

# Innovation & Research

**Innovation, according to management guru Peter Drucker, is the one thing every business needs to succeed. It is the necessary ingredient that allows companies to stay relevant by continually creating new products and services. The following section first published in a Construction News supplement focuses on advances in the cement sector.**

In short, innovation is the engine that drives corporate growth and is the key to future market share growth for concrete products. British Precast is pleased to host one of only two innovation award competitions in the global sector, Germany being the other.

There is no guaranteed route to success, no step-by-step manual when it comes to creating an innovative organisation. Innovation is less about building a better product than it is about establishing a culture that encourages individuals to think creatively and allows the organization to capture and act on the best ideas. No better example than the Roger Bullivant organisation where Roger himself has led by personal example. We were delighted to present him with the British Precast Lifetime Achievement Award in 2007 for his leadership in innovation.

Is maintaining the pace of innovation more difficult as companies become larger? The answer looking at the UK cement industry is a clear NO. The need for global competitive edge and the integrated approach enabled by downstream investment and global programmes has led to an exciting range of product developments which are bringing considerable benefit and opportunities to UK precast producers and their customers.

CEMEX UK are leading the move to blended cements CEM I and CEM II in the UK, a development that will significantly improve the carbon footprint of concrete products for those precasters that prefer not to blend their own mixes.

Lafarge Cement UK is tapping into the major development programme of their global technical centre in Lyon. Lafarge, with others, has created Ductal, a concrete that bends like metal and which is five times as strong as regular concrete without any reinforcing steel. Now Ductal looks like being used for the first time in the UK to build a new flight of stairs at The Building Centre in London. It should lead to a whole new set of product applications for precast. In Agilia, Lafarge has developed a very reliable self-compacting concrete which does not need vibrating and which produces a very dense high quality concrete already a success with precasters looking for a quieter production environment.

Castle Cement, joined by Hanson as part of the Heidelberg Cement group is reaping the rewards of its international links. Their new TioCem cement, by adding titanium dioxide to the cement recipe can make a self-cleaning concrete that remains the same colour for centuries. When titanium dioxide absorbs ultraviolet light, it becomes highly reactive and breaks down pollutants that come into contact with the concrete's surface. The reactive material can kill bacteria and fungi and also break down pollutants such as nitric oxide, sulphur dioxide, and many volatile organic compounds that contribute to concrete's darkening. We have great hopes also for Luccon, the translucent structural concrete developed by Heidelberg, that has so excited architects and interior designers.

The fourth and smallest UK cement producer is Tarmac – small in cement is a relative term and Tarmac are very active in the innovative development of cement and concrete with a range of new precast concrete product innovations including the Modernahus precast housing system that they are developing for the UK market for Skanska.



Testing larger scale composite slab strips - conventional reinforced concrete with a bonded overlay of Ductal ultra high-performance fibre reinforced concrete from Lafarge.

## RESEARCH

BeAware - Built Environment Action on Waste Awareness and Resource Efficiency.

This BERR-funded project was awarded to a consortium led by BRE. It aims to help manufacturers make more efficient use of materials and processes by looking at product design, manufacture, installation, practical use and end of life. As the project draws to a close in 2008, 25 product streams have been analysed and pan-industry workshops held. In addition to these, a British Precast workshop was run in April 2008 with BRE and Loughborough University. The workshop discussed waste streams and identified potential industrial 'waste' products that could be incorporated into concrete mixes.

[www.beaware.org.uk](http://www.beaware.org.uk)

British Precast is also working with other organisations on a number of themes; these include current work with the UK Concrete Platform on Materials UK's development of a governmental Strategic Research Agenda (SRA). European collaboration via BIBM has also been an important area for British Precast, with its knowledge transfer issue management system and liaison with the European Concrete Platform are of particular importance.

During the year there was significant activity by a number of product group associations within British Precast, with PFF reaping the benefits of its hollowcore fire tests and new structural toppings research with Nottingham University. Other associations with current research programmes include Interpave with investigation of jointing sand stability and ACA and SPA with new sustainable development initiatives.