

# Scottoiler has designs on global markets

Through the development of a new product design process that has created several successful new products, Scottoiler has increased its turnover from £200,000 in 1990 to over £1 million by 2010.

## The company's objective

Scottoiler is a Scottish SME which was established by Fraser Scott over 25 years ago when he developed the Scottoiler chain lubrication system for use on motorcycles. The system enables the chain on a motorcycle to be cleaned and lubricated whilst the engine is on, instead of removing the chain. It significantly reduces chain wear and improves performance, such as fuel economy.



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Collaborative projects with Strathclyde University have produced numerous positive outcomes, ranging from process development and improvement to new product development and subsequent commercial success.”

Stephen Hood, Production & Research Development Manager, Scottoiler

The University's ongoing relationship with Scottoiler led to two initiatives in 2011. First, the chain lubrication system was Scottoiler's only product and the company wanted to diversify its product range and reduce the product development lead-time in both creating new designs and enhancements of existing designs.

In addition, BMW had expressed an interest in Scottoiler's award winning product the eSystem, a mechatronic lubricant dispensing system. The prospect of supplying BMW presented Scottoiler with a once in a life-time opportunity for growth and the company wished to demonstrate the potential of integrating their award-winning eSystem into BMW products.

## The University's response

Three Knowledge Transfer Partnerships (KTPs) over a number of years identified innovative solutions to help the business grow. Back in 2006 a KTP project had developed a mechatronic design methodology to further modernise the company's product family. The project resulted in a multiple award-winning product called eSystem. Its prizes include the National Judges Commendation Award for Knowledge Transfer Partnership Best Partnership Awards 2010, the prestigious Motor Cycle News (MCN) Best Product of the Year 2009 prize and 2008 finalist for the John Logie Baird Innovation Awards.

In 2001 a product development KTP project focused on product diversification and modernisation using advanced computer aided design (CAD). This led to a new product design process model focusing on generating intellectual property rights and innovative product design. Three new products have been developed and a further product is currently under investigation.

In 2010, a KTP project applying mechatronics' principles to generate marketing information was used to promote the new systems globally. This project has contributed international marketing expertise with the aim of increasing market penetration and transforming the company from a £1 million to a £10 million turnover company.

In 2011, a Research Exploitation Partnership (REP) was established to investigate the benefits of a Scottoiler's

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award winning product, eSystem for BMW. The team established a chain lubrication modelling and simulation system which laid a scientific foundation for development and prototyping of a mechatronic testing kit. This system was used to identify the key benefits of the eSystem product for BMW motorbikes which was pivotal in opening up the business development opportunities.

### Successful outcomes

The first KTP project established 'state of the art' computer aided design (CAD) at Scottoiler. The company can now go from conception to production of parts in a few weeks, significantly reducing product lead times.

The KTP projects introduced a new design methodology and the product development time was shortened from eight years for one product to 14 months for a more



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The knowledge transfer partnerships have provided learning opportunities that have benefitted Scottoiler, the company's personnel and the KTP associates.”

David Nash, Vice-Dean (Knowledge Exchange), Faculty of Engineering, University of Strathclyde

complex product, with cost reduced to about a one ninth of the original cost.

The KTP projects have now led to the development of three innovative products for the company. Through these new products Scottoiler has increased its turnover from £200,000 in 1990 to over £1 million by 2010 and created a growing workforce at its base just outside Glasgow.

BMW has selected Scottoiler as an original equipment supplier and are exploring the potential of deploying the eSystem as its standard chain automatic lubricant dispensing system.

Scottoiler and the University's Department of Design (DMEM), Manufacture and Engineering Management have been successful in securing further funding (an EC Framework 6 programme) in collaboration with Siemens in Germany.

The Chinese Space Academy, DTS International and several companies in China have agreed to work with the Department of DMEM on several related research and development projects. Through this introduction, Scottoiler will collaborate on, and be involved in, new activities funded by the Academy and partner companies.

An additional successful outcome of the KTPs is the permanent employment of the KTP Associates, as a Senior Designer and a Design Engineer, in the company's R&D Department.

These knowledge exchange activities have enabled the company to create a framework for technical marketing. Combining marketing and engineering perspectives, the KTP projects have been instrumental in the organisational change from a pure engineering-driven company to a market-led, global business.

### How we can help your organisation

Strathclyde's Research and Knowledge Exchange Services team support the University's knowledge exchange activities in a variety of ways.

If you would like to take advantage of our research and knowledge, please contact:

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