Knowledge Transfer Partnerships

RAWLPLUG LTD
KTP HELPS PLUG INNOVATION FOR CONSTRUCTIONAL FIXINGS MANUFACTURER

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

ABOUT THIS CASE STUDY

This Knowledge Transfer Partnership (KTP) project brought together the Glasgow Caledonian University and Rawlplug Ltd. The aim was to design and develop new products to meet new market trends whilst complying with the Construction Products Directive.

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

- KTP has established a new system for product design and development
- New CAD system has been implemented and the drawings database revised
- New testing procedures to ensure European conformity
- Sales figures are set to increase by £500,000
- The Company is well placed to win new business
- Employment opportunities for the Associates
- New opportunities and case study material for University staff

The Company

"This KTP has helped to build a solid foundation for launching new products which will continue to capitalise and increase market sales and market percentage."

Dr Stephen Cadden, Technical Director, Rawlplug Ltd

Rawlplug Ltd is one of the world's leading manufacturers of specialist anchoring and fixing systems used in construction, industry and retail markets. Based in Glasgow, the Company was set up in 1919 by John Rawlings and now produces over a million specialist fixings such as bonded, expansion screw fixings, drill bits and construction anchors for export to over 70 countries.

ABOUT THE PROJECT

As part of the Koelner SA Group, the Glasgow site specialises in research and development, the manufacture of heavy duty expansion anchors and the distribution of all forms of fixings. The Company recognised that the market was becoming largely reliant on performance standard products and increasingly driven by innovation.

To remain competitive, Rawlplug needed to adapt by increasing its skills to meet this growing market need. The Company therefore took steps to strategically advance the areas of product development and product performance testing to meet new legislative standards. The Company wanted two Associates to work in parallel and sought the help of the Centre for

Creative Industries based in the School of Engineering and Computing at Glasgow Caledonian University.

BENEFITS

At the start of this KTP, the scale of work was increased for each Associate, so their achievements have been particularly significant. These changes have meant that the Company was able to successfully manage multiple projects.

The first Associate introduced a system of new product development and an innovation culture where new ideas could flourish. A new database was set up for these innovative projects and a new computer-aided design (CAD) system was launched. The project culminated in the completion of a patented product designed, and managed from concept to launch. In addition, various new product solutions were developed to prototype stage and production.

The second Associate developed a set of in-house testing procedures to ensure European conformity. The benefits were highlighted in the success of managing four products through to the final stages of the process. Quality procedures were identified and testing manuals compiled. The benefits of finite element analysis were also introduced into the Company as a good foundation for future innovation.

The work of the Associates has created a comprehensive system which has established best practice in getting new products to market as quickly and as efficiently as possible. Lead times have been cut, prototyping costs have been reduced and staff, both within and outside the design department, have benefited from additional skills and technologies. The Company is now in a better position to exploit new business opportunities. The launch of a new patented chemical fixings system, with two more to follow and two new mechanical fixings in progress, has meant that sales figures are set to increase by £500,00 with £300,000 attributed to export sales. Overall, with new systems, knowledge and products from this fruitful KTP, profits are set to rise by over £750,000 over three years.

RESULTS

- KTP has established a new system for product design and development
- New CAD system has been implemented and the drawings database revised
- Sales figures are set to increase by £500,000
- New testing procedures to ensure European conformity
- The Company is well placed to win new business
- Annual profits are set to rise by over £750,000

The Associates

Two Associates: Graeme Bisland and Carol Balfour worked at Rawlplug Ltd on two separate but parallel projects. One was involved primarily in new product development. The second Associate primarily worked on the implementation of a testing strategy to meet European conformity.

BENEFITS

The Associates brought academic backgrounds in design engineering, and product design and development to their respective projects. They were able to extend their learning by studying to PhD level while supplementing their understanding with practical experience gained in a manufacturing setting. The Associates learnt more about solid works, modelling techniques, design and development, project management and leadership. Both Associates have become members of the Chartered Management Institute and were offered posts within Rawlplug Ltd.

RESULTS

- KTP has provided academic and career development
- Experience of solid works, modelling techniques, design and development
- Both worked towards an NVQ Level Four in Management and a PhD
- Accepted employment with Rawlplug Ltd

The Academic Partner

GLASGOW CALEDONIAN UNIVERSITY

"Being involved in this KTP project has provided exposure to the real business needs of a competitive company. It's been an education to provide effective design solutions for a manufacturer."

Bruce Wood, Lead Academic, Director Centre for Creative Industries, Glasgow Caledonian University

BENEFITS

This KTP has made a significant contribution to the University's staff development. The introduction of CAD and finite element analysis in the creation of a new product development system has helped provide an insight into the realities of running a manufacturing business. This insight has helped inform teaching and research strategies. There have been three student research projects, two papers and new teaching material as a result. A third KTP project has been approved and is currently underway between Rawlplug and the University.

RESULTS

- Positive insight into problem-solving within a manufacturing setting
- Greater knowledge of using computer-aided design in a commercial setting
- Useful and continuing partnership with the Company
- Experience has provided case study material and research projects
- Both undergraduate and postgraduate student placements occurred