

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

OREGON TIMBER FRAME LTD KTP HELPS OREGON BUILD FOR THE FUTURE

ABOUT THIS CASE STUDY

OREGON TIMBER FRAME LTD COLLABORATED WITH NAPIER UNIVERSITY'S SCHOOL OF THE BUILT ENVIRONMENT ON THIS TWO-YEAR KNOWLEDGE TRANSFER PARTNERSHIP (KTP) PROJECT, WHICH AIMED TO IMPLEMENT IMPROVED DESIGN AND MANUFACTURING PROCESSES THAT REDUCE THE COST OF TIMBER FRAMES FOR HOUSE CONSTRUCTION.

ABOUT THE SPONSORS

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

- 🔄 New products and improved operations
- 🔄 Cost savings for the company
- 🔄 Expanded innovation
- 🔄 Access to testing facilities in a controlled environment
- 🔄 A commercial edge in design capability
- 🔄 New health and safety guidelines for lifting complete roof systems
- 🔄 Selected as winning partnership at the 2005 KTP awards ceremony

The Company



"KTP was a perfect fit with the company culture of continuous improvement."

Rod Lawson, Industrial Supervisor, Oregon Timber Frame Ltd

Oregon Timber Frame Ltd was established in Jedburgh, in the Scottish Borders in 1998 and has developed to become a leading manufacturer and supplier to major house builders, including Wimpy and Persimmon. The company has maintained an annual growth rate of 30 percent and has seen a rapid expansion in its workforce.

L to R: Mr Roderick Lawson - Oregon Timber, Dr Ian Harrison - Director, Knowledge Transfer Services Directorate, DTI, Robert Hairstans - Associate, Abdy Kermani - Napier University, Robin Mackenzie - Napier University.

Having successfully completed one KTP project in partnership with Napier University in Edinburgh, Oregon embarked on a second KTP, which aimed to improve design and manufacturing processes and reduce the cost of timber frame construction, specifically, reducing or eliminating the need for structural steel reinforcement and reduce the cost of metal fixings in timber frames. The KTP also proposed to improve designs to allow the site erection of complete roof elements and ensure that new designs comply with emerging insulation regulations.

ABOUT THE PROJECT

Under the programme post-graduate KTP Associate, Robert Hairstans, faced and overcame the challenge of reducing the amount of wood and the number of metal fixings used in timber frame construction. He also sought ways of replacing steel beams with composite timber and drew up the first scientific guidelines for lifting complete roof structures by crane.

Much of the Associate's work was done in "Eurocode", the regulations which will eventually replace British building standards.

BENEFITS

The benefits accrued by the Company can be summarised under four headings:

- Advanced capabilities and improved Health and Safety operations; best practice roof lifting procedures implemented and improvements made to the method of manufacturing flitch beams
- Enhanced competitive position gained through the component optimisation facilitated through the KTP and improved client relationships
- New knowledge bases & information, for example, Eurocodes, crane erection, level of waste
- Ability to utilise advances in materials and techniques

RESULTS

To date an increase of £20,000 in pre-tax profit is due to the Partnership and has arisen through the insurance benefits of lifting roofs (rather than constructing them at height). A further increase of £280,000 in pre-tax profit resulting from the Partnership is predicted over the next three years. This will result from reductions in steel utilisation and further improvement to roof lifting and erection procedures.

The Associate

"From a personal perspective, my education has been accelerated far quicker than I believe would have been the case in other avenues of industry and as a method of developing management skills, the project has been excellent."

Robert Hairstans, KTP Associate

Robert Hairstans was a recent engineering graduate of Strathclyde University, when he was selected as Associate for the Oregon KTP programme.

BENEFITS

Robert has benefited greatly from his involvement in the project, including: the design and industry based timber engineering experience he gained; the research findings, which will contribute to his PhD and the opportunities for personal learnings the KTP provided. The project has led to a full-time position with Oregon and Robert's work on Eurocode has resulted in an invitation to join the committee examining how the changed building regulations will be applied in the UK.

RESULTS

- Gained full-time position with Oregon
- Accelerated learning
- Fast-track management experience
- A major contribution to a PhD
- Gained NVQ level four in management

The Academic Partner



"It is fair to say that this was a challenging project, but it has been very successful for the company, the University and the Associate, not least because Robert has been carrying out his work in Eurocode, and as a result Oregon will probably be one of the first companies to do designs using the new system"

Dr Abdy Kermani, Academic Supervisor, School of the Built Environment, Napier University.

BENEFITS

The work has enhanced the University's understanding of timber frame construction systems. Elements of the research undertaken as part of the KTP, allowed the programme to significantly extend the timber frame research work currently being carried out in the UK and, as a result, was very successful in producing seven high quality research papers. This includes those for the prestigious World Conference on Timber Engineering (WCTE) events.

Napier University's Centre for Timber Engineering has recently set up an MSc course in Timber Engineering. Napier's involvement with the KTP has been directly relevant to a number of modules and is being implemented in their development. In addition, a number of case studies have been produced.