

British builders enthusiastic about Dutch innovations



David McKay, head of procurement at Bovis Lend Lease, curiously wanders through the production hall of Heijmans Bestcon in the Netherlands, a factory that produces complete precast concrete constructions and masonry. “The notion of producing ready-to-assemble concrete walls with insulation and brickwork at one location is extremely interesting. I am very impressed.”

Hosting the Olympic Games in London will create a considerable amount of work for Bovis Lend Lease. Before the kick-off of the Games in the summer of 2012 the organisation will have finished building 3.500 houses near Stratford. The subcontractors McKay currently works with are extremely busy. “These solutions offer a vast decrease in masonry work on site, leading to substantial savings in time and manpower.”

On the production floor of Heijmans Bestcon the different stages of the production process are demonstrated. A machine spawns pieces of steel of which the armaments for the concrete are made. Elsewhere concrete is ready to be poured into molds with armaments and subsequently an insulation layer is ready to be placed on top. In the meantime construction workers are laying down bricks following traditional patterns on an outer wall. The end result of the process is a series of walls completed with brickwork, windows, an insulation layer and inner wall.

McKay is not the only one who is enthusiastic about what he is seeing. He is part of a delegation of twenty representatives of the British construction sector, consisting of contractors, developers, house builders, designers and city planners. The delegates are visiting the Netherlands to look at innovative and sustainable construction methods.

Nick Rogers, design director at house builder Taylor Wimpey, is also quite impressed. The use of prefab wall elements could prevent some of the problems he is currently facing. According to Rogers bad weather conditions hinder construction work. Using the prefab system, structures can be made weather proof within days. Moreover precast walls guarantee the consistency of quality. Rogers adds; "Maintaining the quality of brickwork on the construction site is a much bigger challenge."

Cost is another factor to be considered. Initially, the price per square meter using precast construction techniques seems to be higher than traditional masonry. "However, price and actual costs are not necessarily the same" Rogers says. "If you look at the total costs, prefab can offer significant advantages, take for example safety. There's no need to build any scaffolding. In fact it doesn't seem that advantageous anymore to carry out the masonry work at the building site."

Rob Jansen, commercial director of Heijmans Bestcon, is pleased with the interest shown by the British delegates. Jansen aims to make the U.K. Bestcon's second exportmarket by 2008. By then 40% to 50% of revenues should be generated from operations in the British market. Unfamiliarity with the technique is the main obstruction, according to Jansen. The higher transport costs are substantially diminished by the lower costs of construction and the lower failure costs. "In comparison to traditional methods, using this technique for the construction and assembly of walls will result in a discount of at least 10% to 15% of the cost."

The cost benefit can be further increased if other parties in the construction chain are involved, emphasizes Rick Boeijen of Berkvens Door Systems which the delegates visit on the same day. The door systems of Berkvens can be assembled in 12 minutes. The time gained resulting from using these door systems leads to savings of £50 to £70 in labor cost per wall opening. According to Boeijen "the construction process in Holland is comparable to a Lego Brick building system, each step can be made to fit within the next, leading to greater efficiency in the chain. Our ultimate goal is to get the Dutch construction technology accepted in the British market."

The three-day trip, organised by the NBCC (Netherlands British Chamber of Commerce), the Construction Federaion of the Netherlands and the Dutch Agency for International Business is one of many events the NBCC has organised to introduce innovations from Holland to British builders. Initiator Jochem Geheniau comments on the opportunities for both parties "The UK has very ambitious targets in terms of sustainability, the amount and the type of projects it wants to realise. The Dutch offer an attractive set of solutions through which faster, cheaper and more sustainable construction is made possible.....the past year we've successfully started introducing many innovative suppliers to British contractors. Builders that take on these methods will not only build up competitive advantages, they will also be less sensitive to the expected shortages of materials and labour."

The visit to the 'Strijkijzer', a 42-story high-rise development in The Hague, realised in a short time within an extremely limited space using prefab elements – made the right impression; "Under the same conditions the Dutch are able to erect two stories a week, whereas in the UK we can only produce one story a week. This means that we are not building as efficiently as possible", says Rogers of Taylor Wimpey.

On the last day of the trip the emphasis is on sustainable and flood proof construction. Stephen Joseph of Thames Gateway London Partnership thinks the trip is very useful, “On some aspects of sustainable construction the Netherlands is ahead of the rest of the world, building with flood risks is an example in which the Dutch are very advanced. In terms of prefab construction the Netherlands clearly demonstrate a leading position.”

Shorter construction periods relieve communities and infrastructure, prefab construction therefore offers several advantages over traditional build. In order to stimulate the use of prefab construction his organisation would have to speed up the maximum building time for certain projects. Moreover, building flood-proof would be the only way to develop new homes in certain areas of the Thames Gateway. “You could consider development of flood-proof homes in certain areas which would otherwise remain uninhabited – providing that communities would benefit from this.” says Joseph.