

## Pallet conveyor system from LB Foster Materials Handling bridges the gap at Smith and Nephew

Client Case Study





When the UK's largest medical device company, Smith and Nephew, needed to urgently install a powered pallet conveyor system at its Wound Management headquarters in Hull it called in Leicester based LB Foster Materials Handling.

*"They designed an extremely practical solution which could be delivered in the right timescale and at the right cost."*

**Andrew Marris**  
Asset Care Manager  
Smith and Nephew

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 Pivoting transfer device automatically feeds the pallet cage onto the transfer car

 The conveyor is bi-directional across the link bridge



Quite apart from the tight timescales on the project, the contract was far from straightforward. Smith and Nephew's sterile products are packed into caged pallets with a plastic base and these needed to be transported from a mezzanine in the company's factory on one side of a busy road to its packing and warehouse operation on the other side of the road. Once emptied, the cages then needed to be returned to the factory for the whole operation to begin again.

The company already had an existing conveyor system which transported the cages across the road via a link bridge. The conveyor had been installed over 20 years ago and then mothballed for almost a decade due to changes in the company's manufacturing techniques. As part of the materials handling contract, this legacy system would need to be resurrected and incorporated into a new, fully automated solution.

### A practical solution built to a high standard

Andrew Marris is the Asset Care manager for Smith and Nephew, he comments, "We opened up a new production facility here in Hull and as part of cGMP (current good manufacturing practice) we took the decision to remove the secondary packaging operation out of our ultra-clean manufacturing operation into our distribution centre.

"Moving our secondary packing operation into our warehouse and close to the point of despatch, meant we were transporting 120 pallet cages a day back and forth from manufacturing to warehouse across a public highway. As a result we decided to resurrect the concept of our old conveyor which ran through a link bridge. The company which had installed this system no longer existed so it was necessary to put the job out to tender.

"Our decision to use LB Foster Materials Handling was based on the fact that we were confident that they could install a new system that would be trouble-free and operational from day one. Cost was important to us but it was reliability which was the primary factor in our decision.


"We supplied LB Foster with a comprehensive user requirement specification which outlined exactly what we were looking for, including our production rates. They came up with technical solutions to all of our problems within the tight timescales required. From concept to order placement was a process of eight weeks with a three month build and install period. None of this was an issue to LB Foster; they designed an extremely practical solution which could be delivered in the right timescale and at the right cost.


"We went to the LB Foster facility in Leicester to complete the factory acceptance testing as it's far easier to rectify a problem at the manufacturer's premises than post installation. On inspection however, we didn't find any issues - everything had been built to a high standard and met all of our specifications.

"The majority of the conveyor solution is new, but the final scheme does include re-using the old conveyor sections that were already there and also the main lift shaft in the warehouse. These have been re-engineered and refurbished, new motors and gearboxes installed and everything has been mechanically overhauled. LB Foster was very happy to incorporate its own conveyor systems into what was already there and that was another reason the company was awarded the contract."

*"It has enabled us to streamline our operation and reduce transport costs."*

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Asset Care Manager  
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 Pallet onload and offload station in the factory

 Control panel in the warehouse



## A complex control philosophy

The control system for the old scheme was only part existing and obsolete. It was necessary therefore for LB Foster to design a completely new control philosophy and hardware to incorporate the new conveyors and also the existing portions of refurbished conveyors.

Andrew Marris again, "There are over 40 independent motors on the system together with more than 100 product position sensors. These are needed because the conveyor system is bi-directional across the link bridge and automatic in terms of its pallet cage marshalling. It also has to operate on two different floor levels – on a mezzanine at the factory end and at ground level in the warehouse."

In a special clean room in the factory the full pallet cages are loaded onto a powered roller which feeds onto a scissor lift taking the cage up to a turntable. This rotates and feeds the cage onto a transfer car which takes it across the link bridge. It is then taken down to the ground floor by pallet lift onto a powered roller to the offload station in the warehouse. Here the cages are taken by forklift truck to the packing cell which is close by.

The reverse operation sees the empty cages automatically transported from the onload station at the warehouse up in the lift and across the link bridge to be delivered at the offload station on the mezzanine in the factory.

"The conveyor solution has now been up and running reliably 24 hours a day for the last three months," concludes Marris. "It has enabled us to streamline our operation and reduce transport costs; we are also able to keep our products inside a controlled environment all the way from production to despatch."

Smith & Nephew is a global medical technology business with global leadership positions in Orthopaedics, including Reconstruction, Trauma and Clinical Therapies, Sports Medicine, and Advanced Wound Management. Smith & Nephew is dedicated to helping improve people's lives. The company prides itself on the strength of its relationships with surgeons and professional healthcare customers, amongst whom its name is synonymous with high standards of performance, innovation and trust. The company's products are sold in over 90 countries worldwide with annual sales in 2009 of nearly \$3.8 billion.

Full cages arriving in the warehouse via the pallet lift

Leicester based LB Foster Materials Handling (previously CI Logistics) is a market-leading UK supplier and manufacturer of quality materials handling and storage systems. The company supplies equipment internationally including overhead conveyors, floor conveyors, garment conveyors and storage systems; it also has an in-house electrical controls design and build service enabling it to provide innovative solutions to all materials handling challenges.

LB Foster Materials Handling is a subdivision of its parent company LB Foster Rail Technologies UK - previously Portec Rail Products (UK) Ltd. which is owned by the American multi-national, LB Foster.



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