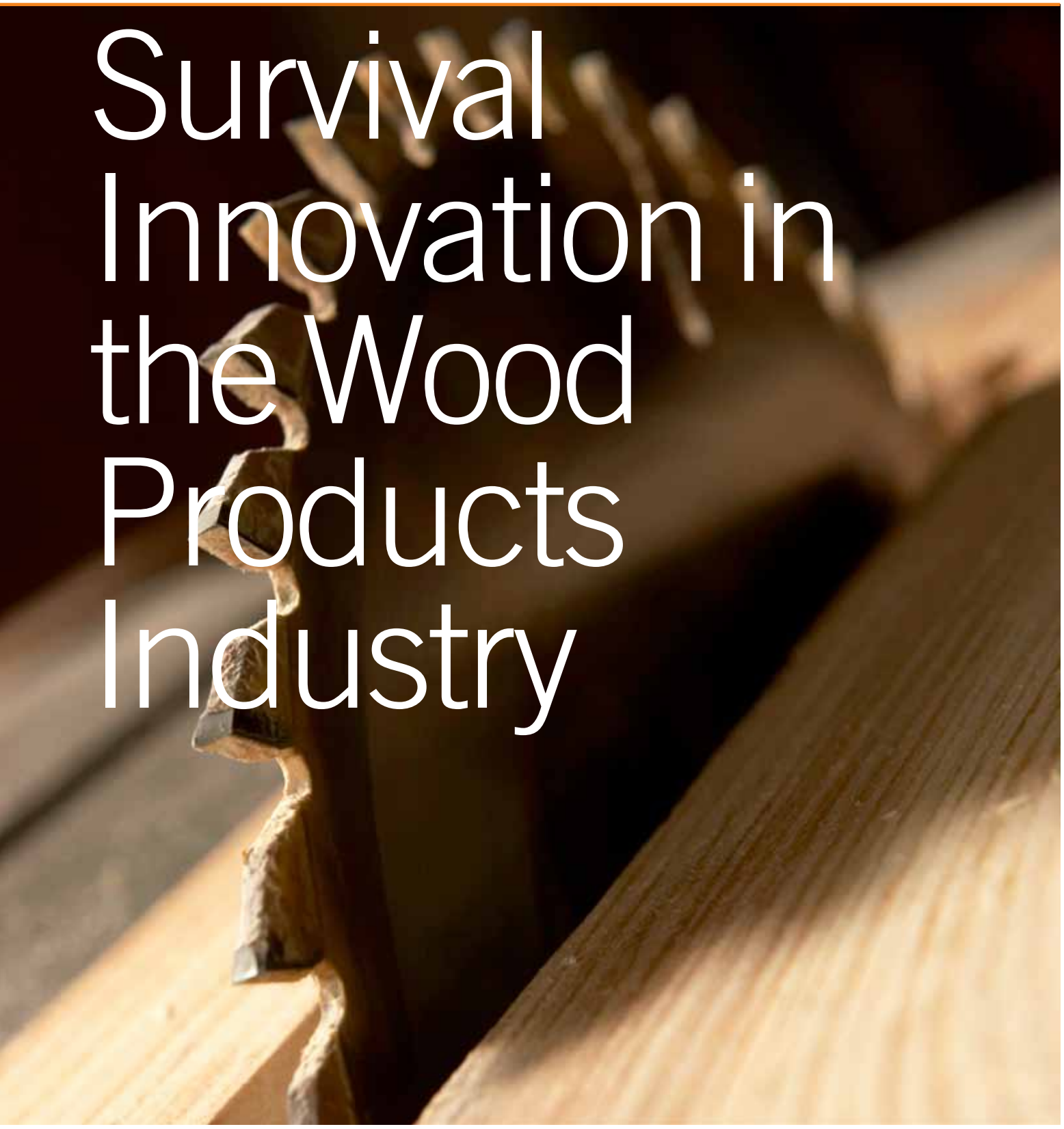
PÖYRY

PÖYRY POINT OF VIEW:
BEING RESOURCE SMART

Survival Innovation in the Wood Products Industry



How can the Industry return to sustainable, profitable growth?

Increasing the use of wood in building and furniture is good for the wood industry but it is also good for our climate: wood captures carbon and has a smaller carbon footprint than most competing materials. Product innovation is the key to making this happen.

European wood products producers have struggled to make acceptable returns since the global financial crisis derailed housing and construction markets in 2008. However, there is a real opportunity for struggling producers to return to profitability and grow revenue streams by capitalising on the increasing demand for sustainable construction and green buildings.

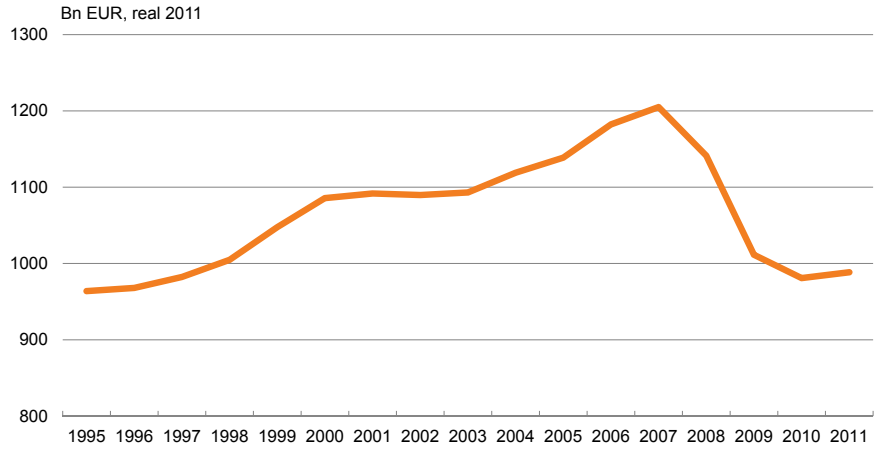
But unless the industry rethinks its approach to new product development, and embraces innovation as a growth driver, it will not fully exploit this unique opportunity, resulting in continued financial underperformance and a lost opportunity for the wood products industry to make a lasting contribution in the fight against climate change by reducing CO_2 emissions.

"Using wood as a feedstock for renewable energy generation can help mitigate climate change in the long run but only alongside a viable and healthy wood products industry – not instead of it."

Wood is a uniquely sustainable material for building houses or making furniture; its carbon footprint is smaller than most of the alternative materials (storing carbon until it rots or burns and, at end of life, it can be converted into renewable energy).

The market for wood products in Europe has been very slow to recover from the collapse in demand and prices caused by the downturn in construction activity throughout Europe as a result of the global financial crisis of 2008 (see FIGURE 1). In 2011, the turnover of the fifty largest wood products producers in Europe was down 20% compared to 2007 and their combined net profit declined by more than one billion Euros.

FIGURE 1 - ANNUAL CONSTRUCTION SPEND IN WESTERN EUROPE



The industry has responded by cutting costs and streamlining organisations, critical to long term survival. Fixed costs were down 15% in 2011 compared to 2007; employee numbers were reduced by 10%. Resourcing and investment in key growth-oriented business processes such as marketing and new product development have also suffered.

There is no sign of Western European wood products markets returning to pre-crisis levels anytime soon so the overarching question facing the industry is "how can we return to profitable growth?".

Pöyry believes that the fortunes of the industry and a return to profitability can be addressed through innovation; in new products, in new business models, and in new markets. But can the commodity-focused wood products companies react quickly enough?

WOOD PRODUCTS AND INNOVATION – AN UNEASY PARTNERSHIP

Traditionally, companies in the wood products industry have been good at process innovation. By improving product recovery from raw material inputs, operational costs have decreased and manufacturing flexibility has increased. Business model innovation has also tended to focus on cost and scale economies to improve returns, e.g. the development of integrated bioenergy-based business models can create value but there are trade offs.

When it comes to the development of new products with the potential to transform the industry and grow new markets, we can find relatively few examples. In fact, over 90% of total wood products sales revenue comes from products which were developed and commercialised more than 20 years ago. When we compare this with what we see in other sectors, wood products companies are less innovative than their peers e.g. the number of international product patents filed by the wood products industry over the last ten years is only 15% of the number filed by the paper & pulp, cement and metallurgy sectors respectively.

New innovations in wood products have been successfully developed and introduced to the market but innovation is often accidental rather than coming from focused product development programs. Furthermore, the time it takes for these new products to make a return on investment can sometimes be measured in decades rather than years (see 'Staying ahead of the game' mini case study on page 6). Often we see many "new" products never making a return on investment because they are technical solutions for which there is no market.

Green Building - A Missed Opportunity?

GREEN BUILDING – A MISSED OPPORTUNITY FOR WOOD PRODUCTS?

The race to create the 'World's Most Sustainable Building' continues (see Sustainable Building Examples). The growing interest in green building is creating new market opportunities for innovative wood products. These products can be integrated into sustainable, low carbon building practices, which take into account the complete carbon footprint e.g. location, design, construction, operation, maintenance, renovation, and demolition.

Wood is an excellent material for green building projects, both for new build and renovation:

- wood grows naturally, using energy from the sun
- it is renewable and recyclable
- it is an effective insulator
- it uses less energy to produce than most other construction materials (the production of wood products has lower greenhouse gas emissions than concrete and steel, for example).

With growing public and legislative pressure for more sustainable construction practises and greener buildings, the demand for wood products should be increasing, but spend on wood products as a share of total construction is declining (see FIGURE 2). This is not just a problem for the wood products industry, but it also has a big impact on lowering CO_2 emissions and fighting climate change. In the UK, for example, the construction and operation of buildings represents approximately half of the country's emissions of CO_2 [1].

Green construction (see Sustainable Building Examples) is a great opportunity for growing wood products consumption but the industry needs to be more innovative in product development as well as in nurturing green building solutions.

SUSTAINABLE BUILDING EXAMPLE 1 -
Bullitt Center: the world's most sustainable building under construction

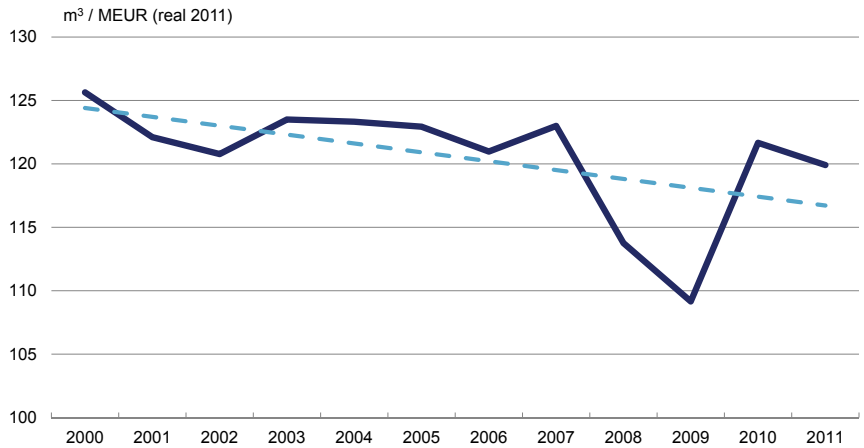
Currently under construction, the Bullitt Center in Seattle, by American firm Miller Hull partnership, uses a strategic combination of all the passive and active green strategies. The six-storey mixed-use building aims to fulfil the 'living building challenge' by being completely independent from the water and energy grid. Its structural wooden frame is FSC-certified. [2]

SUSTAINABLE BUILDING EXAMPLE 2 -
Marks & Spencer to open its most sustainable UK store

When British supermarket chain Marks & Spencer built its most sustainable store in Sheffield, UK, it used wood as the principal building material. Carbon emissions will be 23% lower and energy usage 30% lower than a traditional similarly sized store. The store is the first of a number of new 'Sustainable Learning' stores, that are part of M&S' drive to become the world's most sustainable major retailer by 2015. [3]

Cheshire Oaks, an example of M&S Sustainable Learning stores

FIGURE 2 - WOOD PRODUCTS CONSUMPTION AND CONSTRUCTION SPEND IN WESTERN EUROPE



"Over 90% of total wood products sales revenue comes from products which were developed and commercialised more than 20 years ago."

INFO BOX

"New Wood" products, which have been modified for enhanced durability and longer life so that sustainable softwood species can substitute for tropical and temperate hardwoods in applications such as garden decking and furniture, are good examples of green product innovation. Pöyry has taken a look at the opportunities emerging in this exciting area in its report "New Wood Outdoors – Innovative Solutions in Traditional Markets".

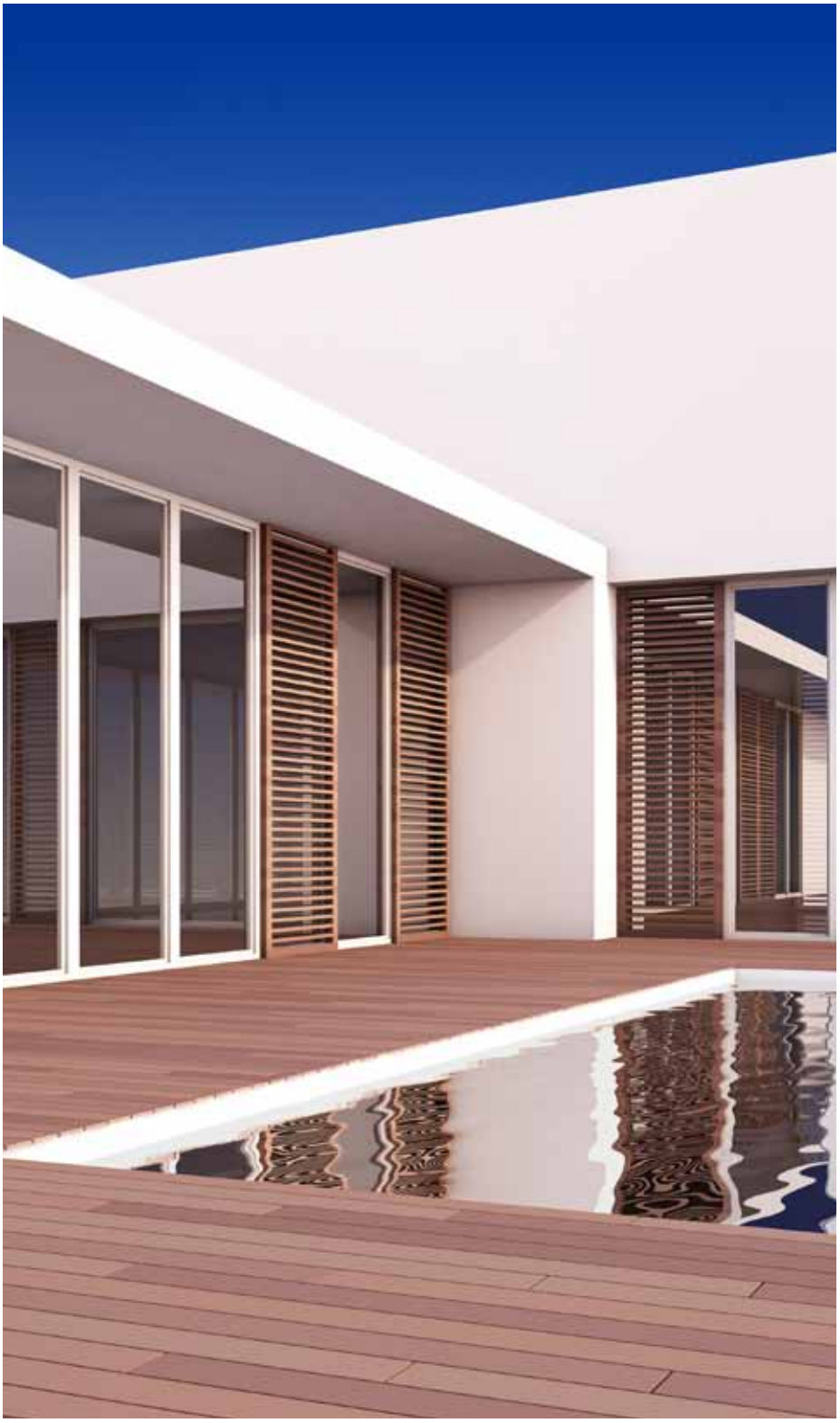
Visit www.poyry.com/NewWood

THE CHALLENGE

Our long-standing industry experience indicates that the ability of the wood products industry to successfully develop new products is constrained both internally and externally.

Lack of organisational commitment to innovation

There is often an organisational lack of commitment to innovation. Although there are plenty of people with great ideas, companies find it difficult to give priority to the development work needed to turn these ideas into products. Innovation is not normally a core company value in the wood products business and the systems and processes needed to support innovation are not in place. Very few companies are explicitly earmarking time, money and resources to innovation and even fewer are following up the effectiveness of their innovation programs through performance indicators, such as the share of new products in total revenue and the return on research and development investments.



Four ways to unlock innovation

Wood product producers distanced from end markets

The historical focus of the industry on optimising production processes and manufacturing efficiency has distanced wood product producers from end markets. Typically the responsibility for innovation in these companies falls under the remit of the Technology or Production Manager, leading to a communications gap between production and markets.

Gap in understanding what end users need

The gap in understanding between what end users need and what wood products manufacturers want to produce is increased by the structure of the wood products value chain because more than 70% of industry output is sold through distribution. As a result, wood product producers are often too remote from end markets to understand the real needs of end-users. This makes successful product innovation very challenging.

A need to rethink co-operation across the value chain

Distributors, for their part, do not spend the resources and time needed to launch new products and are often reluctant to even take on new products as it adds complexity and cost to their business and the rewards are uncertain. There is a need to rethink the business model with a more innovative approach to partnerships and cooperation across the value chain so that product and market knowledge flows more freely in both directions.

In spite of this difficult environment there are companies developing innovative new products e.g. Unilin has developed "click and go" furniture which needs no screws. This should be good news for anyone who has ever put together a piece of flatpack furniture but according to its CEO, Bernard Thiers, "commercialisation is challenging because the furniture products supply chain is highly resistant to change".

FOUR WAYS TO UNLOCK INNOVATION

Pöyry has identified the following key traits of innovative companies:

- **Business processes to support and improve product innovation are in place.** The objectives and goals are defined, the resources required have been identified and performance indicators to evaluate the effectiveness of the innovation process have been developed.
- **Regular and structured engagement** with end-users, architects, retailers, designers, market experts and policy makers to understand existing market requirements as well as "unmet" needs. Innovation needs to be driven by commercial and market considerations rather than technology i.e. what will create value for customers, not what is technically possible.
- **Linkages between research, technology and marketing functions are in place** to facilitate the flow of ideas between customers, suppliers and distributors. The most innovative companies in the wood products industry tend to be integrated with the downstream value chain, e.g. IKEA. Ideas can flow more freely where you have vertical integration.
- **The most effective route to market has been identified and tested** e.g. specialist distributors often achieve higher sales growth for new products, compared to traditional wood products distributors.

Transforming a commodity driven industry into a value-added and innovative business will not happen overnight, but wood products companies urgently need to bring product innovation to the top of the agenda and learn from best in class. Successful innovation will lead to improved returns across the sector as well as higher growth for the wood products industry overall. But most importantly, it can reposition the industry at the vanguard of the global fight against climate change by delivering balanced sustainability.

MINI CASE STUDY: Staying ahead of the game

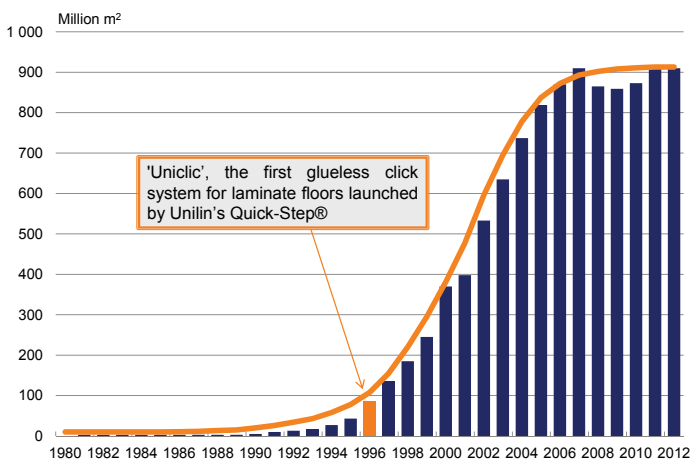
Laminate flooring took the world by storm, but 10 years were need for the market to really take off. Two innovations were critical in triggering exponential growth:

1. the introduction of MFC/HDF which replaced high pressure laminate (HPL)
2. the introduction of the glueless click system which made laminate flooring easy to assemble and opened up the DIY market.

Pergo, the company behind the invention of laminate flooring, left others to reap most of the rewards by not staying ahead of the game and were overtaken by other more innovative laminate flooring producers which used Pergo's idea as a springboard for further product development.

Today, Unilin, the inventor of the click system is thriving, while in 2012 Pergo was acquired by Unilin's parent company, Mohawk.

FIGURE 3 - GLOBAL LAMINATE FLOORING SALES



About the Pöyry Point of View

Staying on top of your game means keeping up with the latest thinking, trends and developments. We know that this can sometimes be tough as the pace of change continues...

At Pöyry, we encourage our global network of experts to actively contribute to the debate - generating fresh insight and challenging the status quo. The Pöyry Point of View is our practical, accessible and issues-based approach to sharing our latest thinking. We invite you to take a look – please let us know your thoughts.

Join the debate

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[1] Source: UK Green Building Council: http://www.ukgbc.org/content/key-statistics-0)
[2] Source: http://www.designboom.com/architecture/bullitt-center-the-worlds-most-sustainable-commercial-building-under-construction/
[3] Source:http://corporate.marksandspencer.com/media/press_releases/open_most_sustainable_uk_store

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Engineering balanced sustainability™

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