

Knowledge Transfer Partnerships

KTP BENEFITS

Knowledge Transfer Partnerships are designed to benefit everyone involved

- 🌀 Businesses will acquire new knowledge and expertise
- 🌀 KTP Associates will gain business-based experience and personal and professional development opportunities
- 🌀 Universities, colleges or research organisations will bring their experience to enhance the business relevance of their research and teaching

Knowledge Transfer Partnerships

Accelerating business innovation; a Technology Strategy Board programme

<http://www.ktponline.org.uk>

BREVAL ENVIRONMENTAL LIMITED DUCTWORK ROBOT PROPELS COMPANY INTO NEW MARKET

ABOUT THIS CASE STUDY

Glasgow-based Breval Environmental Limited worked with the School of Science and Technology at Bell College (now part of the new University of the West of Scotland) on this Knowledge Transfer Partnership (KTP). The collaboration aimed to design, prototype, test and develop a system for coating, cleaning and maintaining the internal surface of ducting systems, and prepare manufacturing documentation.

ABOUT THE SPONSOR

The Technology Strategy Board is a business-led organisation established by the Government. Its mission is to accelerate research into, and development and exploitation of, technology and innovation for the benefit of UK business - building economic growth and quality of life.

FAST FACTS

- 🌀 Innovative, patented remote-controlled system developed, for cleaning and coating dirty and contaminated ventilation systems in buildings
- 🌀 In-house product design, development and prototype manufacturing capabilities
- 🌀 Inroads into ventilation hygiene services market, with significant growth predicted
- 🌀 Royal Society of Engineering 'Best Engineering Excellence' Award for the project in the KTP Awards 2007
- 🌀 Greater ability to deliver complex technical projects for knowledge base Partners
- 🌀 Invaluable experience in a vast number of engineering disciplines for Associate

The Company



Breval's technically-advanced system won 'Best Engineering Excellence' Award for the project in the KTP Awards 2007

“Breval is always looking for new opportunities to develop the brand further, and the ‘Wizard’ is the next step on this road.”

Mr Pat McBride, Contracts Director, Specialist Services, Breval

Breval Environmental Limited, part of Spice plc, specialises in the installation and maintenance of heating, ventilation and air-conditioning systems. The company also offers specialist services in ventilation hygiene and asbestos removal and treatment.

ABOUT THE PROJECT

Breval conceived the idea for a system that was capable of navigating a building's ventilation ductwork whilst applying a coating to the internal walls. The Company

recognised the potential benefits of such a system over conventional mechanical cleaning. For example, coatings may seal small leaks in older ducting, encapsulate hazardous contaminants or offer an antibacterial surface. However, as a building services contractor, Breval did not have the necessary expertise in-house to see the project through. Help came through this KTP, which provided the Company with access to the expertise in Bell College's School of Science and Technology.

BENEFITS

The KTP collaboration proved highly successful, developing a technically-advanced and professional system. Initially, the project team envisaged the need for two types of vehicle, to support differing duct shapes, both pulled by winch and utilising conventional spraying technology.

However, following production of the first prototype, this vision changed radically. Early work concluded that one vehicle would be suitable for all duct shapes, but self-propulsion, innovative spray technology and video surveying equipment would be required.

A significant amount of experimental and development work followed. The vehicle signed off for production incorporated all the required features in cost and weight efficient design.

A control station was also designed to deliver the coating, process ducting and travel data, process and display video input, and provide a user interface.

The first complete system is beginning to prove itself in the field, helping Breval to expand its ventilation hygiene services. Demonstrations to potential clients have generated encouraging feedback and resulted in several

contracts for duct cleaning, coating and renovation within months of the system being launched.

RESULTS

- Patented, innovative system, opening new market opportunities in ventilation hygiene services
- New client base attracted to company, benefiting core business areas
- In-house R&D capability established, offering continued system development
- Possibility of marketing or franchising the system within Europe

The Associate

“I feel privileged to have worked on such a scheme. The experience I have gained has been invaluable and would not have been gained so quickly without KTP.”

Colin Main, KTP Associate

Colin Main, selected as the Associate on this KTP, provided the link between Bell College and Breval.

BENEFITS

Helping Breval to develop product design, development and prototype manufacturing capabilities, and break into a new market area has proved a challenging yet rewarding experience for Colin. He has applied and enhanced his technical know-how, skillfully using computer-aided engineering software to model the vehicle and control station.

Throughout, Colin has demonstrated excellent project management skills, and has proved himself capable of taking on a very heavy workload and significant responsibility.

RESULTS

- Enhanced technical and project management skills
- Gained NVQ Level Four in Management
- Progressing towards Chartered Engineer status with the Institute of Mechanical Engineers
- Offered and accepted a job with the company as Project Development Engineer

The Academic Partner



“As this was our first KTP project, it was particularly satisfying to be involved with the successful development of such an innovative and technically-challenging product, together with a company partner with the vision to invest in new product development.”

Mr David Kennedy, Senior Lecturer, Bell College, now part of the new University of the West of Scotland

The School of Science and Technology at Bell College worked with Breval Environmental to deliver this KTP. David Kennedy was Lead Academic on the project, with key input from Kenny Cameron as Academic Supervisor.

BENEFITS

Many benefits accrued from this technically-challenging partnership. Staff now have increased confidence to take on new product development work, and feel more able to deliver complex technical projects.

Involvement in the design, development and testing of a new product has provided staff involved in engineering design with invaluable experience. A substantial amount of case study material has been generated and is being incorporated into various undergraduate courses. Experience from the project will also feed into ongoing research into ductwork performance.

RESULTS

- Close relationship established with Company
- Valuable showcase of how KTPs can assist innovative companies that are committed to developing a good concept
- Useful course work developed