

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>

K C ENGINEERING LTD NEW APPROACH TO BUSINESS BUILDS CUSTOMER BASE

ABOUT THIS CASE STUDY

KC Engineering Limited in County Durham manufactures and repairs whitemetal bearings. This Knowledge Transfer Partnership (KTP) with Durham University's School of Engineering was initiated to develop further novel bearing materials and manufacturing processes suited to the low volume, cost-effective manufacture of high performance bearings.

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

- 🔄 New alloys for use in bearing manufacture investigated, evaluated and produced
- 🔄 Skills and capabilities put in place to enable the Company to carry out major product development activities
- 🔄 Lean manufacturing initiatives and new production methods introduced, reducing waste and product costs
- 🔄 Greater customer satisfaction and new markets entered, increasing sales turnover by over £600,000
- 🔄 Enhanced consultancy skills and valuable training material for Academic Partner
- 🔄 'Business Leader of Tomorrow' award 2004 for Associate

The Company



“The KTP changed the way we think and do business. Instead of being busy meeting customer orders we are now much more strategic and look for the opportunities, seek customers and meet their needs.”

Dr Keith Chester, Managing Director, KC Engineering

Consett-based KC Engineering is a specialist bearing manufacture, supplying major European original equipment manufacturers and service companies. Founded in 1982, the Company has experienced steady growth, building a reputation for innovation, quality and service.

ABOUT THE PROJECT

Building on the existing close relationship between KC Engineering and the University of Durham, this KTP project was conceived to develop and commercialise the production of a novel high-performance aluminium-lead alloy bearing material. Once the project was

underway, however, it became clear that although the Company was good at generating ideas, few of them came to fruition because of a lack of customer focus and limited resources. The project aims were therefore expanded to include the formation of business development and marketing plans.

BENEFITS

KC Engineering is now equipped with the skills and capabilities to carry out major product developments and enter new markets. Adopting a more customer-focused approach to research and development is generating more commercially-viable products, with improved marketing methodologies attracting new customers. Resources are now allocated in a more effective manner, improving responsiveness to both customer demands and operational issues.

Lean manufacturing initiatives have dramatically reduced the lead time for production, helping the Company's to

adhere to its delivery schedule. Coupled with the introduction of new machining centres and production methods, these initiatives have also significantly reduced production costs, increasing profits. The Company has demonstrated its commitment to maintaining high quality output by adopting ISO 9001, which has improved its image in the market place and is an important factor in winning new customers.

During the project, novel copper-lead and aluminium-lead alloys were investigated and documented, and a new test facility was created to demonstrate their performance and cost advantages over existing high performance materials.

Manufacturing systems and machines were developed to bring the new bearing material into production, with potential to penetrate new market areas.

RESULTS

- 🌀 New bearing materials investigated, evaluated and produced
- 🌀 Production costs reduced and waste eliminated through adoption of lean manufacturing activities and implementation of ISO 9001
- 🌀 New markets accessed through improved marketing and customer-focused product development
- 🌀 Sales turnover increased by over £600,000, with a 12% increase in exports

The Associate

“I undertook a variety of tasks and carried a lot of responsibility through the KTP that helped develop my managerial skills. I have learnt a great deal about business which I am now applying in my own company.”

Ryan Maughan, KTP Associate

Ryan Maughan was recruited as KTP Associate on this project, with his drive and determination proving instrumental in its success.

BENEFITS

Ryan had a significant positive impact on KC Engineering, with his work resulting in new customers, better planning systems and productivity improvements. Through formulation and execution of a detailed marketing plan, Ryan helped to ensure that development work improves company competitiveness and meets customer needs.

The demanding and diverse targets set for the project offered Ryan the chance to enhance his business, time management, technical and communication skills. His positive attitude and ability to forge strong working relationships inspired others to succeed. He has been able to apply the experiences and skills enhanced by this project to set up and run his own business.

RESULTS

- 🌀 Enhanced management and team building skills
- 🌀 Applied and improved marketing knowledge
- 🌀 Skills recognised by a 'Business Leader of Tomorrow' award from the DTI in 2004

The Academic Partner

“Working with KC Engineering allowed me to observe and understand the requirements of large scale industrial prototyping and field testing outside the laboratory and gave me an insight into technology management in a commercial setting.”

Dr Sarah Green, School of Engineering, Academic Supervisor



Academic staff from the Manufacturing and Materials Groups within the University of Durham's School of Engineering worked with KC Engineering to deliver this KTP.

BENEFITS

The multi-Group involvement in this project proved highly successful, resulting in valuable cross-fertilisation of research ideas. In addition, academics from both Groups increased their skills in managing and supporting interdisciplinary industrial projects, while the Technology Transfer staff who were also involved developed and enhanced their consultancy skills.

The project has helped the University to observe and understand the requirements of large-scale industrial prototyping and field testing outside the laboratory. Project work has been incorporated into case studies on manufacturing and business improvement activities, and examples from the metallurgy work have been incorporated into the taught syllabus for a MEng course.

RESULTS

- 🌀 Interdisciplinary project improved inter-Group research
- 🌀 On-going consultancy on materials testing
- 🌀 Useful course work developed
- 🌀 Paper anticipated on metallurgical testing of novel bearing materials