

Case Study: Hilger Crystals

University of
Kent



Hilger Crystals has a long established history in the supply of high quality synthetic crystals for infrared spectroscopy and X and gamma ray detection.

Hilger Crystals and the School of Physical Sciences at the University of Kent have enjoyed working together for over a decade. Their latest collaboration, a Knowledge Transfer Partnership, was developed to establish an efficient, high volume crystal growth process of single crystal scintillators with uniform standard.

The 30-month project was designed to significantly reduce the afterglow from current standard commercial materials for use in X-ray scanners, typically airport security scanners. By reducing the afterglow, results would ultimately lead to improved security, faster scanning times and sharper images in a global market where cutting edge technology is a necessity.

Within six months new samples of crystals had been developed, enabling the company to scale up and build a pilot-plant – and sell the new crystals a year ahead of schedule. Additionally the new product was less expensive to produce and the crystal growth procedure was simplified leading to further cost reductions.

Jim Telfer, Managing Director, said of the project:

“The work carried out via the Knowledge Transfer Partnership has allowed Hilger Crystals to regain its position in a very niche area for X ray security imaging. It was via this project that we were able to identify and control the root cause of a fundamental process variable. Not only was the project a technical and commercial success, but it also culminated in the recruitment of the KTP Associate as a full time member of staff. Which has led to other benefits that were not foreseen.”

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Case Study: Martec Ltd

University of
Kent



Martec Ltd specialises in the design and manufacture of high quality precision components for use across a wide range of industries from military, marine and aerospace to medical and industrial applications.

The company was aware of the University of Kent's expertise in Body Worn Antenna and wondered if the technology could be used to develop a pin-less connector, to give greater reliability under stress in hostile environments.

“A working prototype was developed which has already generated significant interest and excitement”

In partnership with the School of Engineering and Digital Arts, Martec embarked on a two year Knowledge Transfer Partnership (KTP) to develop a prototype offering unique features currently unavailable, opening up new opportunities for increasing their customer base. The project was so successful that a working prototype was developed, which has already generated significant interest and excitement.

Martec is currently working with two external partners to evaluate the capability of the new product named WiPES (Wireless Integrated Power Electronics Systems). The success has led to Martec setting up a development lab to support future advances of the technology; the company will also be exploring the option of setting up a separate Division to concentrate on future product development.

Dan Harnett, Managing Director of Martec, commented

“The KTP has allowed Martec to develop a new style interconnection solution, WiPES, that is at the forefront of technology. This has enabled us to look at new markets and become involved with customers in opportunities that we would not have previously been considered for.”

Part funded by the Technology Strategy Board and other funding organisations KTP is Europe's leading programme helping businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within academic institutions.

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Case Study: Erlang Solutions Ltd

University of
Kent



Erlang Solutions Limited (ESL) specialises in the open source programming language Erlang, developed by Ericsson, which provides solutions for customers requiring high-availability, high-throughput online systems.

ESL are the leading global providers of face-to-face training in Erlang and, following on from their first successful Knowledge Transfer Partnership (KTP) with the University of Kent, were keen to provide online e-learning and certification packages for Erlang, making training available “anytime/anywhere”. The company were aware of the functional programming and e-learning expertise within the School of Computing and together with the University’s Unit for Enhancement of Learning and Teaching, a two year KTP project commenced to make this a reality.

The KTP partnership met its goal of enabling ESL to provide cost effective and flexible high quality training and certification in a scalable manner, through an online global e-learning solution. The first e-learning course, Erlang Express, was launched in the autumn of 2011, and has attracted registered customers from around the world since its launch.

This project has given the Company state of the art expertise in advanced e-learning technologies, as well as in the development of content and delivery of teaching in an e-learning environment. The platform is also being used to support classroom teaching in a form of blended learning.

Francesco Cesarini, Founder and Technical Director at Erlang said,

“Working with the University of Kent on this KTP has enabled us to grow our training offering, allowing us to provide remote training wherever and whenever our customers need it. Together, we have deployed a community driven offering that competitors will have a hard time replicating. This has not only given us a business advantage against our competition, but also a powerful tool to help grow the community and increase the number of Erlang programmers.”

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Case Study: JSR Genetics

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A collaborative research project between JSR Genetics and the University of Kent has secured a four-year grant from the Technology Strategy Board, worth nearly £1,000,000. The funding will be used to improve sustainable protein production, entitled: 'Pig IVF and genetics: A route to global sustainability'.

Professor Darren Griffin from the University of Kent's School of Biosciences together with JSR Genetics, a Yorkshire-based SME, and The Bridge Centre (a leading IVF clinic) in London will introduce sustainable alternatives to transporting superior pig breeding stock using IVF embryos.

"This prestigious award enables the University to maintain its very productive collaborations with JSR and the Bridge Centre."

JSR Genetics, a world leader in superior pig genetics, routinely flies over 1,000 pigs at a time to stock overseas farms in developing markets. This incurs high production and logistics costs, as well as environmental pollution and animal welfare issues.

The project aims to introduce a sustainable alternative to this practice through IVF technology: Transporting IVF embryos equates to a fraction of the cost associated with chartering planes, with no adverse impact on animals and the environment. The research will also look to adapt non-invasive pre-implantation genetic diagnosis (PGD) technology, currently used in human IVF treatment, to improve pig genetic stock: A mostly female sex ratio will realise further monetary and environmental benefits.

"This project is a fantastic example of how fusing knowledge and technology can deliver a global sustainability solution."

The University's Professor Griffin said,

"We are delighted to win this prestigious award and maintain our very productive collaborations with JSR and the Bridge Centre. The TSB Fund actively encourages collaboration between universities and industry – this project is a fantastic example of how fusing knowledge and technology can deliver a global sustainability solution."

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Case Study: Post Telekom Kosova

University of
Kent



Post Telecom Kosova (PTK) has been a leading telecommunications company in Kosovo for almost half a century. To maintain their competitive edge in this fast-paced industry, PTK knows its workforce needs to have the latest skills. So, PTK sought the expertise of the Department of Electronics to provide an intensive, three-week training course for 39 members of staff.

Dr Nathan Gomes, Prof J Wang and Adam Jastrzebski, members of the Broadband and Wireless Communications research group in the Department of Electronics developed a bespoke course to meet the needs of PTK. Dr Gomes worked with other University services to deliver a successful course in April 2009 at the Canterbury campus of the University of Kent.

Hysen Gashi, a delegate said that he would recommend the course, commenting,

“This was the most professional training I have ever had.”

Dr Gomes was pleased with the feedback from students,

“From my conversations with them, I could tell they were really impressed with the campus and facilities, and although we worked them hard, they enjoyed the courses.”

As PTK embarks on a number of major projects in Kosovo, they intend to strengthen the partnership that has been established with the Department of Electronics and the University of Kent.

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Case Study: RDDS Avionics

University of
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RDDS Avionics are a leading provider of image enhanced aircraft displays and video distribution systems. Based in Margate, Kent, they have built a strong reputation among the Police and Military airborne surveillance organisations.

“The working environment is new to students and they bring both enthusiasm and motivation, which often proves to be something of an inspiration to older individuals such as myself!”

Managing Director James Sullivan was keen to expand upon the RDDS expertise and workforce. Aware that the University of Kent’s School of Electronics and Digital Arts offered a degree in Electronics Engineering, he approached the University’s Student Placement Officer who coordinated the placement of a third year Electronic Engineering student for one year.

RDDS were very satisfied with the outcome. James Sullivan commented,

“I am pleased to say that, in light of the experience, my initial doubts over the use of a student within the operation have proved to be completely ungrounded.”

The placement proved to be a success for both the company and the student, with the student completing the placement and going on to undertake a project with them in his final year. Since graduating in 2008, the individual has now gone on to be a permanent employee with RDDS Avionics.

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Case Study: Dstl

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Dstl maximises the impact of science and technology for the defence and security of the UK, by working with industry and academia to create winning technologies for the Ministry of Defence (MoD.)

Joining forces with the University of Kent in 2010, Dstl identified specific research clusters that support the MoD's major priorities in human capabilities, materials and cyber security.

“Kent has a rich vein of untapped expertise in key science and technology areas”

Developing closer links with the Dstl's Centre for Defence Enterprise (the MoD's gateway to the outside world), Kent has successfully secured over £100k in project funding to date.

“Dstl benefits with access to specialist facilities, research and expertise”

Multi-disciplinary project collaborations are underway with the School of Engineering and Digital Arts; academic fellowships are being set up with the School of Psychology and the School of Physical Sciences.

Dstl's Jim Wilson said of the working partnership,

“Universities benefit from our experts as lecturers or in supervisory roles, and Dstl benefits with access to specialist facilities, research and expertise. Kent has a rich vein of hitherto untapped expertise in key science and technology areas that can help address Dstl requirements. The past year has provided the opportunity to explore mutual areas of interest, and we very much look forward to strengthening the relationship.”

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Case Study: Coca-Cola Enterprises Ltd

University of
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Coca-Cola Enterprises Ltd is the world's third largest independent Coca-Cola bottler and the sole licensee for bottling in Great Britain, Luxembourg, Belgium, the Netherlands, Monaco, Norway, Sweden and Continental France.

Coca-Cola Enterprises Ltd is fast becoming an employer of choice for graduates across the UK for their diverse graduate schemes and commitment to development and recognition. The talent acquisition team were keen to establish a relationship with the University of Kent in order to promote their opportunities, as well as to help shape the future talent pool. Following a presentation for the Careers and Employability Service, CCE became involved in the Employability Points Scheme and sponsored two 2-week work experience placements in their business technology department in the summer of 2012.

Following these opportunities, both students were invited to return to take part in a paid project for the Olympics, and during this time were told about the business technology graduate scheme. One of the participants, Physics PhD student David Stibbards, applied for the scheme, and thanks to the rapport he had built with the team during his two placements there, beat over 400 graduates to be named their newest team member.

The Employability Points team introduced CCE to various departments and events around campus including Kent Business School, Kent Union and the Graduate School. In the 2012-2013 academic year, Coca-Cola Enterprises offered a 4-week fully-paid internship in business technology, a 3-month fully-paid internship in HR, and a 1-week work experience placement in recruitment, which was increased to 11 weeks as CCE were so impressed with the candidate.

Louisa Redfern, Senior Professional Talent Acquisition Agent for Coca-Cola Enterprises Ltd, says of the relationship:

“Coca-Cola Enterprises enjoy being part of Kent’s EP scheme and we believe we get a lot of value out of offering students opportunities with us as it enables us to raise our profile amongst a group of high calibre (potential) employees”

Of the scheme itself, she says:

“We’re looking for candidates who want to develop themselves and try something new – the EP scheme is a great foundation for them to do this and helps them to prepare for their future graduate career.”

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Case Study: Venomtech

Venomtech Ltd was founded in March 2010 to supply venom for biological research. The only commercial venom lab in the UK, the company moved into the Enterprise Hub in January 2012 – the University of Kent's business incubation and support unit devoted to helping student, graduate and staff start-up ventures.

Venomtech's principal function is to collect venom from snakes, spiders, scorpions, centipedes and other bugs and insects. It currently has 490 animals spanning over 150 species. Collected venom is put into phylogenetically and geographically diverse screening arrays for the discovery of new therapeutics for diseases such as cancer and cardio vascular disorders, and for pain relief.

“The Hub has enabled us to strengthen our links with the University and expand the business”

Venomtech founder Steven Trim worked as a research associate in Kent's Biosciences school, in comparative genomics with Professor Darren Griffin in 2010. Scientists within the school conduct much of their research with the venom Steven supplies. Moving into the Enterprise Hub has enabled the company to strengthen its links with the University and expand its business activities.

“The Enterprise Hub allows us to have more space for our research, and helps us to improve our productivity”

He commented:

“The Enterprise Hub allows us to have more space for our research, and helps us to improve our productivity. We also have good links with Kent's School of Biosciences.”

As the University's dedicated incubation facility for student and graduate start-ups and academic spin outs, the Enterprise Hub has helped with the creation of 45 new companies since 2010. Together, the start-up enterprises employ a total 97 staff – and make a direct impact on the local economy to the value of approximately £3m.

As well as fully furnished and subsidised office and lab spaces, the Hub offers meeting room and hot-desk facilities as well as free-of-charge business advice sessions.

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Case Study: VisionMetric Ltd

University of
Kent



VisionMetric Ltd, developers of world-renowned E-FIT and EFIT-V facial composite systems, was formed in 1999 by Dr Chris Solomon, a lecturer at the University of Kent's School of Physical Sciences.

Dr Chris Solomon, VisionMetric Ltd,

“Hub Staff are always willing to help, offer their experience and provide networking opportunities that are ordinarily difficult to tap into. Access to forensic science students and University facilities, where the infrastructure is already all in place, has definitely afforded our company the opportunity to grow and develop at the right pace.”

A tenant of the Kent Enterprise Hub, VisionMetric Ltd's software products are currently used by 90% of British Police forces and in thirty other countries worldwide. The company also trains police and security forces from around the world in the effective use of facial identification software from within its purpose-built training facility on campus.

With two former University of Kent students as key employees, and a technical team qualified to PhD level, being based at the Kent Enterprise Hub gives VisionMetric Ltd unparalleled access to tomorrow's future academic talent.

As Dr Solomon explains,

“With a base at the Kent Enterprise Hub, the passage to form an academic-led spin-out has been very smooth. Gaining access to students on the forensic science programme is also incredibly convenient; particularly in their capacity to act as witnesses when testing our equipment. Hub staff are always on hand to offer expert guidance, but with a gentle touch approach that doesn't interfere with the running of your business.”

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