

HOW TO GET INVOLVED

Knowledge Transfer Partnerships is the leading programme of its kind in Europe, with an outstanding track record of benefitting all those who take part.

Applications are accepted from prospective partners all year round via the support of regional KTP advisers and Knowledge Transfer offices within Universities and Further Education Institutions.

To find your local adviser or office go to;

www.ktponline.org.uk
or call **0300 321 4357**

Funding Partners

Knowledge Transfer Partnerships is a UK wide programme funded by Innovate UK along with 12 other public sector partners.

NORTH WEST INNOVATION CASE BOOK

In partnership with



Welcome

Long-term economic growth is as big a priority as ever. UK plc now has a real opportunity to capitalise on the improved climate and invest strongly in innovation to lay the foundations for our future competitiveness and growth.



Dr Clive Hayter,
Head of Smart,
KTP and Innovation
Vouchers, Innovate UK

Knowledge transfer is key to unlocking innovation and a Knowledge Transfer Partnership (KTP) opens the door for a business, a knowledge base and a recently qualified graduate to collaborate on new business opportunities ideas and concepts.

From a commercial point of view Knowledge Transfer Partnerships (KTPs) represent the "gold standard" in terms of accessing university expertise to grow business and increase profits, linking commercial organisations with academic institutions and shaping the future of British business and innovation.

The KTP Programme is run and managed by Innovate UK (formerly the Technology Strategy Board) on behalf of 12 government funding organisations. Over the last 10 years it has established some 8750 partnerships in a diverse range of sectors and technologies, each partnership lasting from 6 months to 3 years.

The selection of stories contained in this brochure represent a tiny fraction of the many successful ways in which KTP has been used to transform businesses and benefit academics through working collaboratively. I hope in reading about them you will be inspired to think about how your own organisation might become involved in the programme and benefit from its success.

Further information about the KTP programme is available at www.ktponline.org.uk

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Overview

Knowledge Transfer Partnership (KTP) is a UK wide government funded programme, established in 1975, aimed at helping UK businesses to improve competitiveness, productivity and performance through better use of the knowledge, technology and skills available within universities and other UK knowledge bases.

November 2014 marks the start of the 40th year of KTP, during which time over 3,000 organisations (from micro-sized to global businesses); 140 knowledge base organisation; and 6,000 graduates have participated in and benefited from the scheme. This longevity and structural stability reflects the fact that KTP has been extremely successful in helping business develop new strategic capabilities and improve their bottom line.

Knowledge Transfer Partnerships are:

- one of Europe's leading knowledge transfer schemes; and
- one of the UK's largest graduate recruitment programmes

How does it work?

KTP is a partnership between a business and a UK knowledge base, such as a university, further education college or research and technology organisation, which:

- implements an agreed 6-36 month project central to the strategic development of the business;
- recruits a high calibre graduate, the Associate, who is based at the business to deliver the project;
- provides joint supervision to the Associate through business and academic mentors;
- accesses project specific knowledge and expertise from the university, to support the Associate and business to deliver the project; and
- is part funded by the government with the balance of the costs coming from the business

What does it cost?

The total annual cost of a KTP on average is £60k, which is split between the business and the government funding body.

- a small or medium sized business will contribute around one third of the total project costs
- a larger business will be responsible for contributing around half of the total project costs

The budget covers the cost of employing a full-time Associate to work at the company on the defined project, half a day per week of academic consultancy and £6k / year budget for travel, consumables and training for the Associate.

HOW DOES KTP HELP BUSINESSES GROW?

Knowledge Transfer Partnerships help you and your business to:

- increase profits, knowledge and capability
- gain competitive advantage through new products, processes and services
- introduce new technology through innovation
- become leaner, more efficient and set for growth

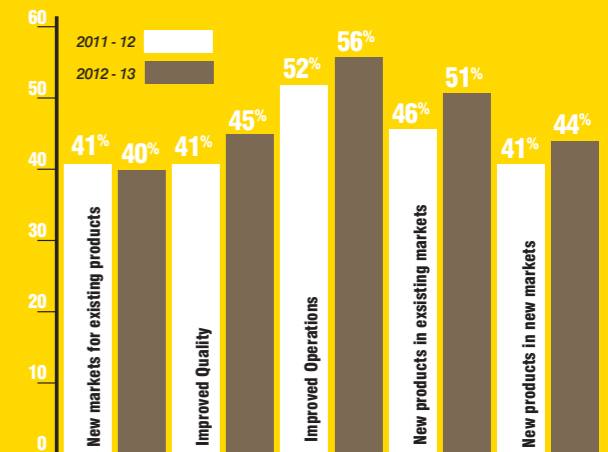
In 2012-13, businesses participating in KTP gained on average;

- **£33k** one-off increase in profit before tax
- **£261k** anticipated annual increase in profit post-completion
- **£63k** invested in plant and machinery
- **3** new staff being employed (including the Associate)
- **20** staff being trained
- over **£86k** being invested in research and development activity
- an anticipated increase in annual exports of **£266k**

91% of businesses say that the results they achieved through participating in a KTP would play a significant part in improving the future performance of their business (TSB Achievements & Outcomes Report 2012-13).

For every £1m of government money invested in KTP:

- **32** new jobs were created
- **269** company staff were trained
- **£0.84m** was invested on average by companies in plant and machinery
- **£1.15m** was invested on average by companies in R&D
- businesses predicted a post-project increase in annual pre-tax profit of **£3.46m**



Reasons provided by participating businesses for increased profitability following a KTP - from graded KTP projects



ATG Access®

World-wide growth for high-tech security firm

Challenge

In 2011, an 18-month KTP with Manchester Metropolitan University was established with international security firm ATG Access® to embed e-commerce capabilities within the business to achieve growth in 'budget' markets, where costs and efficiencies had become increasingly significant factors. The move to e-commerce represented a significant cultural shift for the sales and service departments however, web based marketing and e-commerce was by now routine in target markets, and ATG had to match or better competitors digital capabilities to achieve planned growth.

Solution

Lucy Foster, first-class honours graduate in Marketing Management, joined the Haydock-based firm as the KTP Associate and set about bringing the latest marketing thinking to the company. Supported by Dr Catherine Ashworth, Senior Lecturer at MMU, she uncovered flaws in the company's data management processes, which would impede growth over the longer-term. The result was a new strategy to improve business processes across departments to ensure better synergy and integrity of data.

Benefits were seen in reduced administration costs, streamlined purchasing processes on small items and improved overall customer experience, the e-commerce site achieved break-even inside the first three months, highly unusual for such sites (which rarely recover investments within the first two years). As a result of Lucy's training on website analytics and search engine optimisation search rankings were improved and web traffic increased by more than 22%.

She motivated the sales team to adopt a more professional approach to trade events and modernised ATG's corporate image for the national and international market, helping to recruit distributors in key markets (Australia, Vietnam, Indonesia and Thailand). She also developed a training conference for said international distributors, which lead to the first phase of distributor training with new, branded promotional materials.

Market research with distributors to ascertain product gaps within the current ATG Access® portfolio highlighted a number of opportunities and marketing is now driving R&D to develop new products in the high security market.

Benefits

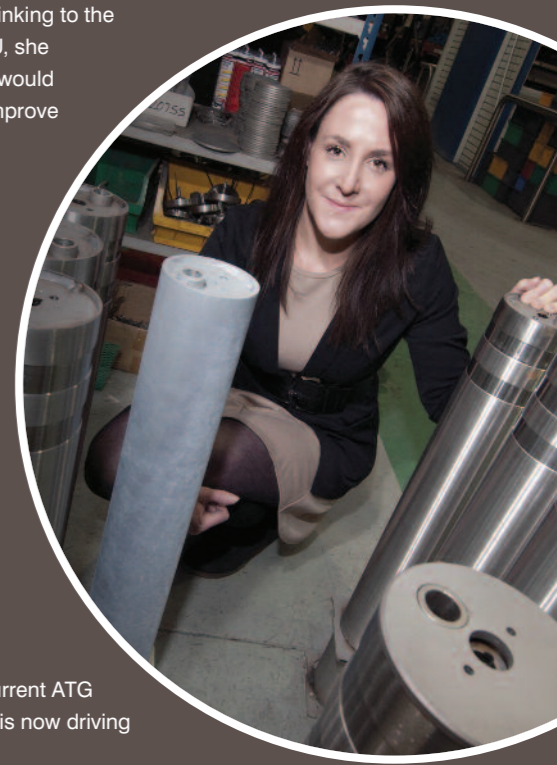
- ATG Access® internationally recognised brand, with 40% growth in export sales (2012)
- Business growth of 70%, with sales revenues up from £10m to £17m (2011-12)
- 222% increase in sale leads generated from trade exhibitions – and better lead conversion rates
- 'Business Leader of Tomorrow' award for KTP Associate, Lucy Foster (2013)
- Associate employed as ATG Access® Marketing Executive on project completion

Ongoing growth and success within the company have resulted in the following:

- 2013 Sunday Times Profit Track 100 rankings
- 2013 UKTI Export Champion 2013

Company Overview

ATG Access® is Europe's largest manufacturer of security bollards and vehicle barrier systems, currently exporting to over 40 countries. Their product range is installed at major UK airports, stadiums, shopping centres, town centres, royal palaces and many iconic buildings across the World.



“The positive impact of the ‘new eyes’ of both Lucy and Catherine has led to significant improvements in marketing practice and strategy development at the firm. Having academic insight to review business processes is of great benefit to a fast developing and growing business like ours. We are now looking at using other resources from MMU to make improvements in wider areas, such as projects management, R&D and engineering.”

Glenn Cooper,
President of ATG Access®



Alliance Learning



Developing and implementing a web-based enterprise system with customer relationship management modules to improve revenue



“We believe that the KTP Programme is an ideal avenue for small businesses to collaborate with Universities and exploit advancements in technologies to generate tangible business benefits”.



Mrs Julie Robinson,
Chief Executive, Alliance Learning

Challenge

This 2 year project aimed to improve business productivity and performance by improving customer relationships, sales, and profitability by deploying integrated Enterprise Systems (CRM, Capacity Planning System, SharePoint etc.). The project also aimed to improving efficiencies by reducing costs in terms of time management tasks. The IT systems planned through this project are intended to provide the capability to manage and understand the company’s customers better in order to develop deeper, sustainable and profitable relationships.

Solution

The academic team worked closely with Alliance Learning to develop the system requirements. The key outputs of this KTP project included the development and implementation of state-of-the-art Enterprise IT systems (CRM System, Capacity planning system, and SharePoint Portal for knowledge sharing) using mainly open source technologies.

The project implemented a company wide integrated enterprise systems to support its business strategy and improve its competitive position by taking advantage of market opportunities, such as expanding its customer base, and cross selling its training services amongst its business divisions and teams.

Benefits

This KTP has helped Alliance Learning to lower the cost of operations in several of the company’s departments, resulting in improved profit margins. For instance, this project helped the company to achieve over 50% time savings, eliminating the need to manually retype hundreds of sales records into different systems. Based on the operational efficiencies achieved through the KTP, the Senior Management have been able to spend more time on improving service to its customer organisations and overall quality of training provided to the learners and apprentices. The July 2013 OFSTED inspection report states that Alliance Learning has moved up from a Satisfactory Grade-3 in 2010, to a Grade-2 in 2013.

There have been considerable other benefits gained including the reduction in the company’s carbon footprint due to the extensive usage of electronic systems compared to paper based systems. Given the success of this KTP, Alliance Learning is planning to develop another major project with the University of Bolton to improve its online presence i.e. fully web based sales process, systems integration etc.

Based on the work carried out through this project, the KTP Associate has successfully completed a PhD degree from the University of Bolton, published papers, and gained well paid permanent employment with Babcock Plc after the project completion.



Company Overview

Alliance Learning is a leading training provider in the Northwest with over 40-years’ experience of delivering Apprenticeship Programmes and an extensive range of courses across a wide range of occupational areas and industry sectors. They focus on work-based training opportunities with the aim of meeting the recruitment and workforce development needs of local employers.

Brathay Trust

Integrated Research and Evaluation Project



Challenge

Brathay needed to develop impact measures to help it to evidence its practice to funders and commissioners, and to inform its practice and product development. It had some isolated pockets of research and knowledge but wanted to move to a position of having a comprehensive and fully integrated and sustainable research function, with activity reaching all parts of the business.

Solution

A plan was developed to shift Research and Evaluation (R&E) away from an ad hoc supportive activity to a sustainable and embedded function which would enrich practice and strengthen the organisation. A baseline audit was conducted to identify areas for development, and a framework for R&E was developed. Minimum practice standards across the hierarchy of R&E were implemented, and a programme of practice development was delivered.

Benefits

Brathay was able to formalise its commitment to research and evaluation and generate a more scientific evidence base of the impact of its work, providing validation and credibility, resulting in a stronger position in a competitive market place as a leader in outdoor education and experiential learning.

Brathay has become much more attractive to funders and during the programme a number of funding bids were successful, including a £500,000 project funded by the Cabinet Office.

Leading practices and techniques have been rolled out across the organisation giving staff access to a range of tried and tested tools and techniques for use in their delivery.

The legacy of the KTP continues; in September 2014 Brathay were confirmed as one of only 6 organisations contributing to the creation of a national Centre for Youth Impact for the Cabinet Office. The Centre will deliver national leadership, acting as a central point for information and communications, and single forum for discussion about impact measurement in the youth sector.

The project also achieved recognition by Innovate UK, being awarded “Outstanding Achievement”. Associate, Kaz Stuart said of the award, “I was delighted – the project was really hard work, and really rewarding to complete, it’s great to have this recognised by Innovate UK.” Kaz was subsequently offered employment within the organisation and is now Head of Research and Evaluation for the Brathay Trust.



“I’m thrilled about the results of our KTP with Brathay Trust. It was a great project, great team and had great outcomes. I think this is an excellent demonstration of what the University of Cumbria is all about and what it can excel at.”



Dr Caroline Rouncefield,
University of Cumbria.



BRATHAY TRUST Inspiring Young People to Succeed

Company Overview

Brathay Trust is national charitable organisation providing training in management and leadership, with the mission to improve the life chances of children and young people. They do this by inspiring them to engage positively in their communities. Brathay Trust is active in influencing practice, and policy at local, regional, national and international level.

Business Insight 3

Capture, analysis and visualisation of multiple data streams from multiple devices

Challenge

Utilising research expertise from Edge Hill's Centre for Data Analysis and Representation this 24 month KTP was designed to develop a holistic software framework that integrates multiple data capture devices, reporting and analysing data from a variety of sources. The project also aims to build the capacity within Bi3 to develop, maintain and support the software, and enable Bi3 to react quickly to the release of new hardware technologies.

Solution

The project needs to develop a framework that captures and efficiency visualises high volumes of data from multiple sources and includes standardised protocols for device integration. The main technical output from the KTP is the implementation of the web-based framework including the data visualisation tools and device management functionality.

By employing innovative approaches to compile, analyse and represent the received data, meaningful intelligence can be presented back to customers and users to inform decision making and planning. The partnership team will work closely with Bi3's suppliers and customers to capture and understand requirements, continually refining the system using a rapid application development approach. Embedding this capability will allow Bi3 to be more agile in responding to the needs of customers and to those of the markets in which they operate.

Benefits

For Bi3, this project opens significant new revenue generating opportunities. Bi3 will be able to offer bespoke solutions to their customers, providing accurate intelligence and customer insights. The KTP will also strengthen Bi3's relationships with suppliers by developing the middleware to support new devices released to the market. The knowledge transferred will build software development capacity in house, embed a project culture and result in an up-skilling of staff across the organisation.

The benefits for Edge Hill are in the output of publications and impact case studies from the research. The Centre for Data Analysis and Representation at the University is involved in a number of related research projects, particularly in managing large, real-time data sets. The KTP will also have an impact on teaching and learning within the department through real case study examples.

For the Associate, this KTP takes place in a high-tempo, rewarding commercial environment where they will experience agile software development using market leading technology. They will experience working with stakeholders of both a technical and non-technical background, including suppliers, customers, academics, engineers and business development professionals. In addition, the Associate will have the opportunity to develop their technical skills and learning to align with the requirements for professional qualifications or a higher degree.

Edge Hill University



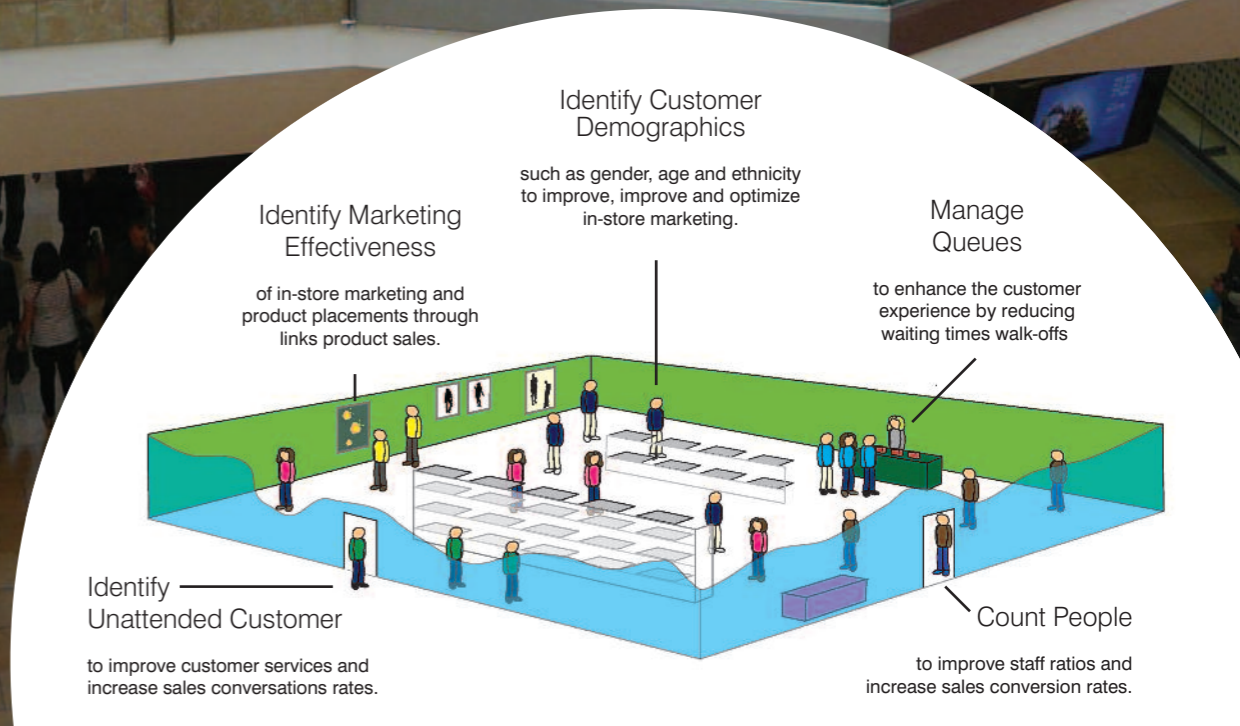
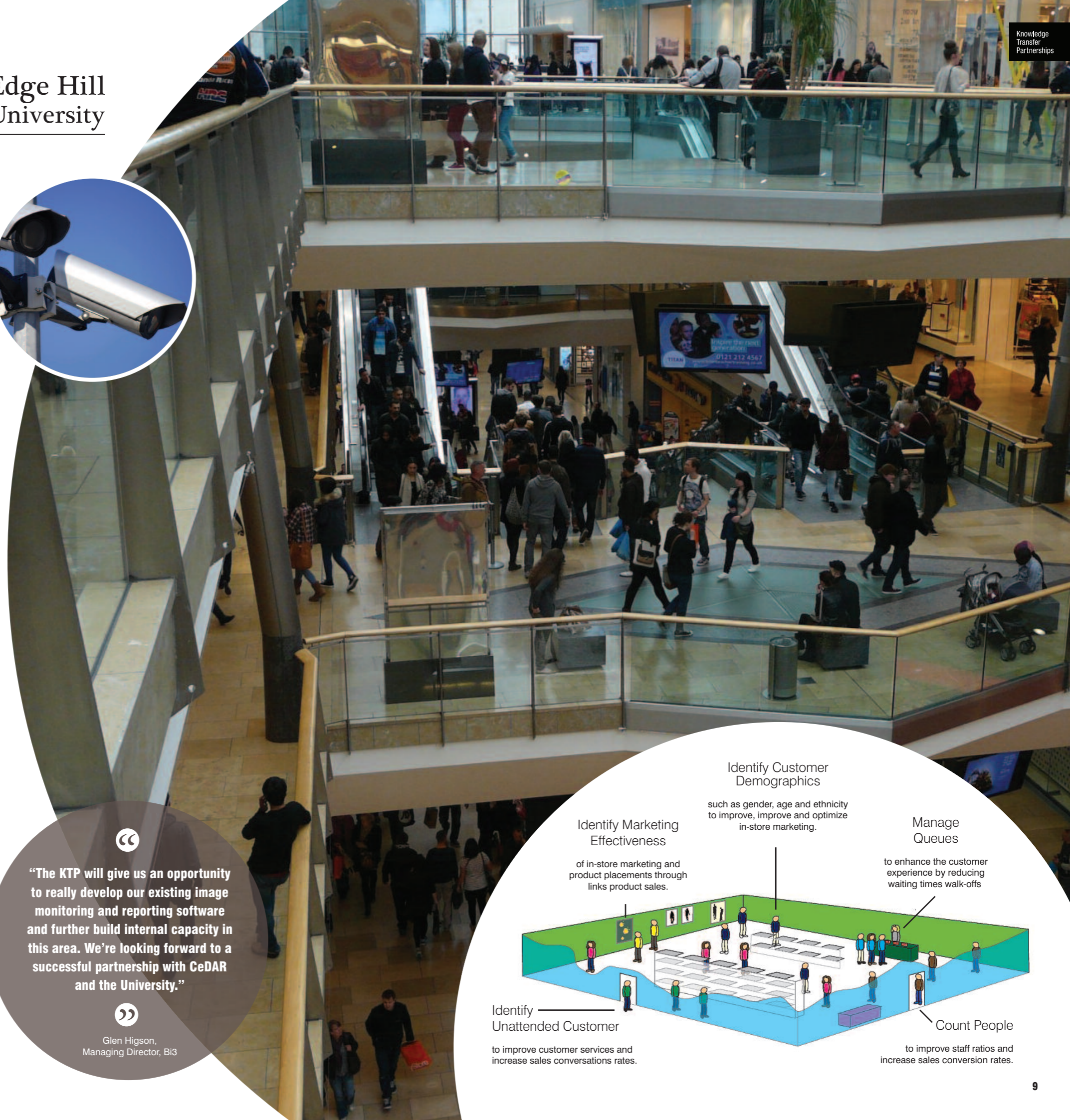
“The KTP will give us an opportunity to really develop our existing image monitoring and reporting software and further build internal capacity in this area. We’re looking forward to a successful partnership with CeDAR and the University.”

Glen Higson,
Managing Director, Bi3



Company Overview

Bi3 supply security and customer intelligence solutions based on the latest technology available in video analytics, people counting, facial recognition, access control devices, queue management, facial marketing, digital and network storage.



Business Safety Systems

Prediction and mitigation of sickness absence consequences

Challenge

Business Safety Systems Ltd, through a two year KTP are aiming to develop the capacity to predict sickness absence over several metrics with a view to reporting this information to companies so that they may circumvent or mitigate against employee absences. The project will look to develop novel software technology which has the ability to analyse vast amounts of data in a timely manner. Currently, no other technology exists that delivers that ambitious level of management information.

Solution

By using cutting-edge statistical methods, the KTP is developing a method of accurately analysing characteristics and patterns in data, both within large population groups and at an individual level. The models that will be developed on the back of the research should enable managers to work out contingencies for staffing levels during predicted episodes of increased absenteeism. It will also help them to intervene at an earlier level to work with staff who could potentially end up taking long periods of sick leave. As a result of the KTP, Business Safety Systems will be able to offer prediction modelling software to clients.

Benefits

The successful KTP will result in an important new market opportunity using automated absence prediction software informative at an individual and group level leading to effective absence management. As well as enabling the company to provide existing clients with valuable information relating to absenteeism, it is anticipated that ultimately this will enable further engagement with larger companies, which is crucial to the business' long term strategy. Absence and its consequences cost £20billion per year to the UK economy and the KTP's approach based on identification and prevention seeks to improve absence management efficiency and reduce associated costs.

The academic team have the opportunity to employ advanced statistical methodology impacting on society which offers an exciting new application area and impetus for methodological development. For the Associate, the opportunity to work within a research environment that balances high quality statistical methodology with its applications beyond academic research will support their future career development.

“We are thrilled that we are able to connect our business creativity with the technical skills from Lancaster. We are hoping that our results will allow employers to cut the costs and mitigate the consequences of sickness absence.”

Neil Shotton,
Managing Director,
Business Safety Systems

Lancaster University



“It is wonderful to be able to develop and apply Monte Carlo (simulation) methods to tackle an important problem such as predicting employee absence. Better predictive capabilities will have significant impact in preventive measures being implemented to the benefit of both individuals and the society.”

Dr Peter Neal,
Lancaster University.



Company Overview

Business Safety Systems is a solutions provider for risk management focusing on health and safety, environmental, and absence and back to work management through the provision of management systems, training courses and consultancy services.



Cartwright Group

Aerodynamic trailer cuts fuel costs and reduced emissions

Challenge

The Cartwright Group had developed a range of aerodynamic trailers to increase fuel efficiency, but had problems communicating the design benefits to customers. An approach to aerodynamic design that produced quantifiable results presentable to customers was therefore required.



Solution

Using 3-D modelling expertise at the Manchester Metropolitan University, a 3-year KTP was set up to develop fluid programmes with fuel efficiency monitoring tools to define aerodynamic trailer design and enable visual demonstration of aerodynamic properties to customers.

KTP Associate, Anthony Bukowski, applied a range of techniques, including Computational Fluid Dynamics (CFD), to improve the aerodynamics of the Cheetah trailer range. This enabled rapid improvement to aerodynamic vehicle design, testing of new design concepts and the introduction of high-end motor industry technologies into HGV trailer development.

Benefits

Post-KTP, all design improvement on the Cheetah range is a net result of the new in-house CFD programme, with the Cartwright Group leading the sector in aerodynamic enhancements. This has enabled an increase in market share and significant growth in the UK parcel sector

Design enhancements have resulted in:

- Doubling of fuel savings (16-18% achieved representing saving of £9k p.a. per vehicle)
- Development, launch and sale of new-to-company and new-to-world products

Business impact:

- £8 million increase in sales, forecast to increase to £18 million within 3 years
- £320,000 increase in profit, forecast to increase to £1.8 million within 3-years

Awards and enhanced reputation:

- KTP nominated for 'Engineering Excellence' award sponsored by the Royal Academy of Engineering 2014
- 2012 ASDA Distribution Service Provider of the Year
- 2012 and 2013 'Made in Britain' finalist
- 2011, 2012 and 2013 Motor Transport Awards finalist



Company Overview

The Cartwright Group are one of the UK's leading commercial vehicle body and trailer manufacturers, operating from a 38-acre site in Altrincham, Cheshire. With the UK's largest product range, they offer a complete service from design, manufacture, finance, rental and fleet maintenance.

“KTP gave us access to expertise and the capacity with which to achieve excellent results from a large-scale, ambitious project, which would otherwise have been difficult without the partnership structure.”

Lionel Curtis, Technical Director.



Create Construction

To develop and embed a quality management system to address corporate responsibility

Challenge

Create Construction sought to develop and implement a quality management system to address the corporate social responsibility aspects of the business. This 24 month KTP was initiated to combine Create's competitive ability to offer the market quality built environment solutions, with Salford's experience in identifying elements of the social and sustainability agenda that will add value to the company's sustainable performance levels.

Solution

The KTP enabled Create to develop unique selling points and the ability to provide differential service to its Clients. Whilst delivering the construction project; the module products and outcomes of the KTP allowed Create to deliver projects tailor-made to specific Clients and provide value added feature services, such as GHG Level 3 carbon footprinting, sustainability reporting and community/university engagement.



University of
Salford
MANCHESTER



“Leading companies are becoming more and more socially aware. Many of us opt to buy fair trade, ethically sourced or organic products. Why isn't the construction industry following suit? We at Create want to take a leading step to ensure that we are responsible for what we build; we owe it to our clients and the community.”



Gill Mathison, Director of Create Construction

Benefits

The KTP has successfully instilled governance, environment and community accountability in the mind-set and practice of the company.

There has been a positive impact on supply chain interaction as the KTP has provided the platform to understand, learn and increase collaboration between the company and its supply chain. This is demonstrated in a new online PQQ system, though an intelligent scoring methodology; selecting the most appropriate, accountable and responsible and working together to achieve more.

The company won the Business Innovation award at the NW Construction Industry Annual Awards; and were finalists in the National Constructing Excellence Awards - Innovation category.

The KTP has raised the School's research profile, demonstrating how academic research can be transferred into industry.

The knowledge of the Associate in transforming the academic knowledge into industry practice is highly regarded within the School of Built Environment, further, the success in the Regional and National Construction Awards provided the credibility to the research. As a result of this KTP 5 conference papers have been published.

As a result of the work completed on the KTP, the Associate has been awarded his PhD and regularly provides guest lectures to Master Degree students; with the outputs of the KTP now incorporated into teaching materials (e.g. case studies) in various BSc and MSc programmes within the school. Following the completion of the KTP the Associate has taken on the role at Create Construction as Environmental Manager.

create construction

Company Overview

Create Construction, based in Blackpool, provides a specialist construction service to a UK wide client base. The company's unique turnkey service provides clients with a one-stop shop covering all aspects of design and build, construction and interiors.

Dyer Environmental Controls

embed process to enable new product development

Challenge

Dyer Environmental Controls were lacking expertise to move the company from simply 'supply and installation' to incorporate the development of innovative products and systems, specifically relating to the integration of design development tools and procedures.

Solution

Over a 2 year KTP, the development of NPD capacity enabled Dyer to design and develop both bespoke and standard solutions and bring their own new products to market rather than rely on third party suppliers.

The product was developed through a number of tasks which was to firstly, identify the product requirements and to develop and Strategic product development plan. The Associate then formalised the NPD process, embedding resources and sourcing strategy

Benefits

From the KTP project the "SOLIS" product was developed and successfully launched. This resulted in a £500,000 investment into the company from a German manufacturing company for the manufacturing rights.

The success of the KTP has allowed the partnership to continue, it has given the knowledge and confidence gained by the company in investing in R&D activity, enabling the company to sponsor the Associate through a three year full-time PhD in solar applications within the built environment.

Dyer now has the knowledge, experience and facilities to conduct full product tests, and to analyse products from suppliers to ensure that the product meets not only the company requirements but that of their customers. This is a completely new capability for the company which in turn gives a new competitive edge and understanding of their products and how they perform with confidence.

The company has gained recognition as an innovative company developing new products and solutions, which led to the significant investment from the world's leading manufacturer in passive smoke and natural ventilation products.

The KTP has given the Associate the opportunity to gain understanding of the principles of NPD Process and the development of an NPD suiting to the company. He has also been given the opportunity to present to the Africa KTP delegation at the university.

Company Overview

Dyer Environmental Controls is a privately owned company based in Stockport, Cheshire, experienced in Passive Natural and Smoke Ventilation Systems. Products range from manual remote window opening systems to electrical motors and control systems to power-open vents and doors. The company's clients can be broadly grouped into OEMs and Construction based customers.



“Dyer is a true advocate of the University and continues to promote the work that we undertake”.

Jon Crossley,
Managing Director Dyer
Environmental Controls



“Projects like this are fundamental to supporting businesses, through this challenging economic environment. The exchange of knowledge has been invaluable for providing the Institution with real industrial and commercial intelligence and experience of the difficulties SMEs are currently facing. This will allow us as a University, to better align our portfolio of services we offer to business”.



Nigel Mellors, Pro Vice Chancellor of Research and Enterprise,
University of Salford

Eric Wright Group

Design and implement an organisational development programme to improve business performance and operational management processes

Challenge

The Eric Wright Group, a North-West construction company, identified a need for a more client orientated approach and improved staff performance. The 2-year KTP took place during a particularly challenging financial period for the construction industry, where the industry faced large cuts in public sector spending and a reduction in private development initiatives. Competition was fierce with margins low and clients able to demand the highest standards of delivery, which emphasised the need for an organisational development programme to strategically align the company to the changing external environment.

Solution

The project was carried out by following a carefully designed programme focusing on three main objectives of visual management, employee engagement and customer care all of which were dependent on interpretation, communication, information and cooperation. A macro analysis was conducted to better understand the industry, sector and market. Then, a careful micro analysis comprising of high level processes, culture survey and a financial ratio analysis was collated to inform the project team of the internal status, structure and climate.



“I would recommend the KTP Programme to any business; it is a very rewarding experience for all the partners, offering alternative views and theories for existing working practices. We have been given new skills that have allowed us to improve the strategic planning and management of our business ensuring that we meet the challenges of the economic climate.”



Diane Bourne,
Director,
Eric Wright Group



Benefits

The KTP delivered a number of strategic initiatives that have contributed to improving business performance:

- The KTP provided an approach to measuring individual business performance on a set of comparable management dashboards. Visual management has been well received and has served as a conduit for utilising LEAN techniques to continuously improve business performance and collaboration.
- The ideas@ericwright.co.uk scheme coupled with an improved Customer Care Assessment process has resulted in a number of business innovations to protect market share over the coming years. One example is the fleet manager's idea to invest in hybrid vehicles and a charging station at headquarters, which has reduced pool car costs.
- The partnership provided for software application training to increase staff productivity, meet customer requirements and support system upgrades.
- The Associate, now employed at Eric Wright Group, continues to explore the efficacy of educational interventions to increase competitive advantage. Moreover, the relationship between EWG and UCLan endures with frequent knowledge sharing projects.

The KTP deliverables have been referenced in successful PQQ submissions providing the opportunity to tender for £446m worth of new work.



Company Overview

The Eric Wright Group (EWG) consists primarily of development, construction, civil engineering and facilities management companies, holistically referred to as 'construction'. The business operates in both the public and private sectors covering a wide range of projects ranging from motorway maintenance contracts at one end of the scale to the design, construction and long term management of large healthcare facilities.

Fairbanks Environmental

Analysing and visualising large data sets to guide analysts through investigation best practice.

Challenge

Capturing expertise from Edge Hill's Centre for Data Analysis and Representation, this project was designed to improve efficiencies within the workflow of Fairbanks' analysts. Although Fairbanks have systems to evolve their own data accuracy, the business growth presents key challenges in being able to efficiently analyse and visualise the data itself. Data from the collection source and from investigated scenarios needs to identify the likely cause of discrepancies in wetstock levels and guide analysts through a best practice approach in their investigations.

Solution

Using innovative approaches to utilising and presenting data to both users and management, work flows are able to be streamlined and significant efficiencies realised. The key technical challenges were in the system analysis and the data model, capture procedures and the analysis of workplace practices to determine the most effective models for storing, representing and processing data.

The major technical output was the design and implementation of the user interface. This stage was critical and required a great deal of innovation in how the data in the system was visualised for different user groups.

Benefits

For Fairbanks, the primary benefit is in the workload optimisation of the analysts. Improved efficiencies in discrepancy investigations, through more accurate and consistent diagnostics, had led to a significant amount of existing resource being able to be reallocated to work with new customers. Fairbanks have seen significant growth and acquisitions of new customers in recent years and this project will enable that trend to continue by achieving greater economies of scale.

Management reporting has also been significantly improved, with business leads better able to visualise broader work flow patterns and objectives.

The benefit to the University in this project is in the output of publications from findings of the research. These findings constitute impact case studies and Edge Hill University are currently undertaking a number of research projects in the area of data analysis and representation, handling large, real-time data sets. A significant avenue of research is in developing visualisation techniques to aid the analysis of the data output from software models to identify issues in coding.

For the Associate, they have been given the opportunity to work in a demanding, yet rewarding, commercial environment. They have experienced software development in a rigorous and high-tempo environment, using market leading technology. The Associate has been able to develop their technical skills to a high standard and become a valuable asset to Fairbanks.



Company Overview

Fairbanks is the global leader in providing independent specialist wetstock monitoring and management services to the petrol retail industry. Fairbanks offers a variety of wetstock services to make running a forecourt easier and more profitable.

Edge Hill University



“Partnering with the academic team gave us an opportunity to greatly improve the meaningfulness of the data our analysts receive. We knew the value of undertaking the project from the outset, but the anticipated benefits of the KTP are being realised much sooner than expected.”



Steve Jones,
Fairbanks'
Managing Director





Freshwater Biological Association

to create, implement and exploit a tool for collating freshwater biological records.

Challenge

The Freshwater Biological Association (FBA) is at the forefront of hosting complex, spatially-related data, which conforms to the EU Inspire Directive. The aim of the project was to enhance the FBA's data exploration tools and create data management capabilities that could be offered as a service from which innovative revenue streams could be generated. It had extensive expertise in data management and archiving, but the organisation's skills in GIS and visualisation were undeveloped.



“The FBA’s business has been significantly changed by the KTP, with new marketing concepts and connections being implemented and exploring the world of mobile apps as a way to sell and distribute FBA produced content and engage new members.”

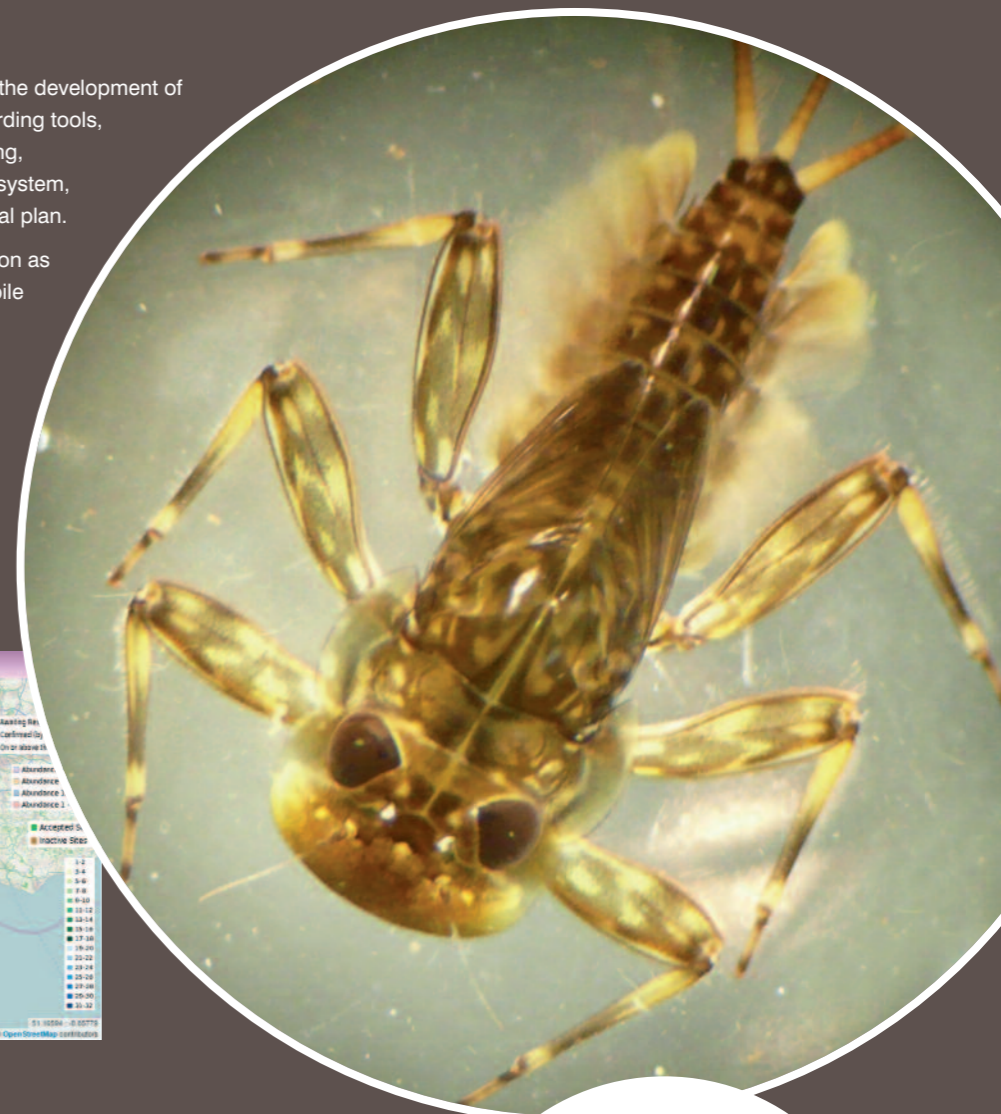
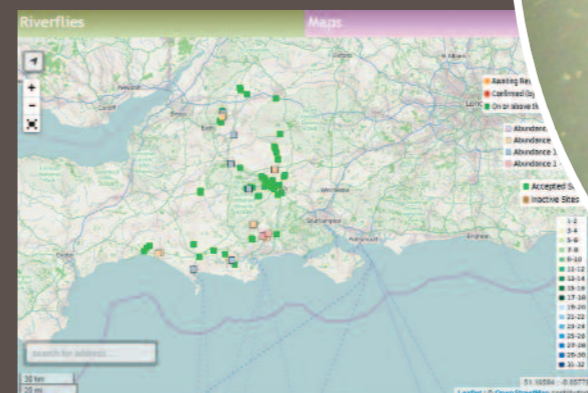
Dr Mike Haft, FBA

Solution

There were 5 key stages to the solution including the development of GIS visualisation systems for use with online recording tools, creation of a generic solution pack for GIS mapping, development of an automated alerts and triggers system, development of market planning and a promotional plan.

The GIS database work was new to the organisation as was the development of Drupal modules and mobile phone apps to link in with data collection, validation, mapping and feedback tools. Open source platforms, libraries and applications were used throughout the system.

The FBA plans to commercially exploit the system through a suite of apps, one external stakeholder was immediately interested in purchasing relevant training from the FBA .



Benefits

The KTP has provided the FBA with new technology, primarily GIS and mobile app based. This has enhanced the FBA's reputation with other NGO's and will enable it to become a leading environmental organisation that runs citizen science projects with tools accessible to volunteers.

The FBA strives to ensure that freshwater issues are high in national and international agendas, especially with regard to climate change and delivering key EU directives. Enhancing access to data and the ability to explore its patterns is one of the most effective tools for achieving this.

A GIS system was developed for online monitoring of riverflies, a system that enables users to remotely enter their data into a centrally stored and easily accessible database that then spatially represents and manages the data. A workshop was developed to train coordinators how to use the system, a chargeable service that has added to the commercialisation opportunities for the organisation.

The project led to a rethinking and change in the FBA's IT policy which influenced how they interact with members and the freshwater community online. This led to the FBA embracing social media which is being used to attract new members and engage existing members.

Building on the high-level personal skills and qualifications he gained within the project, the associate has subsequently secured a graduate training post with a prestigious global food product manufacturer.

The KTP has also provided an excellent rich teaching example for use in business and computing modules at the University.



Company Overview

The Freshwater Biological Association (FBA) is a registered charity that promotes the study and application of freshwater biology. It is the country's foremost provider of freshwater information through membership services, research support and information dissemination. A key activity is managing digital environmental datasets for Defra, Environment Agency and NGOs.

Harrison Spinks

Introducing advanced biomechanics technologies to evaluate new designs leading to sustainable production of new products

Challenge

Harrison Spinks Components are a component maker within the traditional Furniture and Bedding market. In partnership with UCLan, a 2-year KTP project was developed based on Harrison Spinks' unique patented micro-spring technology (MST). The focus of the project was to enable Harrison Spinks to integrate MST into running shoes to reduce impact forces experienced by runners by providing the world's first true footwear-based spring-damper arrangement.



Solution

This project aimed to address the strengths and weaknesses of the use of Harrison Spinks MST, and to understand the challenges of applying spring technology to footwear. The KTP allowed the opportunity to explore the possibility of utilising a newly developed innovative component in a new environment. This development also provided future directions for component evolution and enhancement.

Benefits

The KTP gave Harrison Spinks a greater understanding of how their product operates in different product areas. This enabled the Company to work more in-depth with specialist companies to assist in understanding the full benefits of MST.

The KTP has allowed Harrison Spinks to progress from a concept to be in a position to launch footwear products into two separate markets. The research ethos adopted by the footwear project also transcended into other areas of Harrison Spinks business and culminated in the development of a new R&D laboratory and to support this, new staff dedicated to R&D development were employed.

As a result of the KTP the Company place a greater emphasis on data and quality through the increasing research presence developed by the Associate all new developments are now subject to technical testing as part of the ISO9001 process. Scientific and technical information also now plays a greater role in commercial conversations and company marketing materials.

The KTP Associate was offered and accepted the position of Head of Research at Harrison Spinks and this position will grow further in the future as the company has impressive growth and development plans.

The partnership enabled UCLan to enhance their understanding of taking a desktop idea through prototyping to a finished product which improved their knowledge of the challenges that face SMEs and has led to several other unrelated commercial links and successful funding applications being developed. The KTP Final Report was awarded the highest assessment of 'Outstanding' from Innovate UK.

Company Overview

Harrison Spinks is one of the UK's leading Luxury Pocket Spring bed manufacturers with a long history of innovation in components and spring technology, utilising patented machinery and design technology.



“The KTP has allowed our business to understand much more about our products than we previously thought. Harrison Spinks have only become experts in pocket sprung footwear as a direct result of the KTP, proving an invaluable way to diversify our product into other markets.”

Darren Marcangelo,
Commercial Director, Spinks Springs

Medicines Evaluation Unit

Advancing stratified medicine in chronic obstructive lung disease



Challenge

Chronic obstructive pulmonary disease (COPD) is a severely debilitating lung disease that represents a major UK health and economic burden. It is estimated that some 3 million people in the UK suffer from the disease with a cost to the NHS of in excess of £900 million per year. Although treatments are available, a large group of patients are unresponsive to these and require different medicines.

Medicines Evaluation Unit (MEU) Ltd sought to develop and implement a robust programme of patient reported outcome measures to improve the identification of COPD characteristics and evaluate the effectiveness of new medicines to improve symptoms.

Solution

Medicines Evaluation Unit Ltd turned to Dr Janelle Yorke and Professor Sarah Tyson from The University of Manchester for expertise in measurement science and the development of patient reported outcome measures. The academic team, with KTP Associate Dr Adam Garrow, used sophisticated applications of measurement science and applied information derived from newly developed patient reported outcomes through a 27 month project.

Benefits

As a result of collaborating with the academic team at The University of Manchester, MEU has expanded its internationally renowned reputation as a centre of excellence for the novel application of biomarkers and patient reported outcomes, to the delivery of stratified medicine.

- MEU now have the infrastructure and knowledge-base to apply patient outcome measures in clinical trials of stratified medicines and observational studies, providing a unique opportunity for advanced statistical analysis in the identification of phenotypes and evaluation of stratified medicines which will be transferable to other long term conditions
- Enhanced clinical trial design and delivery has increased MEU's ability to win commercial contacts and generate enhanced revenue
- MEU are promoting patient reported outcomes at national and international conferences, resulting in their patient reported outcomes being included in new commercial studies
- Two new patient reported outcome measure tools have been developed and validated; Manchester Sleep Symptoms Scale (MaSSS) and the Manchester Early Morning Symptoms Scales Index (MEMSI), which have received great interest globally and are embedded within MEU's clinical trials
- The academic team have published high quality papers and the work has been presented at international conferences including the European Respiratory Society
- The Associate, Dr Adam Garrow, benefitted from exposure to corporate level communications with people with different specialisations and was integral to the effective and efficient management systems at MEU and the working relationship that developed between the project team



“The KTP has been an excellent way of introducing new expertise within the organisation and MEU has expanded its internationally renowned reputation as a result of it”.

Dr. Naimat Khan, Clinical Research Physician, Medicines Evaluation Unit Ltd.



Company Overview

The Medicines Evaluation Unit (MEU) Ltd, is one of the UK's leading clinical trials units with state-of-the-art hospital-based research facilities, allied with fast volunteer recruitment rates. The MEU specialises in performing clinical trials (from Phase I through to IV) in respiratory / inflammatory medicine and related areas.

Polyphotonix

See the light

Challenge

Polyphotonix identified a significant opportunity to use Organic Light Emitting Diodes (OLEDs) as a low cost, home based, primary care intervention for the treatment of Diabetic Retinopathy (DR) and Age-related Macular Degeneration (AMD). Polyphotonix wanted to develop capability in biological testing and conducting clinical trials to give their company the full complement of scientific know-how to progress this, and so they undertook a KTP with The University of Liverpool's department of Eye and Vision Sciences.

Solution

The aim of the project was to develop, introduce and embed biological and cellular testing capabilities and understanding in the company. The Associate's aim was to develop their capabilities in biological and cellular testing by creating a bespoke laboratory and to develop a pathway for a medical device from concept to commercialisation. The project was an ambitious twelve month programme and it is testimony to the high calibre of the Associate, Celia Murray-Dunning, and the project team, that all objectives were achieved.

Establishing a bespoke laboratory, designing the testing protocol and then defining the hardware (including OLED plates) led to a micro-management strategy and successful introduction of countermeasures that assured the project objectives.



"The work that the University has done has been crucial for our first product release"



Richard Kirk, CEO Polyphotonix Limited

Benefits

The KTP has allowed Polyphotonix to branch out into technologies completely new to the company in the field of Phototherapy for eye disease, while simultaneously developing a pathway to bring a new medical device from concept to commercialisation. The development of biological and cellular testing capabilities was a further benefit, as was valuable insight from potential user groups relating to product design and requirements. The programme supplied the company with academic and clinical credibility while creating a mutually beneficial interface with the University.

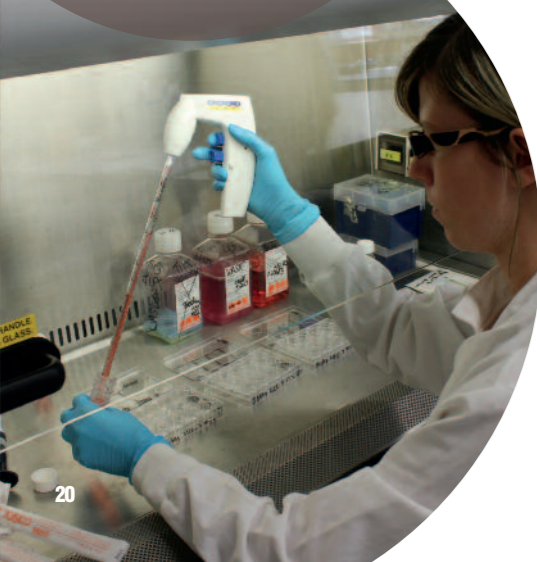
For the Associate, the KTP was a chance to build project management skills enabling delivery of milestones over a very short period together with knowledge of regulatory affairs related to medical devices. The KTP allowed the Associate to take a medical device from concept to commercialisation, while developing SOPs for industry use in product development.

The KTP enabled the University to develop valuable expertise in the potential role of OLED technologies in medical devices. As a result it has been used as a springboard for further collaborative grants including a 2nd KTP, a KTN CASE studentship and a clinical trial. More broadly, the KTP has opened up new lines of research enquiry for subsequent studies and has added new material to the teaching portfolio.

POLYPHOTONIX

Company Overview

Polyphotonix is at the forefront of Organic Light Emitting Diode (OLED) technology, and is developing platform technologies that will permit flexible and conformable OLED's to be manufactured inexpensively.



Prozone

Extending the boundaries of performance analysis in football.

Challenge

Prozone are the market leader in the provision of performance analysis services in football and strive to innovate to differentiate from competitors. They embarked on a 2 year KTP with the Football Exchange and the School of Computing and Mathematical Sciences at Liverpool John Moores University (LJMU) to improve performance analysis within the areas of match analysis, player recruitment and asset management.

Solution

This KTP will result in the adoption and integration of more powerful statistical methods in the company's consultancy and training offerings, through the use of multivariate statistics analysis to generate enhanced and more complex performance insights from the huge amounts of data already available from matches worldwide. The key deliverables of this KTP will be:-

- Evolution of match analysis insights
- Enhance player performance profiling
- Deliver asset management solutions
- Enhance educational offerings to academic and sports sectors

Benefits

- The KTP will improve the analytical capability within the business leading to the development of new innovative market leading products and services
- The KTP will enhance the company's analytical capabilities will have a major effect on their marketing strategy which will also correlate with commercial success within key markets
- The KTP has enabled LJMU staff to collaborate in a cutting-edge project on sports analytics, which has further developed the relationship between Prozone and LJMU, providing opportunities for work-related learning and undergraduate and postgraduate dissertations in the future.
- Research generated will inform the long-term goal of LJMU to make sports performance analysis a fully digitally enabled science and delivery package, provide case studies, website updates, and develop reports for industry, academic publications and conferences. This will contribute to the Research Excellence Framework, funding and employment opportunities.



"I am very excited to be involved in this KTP between LJMU and Prozone, as it combines two passions of mine: science and sports. My role in this project will be that of a data analyst, exploring and implementing new ways of evaluating and profiling performance through the extraction and interpretation of insights present in the available data."



Hector Ruiz, Liverpool John Moores Doctoral Student in Mathematics and KTP Associate



Company Overview

Prozone Sports Limited has been pioneering performance analysis for 19 years and have worked with many of the leading clubs and organisations in sport to deliver the world's leading performance analysis services.



REACT

Development and commercialisation of a unique radiation analysis concept

Challenge

Nuclear clean-up and decommissioning firm REACT Engineering Ltd entered a two year KTP with Lancaster University's Engineering department to help commercialise its unique radiation analysis software, N-Visage™.

Radiological characterisation of redundant or operational nuclear is a major problem which N-Visage™ potentially provides a major step forward in addressing.

Solution

The KTP aimed to develop N-Visage™ by adding new approaches to radioactivity depth profiling, while packaging N-Visage™ as a standalone software programme suitable for licensing. The project covered software sales and support, as well as opening up the highly specialised radioactive contamination depth mapping market, with potential annual revenue for REACT of up to £3m.



“The inclusion of the gamma imager significantly increases the commercial opportunities, including exports and a straightforward interface with the imager has also been developed, which is a major step forward in the commercialisation of the N-Visage technology.”



Dr Matt Mellor, Director, Createc



“It has been excellent to observe a graduate use what they have learned at university and implement the results for their benefit and for the benefit of taking the company forward to tangible emerging opportunities for the business.”

Professor Malcolm Joyce, Head of Department, Lancaster University.

Benefits

The KTP has resulted in significant advances in the N-Visage™ software, including greater efficiencies, extra features and integration with a gamma imager, a stand-alone sensor package that collects data for radiation mapping.

During the project a number of commercial applications were undertaken on a nuclear site, involving the KTP Associate, Alan Shippen, which provided valuable experience, training for others within the company and lessons learned.

The KTP has enhanced the company's capabilities and provides a new service for customers and as a result of the projects success, a spinout business, Createc Ltd. was launched to build opportunities in the global market for REACT's N-Visage™ analysis product.

A further project has been established via the PhD bursary scheme that is run by the Nuclear Decommissioning Authority and the Nuclear Engineering EngD programme and a number of refereed papers have been published as a result of the project.

The Associate was taken from a complementary area of research activity and placed at the forefront of a commercial opportunity for a local, sector-leading small business. He gained valuable experience of implementing research into a real business opportunity and working in an innovative Engineering company, thereby improving his career prospects. He also secured a job offer with the company following completion of the KTP.



Company Overview

REACT Engineering is a leader in developing innovative and robust engineering and management solutions to address nuclear decommissioning, waste management and asset care challenges faced by the UK nuclear industry.

TBG Solutions

Detecting third party interventions on oil and gas pipelines

Challenge

In many countries, theft of oil from pipelines is a significant problem, especially where pipelines are not buried or protected and run through urbanised areas. Recently, the scale of pipeline theft has increased, and with it the sophistication of attacks. Alongside the loss of revenue, attacks often cause substantial environmental damage, with major impact on ecosystems and sustainable food sources. TBG Solutions sought to develop an affordable and effective solution to this problem and bring to market a product to monitor pipelines located above ground, sub-surface and sub-sea.

Solution

TBG Solutions developed a partnership with The University of Manchester's School of Electrical and Electronic Engineering to harness state of the art expertise in sensing, control and communication systems. Professor Danielle George, Peter Green and KTP Associate James Jacobs, worked with TBG Solutions throughout the two-year project to develop design techniques, hardware platforms and networking protocols to enable the rapid prototyping of wireless sensing systems for robust and secure industrial monitoring applications.

Benefits

The skills and manpower provided by the KTP enabled TBG Solutions to run an innovative new product development project resulting in expected substantial revenue from a high value export market. The project delivered:

- A step change in TBG Solutions' commercial offering, by supporting its own knowledge base towards future development of products and exploitation in new markets, TBG Solutions are now seen as the experts in a new market sector
- A new pipeline monitoring system, capable of monitoring and detecting tampering of oil, gas and water pipelines, opening up new markets and customers
- Securing approximately £170k of additional funding to support the development of a demonstrator system to be field tested in Nigeria
- A system which has received very positive feedback from potential customers and the expertise developed during the KTP has enabled TBG Solutions to address technical questions posed
- Toolkit and capabilities to target a diverse range of markets ranging from battlefield security, railway security monitoring to security of public street furniture

The KTP associate, James Jacobs, has gained experience in project management and commercial project delivery and has accepted permanent employment with TBG Solutions where he will continue to develop the organisations R&D capabilities. The project enabled the academic team to transfer their portfolio of expertise into commercial products and identify new research opportunities and challenges. Training opportunities for new PhD students and final year undergraduates are ongoing with TBG Solutions.



The University of Manchester



Company Overview

TBG Solutions specialise in test and measurement custom solutions to high technology companies (e.g. Defence, Aerospace, Power Generation). With leading edge experience gained across a wide range of industries, they are able to provide customers integrated and innovative electronics solutions.



“Access to The University of Manchester expertise has enhanced the technical capabilities of the company and has enabled us to recruit a skilled engineer with minimal risk.”



Neil Roddis, R&D Manager, TBG Solutions Ltd.



Risktec

New technical training business - safety and risk management for professional engineers in high risk industries

Challenge

Risktec was seeking to move into a new area of business: developing and delivering specialist training courses in the area of safety and risk assessment targeted at the oil and gas, railway, nuclear and defence industries. The KTP was based on a joint vision of developing skilled risk and safety management professionals to prevent major industrial accidents. The partnership involved market analysis and the development, validation and delivery of flexible and industry-focused education solutions.

Solution

A two year KTP was established to diversify Risktec's business by creating a new training arm. The project was built around the transfer of expertise, in the area of formal methods of safety and risk assessment developed within the Marine and Offshore and Transportation, into the partner company and ultimately into the relevant industries. The programme also included the introduction of the training infrastructure necessary to support course delivery and assessment as well as course development, test and delivery. The technical training packages were designed to help clients deal with the challenges of an increasingly complex legislative environment and rapid changes in today's competitive global marketplace.

Benefits

Risktec provides a much needed product to high-hazard industries, thus helping to minimise the risk of potentially catastrophic incidents such as the oil well blowout in the Gulf of Mexico. The project has delivered a number of sustainable benefits and impacts;

- In the UK, the offering helps solve resource and skills shortages as the ageing workforce retires and in developing countries, the offering helps to meet the demands of fast-growing, young populations and national/local objectives
- Joint management of multi-year postgraduate qualification programmes, generating profitable fees and income for both organisations
- A rapidly expanding set of training alumni (currently over 1,000) who may become future clients of Risktec services or active supporters of LJMU activities
- Regular joint review of state-of-the-art technical knowledge underpinning the courses, leading to MSc projects of real interest to current and prospective employers
- Joint funding of a full-time Risktec industrial readership post at LJMU in risk and safety management

The most significant long term benefit however is an increased level of safety in high hazard industries, benefiting employers and employees in these industries but also the rest of the population and the global environment. The KTP associate gained experience from being the first programme leader for the Risktec MSc franchise and had the opportunity to gain an MPhil, a Diploma in Management and valuable experience in setting up training and academic courses.



Company Overview

Risktec Solutions Ltd is a specialist safety and risk management consulting company. The company assists clients in major hazard industries and commercial sectors to manage safety and business risk. Risktec provides a comprehensive range of services including: Safety/risk Assessment, Safety Management, and Safety Culture.



Knowledge Transfer Partnerships

“As a direct result of this KTP, Risktec is now the only commercial provider of a university-validated MSc in the fast growing field of risk and safety management for high-hazard industries which is jointly delivered with LJMU lecturers.”

Dr Alan Wall,
Reader in Maritime Studies,
Liverpool John
Moores University.

Tesco

Improving dairy calf welfare and lifetime productivity

Challenge

Tesco, a leading milk retailer in the UK, is supplied by over 700 dairy farmers who, as a collective, are known as the Tesco Sustainable Dairy Group (TSDG). There is a clear commitment by Tesco to increase the productivity and enhance the welfare of the dairy calves from which its milk is sourced. Traditionally, calves have been reared on 'least cost' principals, with minimal milk-feeding and early weaning to solid foods.

By utilising the facilities in place at Wood Park Farm at the University of Liverpool, Tesco worked with Dr Caroline Argo of the Institute of Ageing & Chronic Disease and Gemma Curtis, a graduate KTP Associate, in a 3-year programme to address the challenge of developing novel rearing strategies to improve the health and welfare of dairy calves, growing and adult cows, while achieving improved productivity and corresponding reductions to milk purchase costs.



“For Tesco, the results of the partnership offer us the opportunity to: share best practice with our TSDG members; drive improvements through the supply chain and; understand an area which has previously seen little research and in-depth focus.”

Graham Wilkinson, Agriculture manager
Dairy Category, Tesco plc

Solution

By utilising the facilities in place at Wood Park Farm at the University of Liverpool, Tesco worked with Dr Caroline Argo of the Institute of Ageing & Chronic Disease and Gemma Curtis, a graduate KTP Associate to compare the performance of Holstein dairy calves reared conventionally with restricted access to milk replacer (MR) to those granted ad libitum access during the pre-weaning period. The Associate also undertook a UK-wide survey of current calf rearing practises.

The benefits of ad libitum access to MR feeding were immediately clear. Calves reared in line with this new strategy gained approximately 20% of birth weight during the first 2 weeks of life, whilst those reared in the conventional way failed to grow at all during this period.

Benefits

The company expects future cost benefits due to increased productivity of dairy cows combined with positive publicity associated with improving the health and welfare of dairy calves. The KTP has created the opportunity to share best practise and to introduce improvements leading to potential changes to financial performance, which will be a key driver in delivering change throughout the supply-base. The results have been disseminated to the large cohort of dairy farmers who form Tesco's supply chain emphasising that the long-term health benefits for the calves also have a clear long-term cost benefit.

Participating in the project has allowed the Associate, Gemma Curtis, to concurrently undertake doctoral research, leading to a PhD. The personal development aspect of the KTP allowed her to complete a Diploma in Management, an APMP qualification in Project Management and a Risk Management qualification.

For the academic, this research has illustrated that allowing unrestricted access to milk replacer during the early stages of life means calves can grow at a greater rate and therefore be bred earlier than calves allowed restricted volumes of MR. The KTP has also delivered a well described cohort of animals which will continue to be monitored for life, producing further opportunities for research projects. It is expected that up to five manuscripts will be published in Science & Veterinary journals as a result of this three year KTP.



Company Overview

Tesco is a major international retailer and the leading liquid milk retailer in the UK. Tesco has established the Tesco Sustainable Dairy Group (TSDG), currently comprising 786 independent dairy farms, to provide long term stability to its milk supplies.



“This BBSRC-funded KTP with Tesco is already changing long-existing dairy cow rearing practises across the UK as well as proving to be a rich source of material for publications and future research”

Dr Caroline Argo,
Institute of Ageing &
Chronic Disease,
University of Liverpool

