

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 development opportunities
- 🔄 University, college or research organisation will bring their experience to enhance the business relevance of their research and teaching

A DTI Business Support Solution

MARTEC ENGINEERING LTD OPENING DOORS

ABOUT THIS CASE STUDY

SCOTLAND BASED COMPANY MARTEC ENGINEERING LTD WORKED WITH ACADEMIC PARTNERS THE FROM THE DEPARTMENT OF ARCHITECTURE AT THE UNIVERSITY OF EDINBURGH ON THIS KNOWLEDGE TRANSFER PARTNERSHIP (KTP) TO REDESIGN THE MANUFACTURING PROCESS FOR SECURITY DOORS AND SIDE SCREENS AND DEVELOP AN ENHANCED RANGE OF SECURITY DOORS.

ABOUT THE SPONSOR

THE DEPARTMENT FOR TRADE AND INDUSTRY (DTI) DRIVES THE AMBITION OF 'PROSPERITY FOR ALL' BY WORKING TO CREATE THE BEST ENVIRONMENT FOR BUSINESS SUCCESS IN THE UK. THE DTI AID INDIVIDUALS AND COMPANIES IN IMPROVING PRODUCTIVITY BY ENCOURAGING ENTERPRISE, INNOVATION AND CREATIVITY.

THE SCOTTISH EXECUTIVE (SE) IS THE DEVOLVED GOVERNMENT FOR SCOTLAND. IT IS RESPONSIBLE FOR MOST OF THE ISSUES OF DAY-TO-DAY CONCERN TO THE PEOPLE OF SCOTLAND, INCLUDING HEALTH, EDUCATION, JUSTICE, RURAL AFFAIRS, AND TRANSPORT (DEVOLVED AND RESERVED MATTERS)

FAST FACTS

- 🔄 Design development and launch of a new and innovative range of steel secure entrance doors
- 🔄 New product development function for the host company
- 🔄 Valuable practical experience for all academic partners
- 🔄 Case study for teaching at University
- 🔄 Associate now works for Martec

The Company

"The KTP programme has been a great success for Martec. Our partnership with the University of Edinburgh has worked very well. The benefits we have achieved will have a significant impact on our business over the next few years. Indeed we offered the Associate a full time position in Martec, which he has accepted."

Martin McHugh, Group Chairman, Martec Engineering Ltd.

Martec Engineering Ltd manufactures secure entrance doors. The company had established dominance in the West of Scotland but wanted to maintain its markets and expand by introducing new products.

ABOUT THE PROJECT

The KTP started with a detailed study of the current manufacturing processes used in the production of Martec's doors. A model was developed to calculate the product times and costs of the door and screens.

A full-scale door test facility was built to assess prototype doors and four prototype designs were developed.



BENEFITS

The KTP helped Martec to expand its markets and improve production efficiency and product performance. The price of steel rose by 40-50% during the project, making the competitive advantage of the new door even more critical.

The new system went into production in March 2004, and studies confirm projected savings in costs. It has met with approval from major customers and new customers have been obtained.

The programme established product development as a core activity, which has enhanced the company's reputation with clients. An internal R&D group was

established leading to several improvements to the original design. The manufacturing cost model is now an important tool in the ongoing development of doors.

The test facility is a valuable asset for the rapid evaluation of prototype design. It ensured that the new design met British Standards prior to third party testing, which saved time and avoided uncertainty. Numerous demonstrations and tests have been held for potential customers, helping to secure new contracts.

As a result of the success of this KTP, Martec has since gone on to have a second KTP with the University of

Strathclyde. The aims of the KTP are to develop and implement a novel Quick Response Manufacturing (QRM) model to reduce product lead times and rework.

RESULTS

- 🌀 New entrance system into production
- 🌀 New five-year contract with North and South Lanarkshire Councils
- 🌀 Maintained market share in West Scotland
- 🌀 New customers nationally
- 🌀 £430,000 sales turnover on new doors and screens
- 🌀 Profit contribution to group £161,000

The Associate

“The KTP project provided me with the perfect opportunity to apply and validate my design engineering skills and the outcomes proved pivotal to achieving chartered status in 2004.”

Andrew Jones, KTP Associate

Working with Martec on security door design and production helped the Associate, Andrew Jones, fulfil his design engineering and management potential.

BENEFITS

Working on this project has been an invaluable experience for Andrew. He was able to develop his technical skills in CAD, prototyping and product testing as well as professional skills in report writing, presentations, communication, team working, management and administration. He experienced a number of major changes at the company, including site change, re-structuring of senior management team and loss of a major customer.

Andrew now works for the company as a technically highly competent professional who understands the manufacturing process in depth, as well as performance and customer requirements. He has excellent communication skills, and collaborates well with his colleagues within the company.

He also developed broader contacts within the industry, and became involved with the committee developing the standards for security doors. He is now involved in the introduction of a Quality Assurance system for the group.

RESULTS

- 🌀 Offered job as Product Development Manager
- 🌀 MSc Materials Technology degree
- 🌀 NVQ level four in Management

The Academic Partner

“We were happy to support a company that produces high quality products with a skilled workforce. The experience with the programme has proven to be very useful in the development of our research and teaching.”

Dr Remo Pedreschi, Professor of Architectural Technology, School of Arts, Culture and Environment, University of Edinburgh



Dr Remo Pedreschi led the Department of Architecture at the University of Edinburgh in its work on a new security entrance system for Martec.

BENEFITS

Academics gained practical experience of the day-to-day constraints and operating parameters of a manufacturing company. Involvement was a 'refresher course' and career boost for Dr Pedreschi, it also helped his research into new applications of cold-formed steel in building and new technologies applied to building components.

RESULTS

- 🌀 An excellent and authoritative case study for undergraduate teaching
- 🌀 Martec gave access to facilities, donated teaching materials and sponsored prizes
- 🌀 Dr Pedreschi awarded chair in Architectural Technology