savings and loans cooperative that wanted to extend their product range to include mortgages.

The project aims were to develop the infrastructure for risk assessment and the regulatory compliance capability required to support housing finance business, sales of mortgages and attract deposits from new and existing members of LMCU.

The challenge:

As LMCU had just expanded its potential membership base into new London boroughs and needed to expand its membership across all income groups, it faced a strategic challenge. To achieve sustainable growth, LMCU saw it as imperative to be able to offer long term lending and home ownership products which are not typically offered by British Credit Unions. It is also strategically important for the credit union to serve the financial needs of London's local communities with appropriate products. LMCU needed the capability to offer innovative and regulatory compliant products that would promote home ownership and inclusion in local communities.

LMCU did not have the experience of developing the right credit assessment and risk management policies for offering long term secured finance and needed to

design and deliver products that would comply with regulatory requirements. Also, LMCU did not have the awareness/understanding of current and new regulations, and the ability to embed that knowledge into staff who will be discussing mortgages with current and potential customers. They needed to understand the motivations of customers to buy mortgages from a Credit Union and had poor understanding of mortgage lending practices of credit unions in other countries.

The solution:

LMCU set up a mortgage team comprising a Compliance Manager, the Head of Lending and a Credit Officer, who would work closely with the KTP graduate/ Associate. Through them a cascade approach was used to disseminate and embed the knowledge in the credit union.

To complement the policy documents for mortgage lending, product development, promotions, treating customers fairly, procedure (process instructions) manuals were also created. The procedures manual is comprehensive and covers detailed step by step instructions for all six individual stages of the mortgage lending process. In addition, a comprehensive arrears management manual has been written.

Initially one-to-one training sessions and an action-driven interactive approach were used to embed knowledge and build the compliance capability. This approach was used for creating the risk appetite statement and the risk assessment documents, for setting lending criteria and for product development.

The gap analysis technique was used to engage staff at



different levels of seniority and impart knowledge across several functions including marketing and promotions, lending, credit control (arrears management), IT and systems, records management. Together with the compilation of the regulatory gap analysis, functional process documents were written up and final training seminars or group meetings were held to explain and embed knowledge. These were supported with learning materials.

The outcomes/benefits

Over the KTP, study visits were conducted in 8 Credit Unions in UK, Canada and Australia. The learning from these visits was documented and shared with staff and the Board of Directors. Several presentations were made to the Board at their planning sessions on projections, products and processes.

Instructions manuals were written for tools developed in the KTP including affordability calculators, stress testing model, financial projections model, the loan pricing methodology, gap analysis template and demonstration training sessions with staff conducted on a one to one and group basis.

The project is complete and LMCU serves a broader section of their local and credit union communities. LMCU staff now train other credit unions on quality regulatory compliance practices throughout the SE region and nationwide, sharing tools including the gap analysis. The credit union's adult membership has increased to 30,842

Dr Sallyanne Decker - Associate Professor in Banking & Finance

“

It was a privilege to lead this project that ultimately aimed to address the serious problem of restricted access to a wide range of financial services that some people still face. The project was a milestone for both parties.... LMCU has now succeeded in its bid to become one of only a handful of British credit unions that are licensed to offer mortgages and UoG can be proud of its ability to contribute to impactful outcomes that improve society.

”



from 20,918 in 2014 when the project started. The project led to a focus on recruiting employed members to the credit union, with a drive to offer financial services to the armed forces and the health and education sectors. Within its field of membership, the credit union now works with over 25 major local employers to offer its products and services as a staff benefit. The credit union's loan book has increased from £11.9m in 2014 to £ 14.5 million in Sept 2020. It has also been granted a mortgage licence and it's the only London based credit union that can offer mortgages.

Academic/institution outcomes

For the University, the partnership has allowed both academics to associate knowledge directly with practice. Staff development has come through new knowledge accumulated by implementation of financial regulation,

the opportunity to work in a real-life context to interpret regulatory requirements real time (new regulations were introduced during the project) and to respond to and accommodate regulators' specific conditions for LMCU. Academics have gained an increased depth of understanding of additional factors that could explain the unique nature of British Credit Union development, opening new research areas.

Both academics have also enhanced their practical skills in their disciplines. Skills enhancement has come through policy development and the development and use of tools such as risk appetite statements, GAP analysis techniques, spread sheet models for loan pricing, assessing loan applications, stress testing and financial projections.

Scholarly activity

2 conference presentations and teaching case study.

Start the KTP journey

If you'd like to find out more about getting involved in a KTP project contact us at: **enterprise@gre.ac.uk**

For more information visit **[here.](#)**