

Linfox Distribution Centre for Kellogg's Goes Live!



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Linfox Distribution Centre

Almost 5 years ago Dexion began discussions with Linfox regarding relocating the Kellogg's distribution facilities from Minto to Botany along side the Kellogg's manufacturing facility. Linfox had been providing 3PL services to Kellogg's. This involved collecting pallets from the production facility and driving them to the Minto warehouse approximately 40km away, ie an 80km round trip. Kellogg's and Linfox wanted to manage the process with less movement and handling of product, and plans for an adjoining warehouse commenced. The new Distribution Centre went live on October 3rd 2006.



The new Distribution Centre has been designed to provide Linfox flexibility as to how the building asset may be used over its useful life. This meant that the Kellogg's solution had to meld with the 'general purpose' configuration of the building. Everything from a conventional storage solution to a fully integrated system was on the drawing board from the early stages.



The design and concept of the solution was complex as the challenge was to maintain the best storage density and maximise throughput in terms of volume. Dexion worked with Linfox and Kellogg's to develop the design. Obviously the system had to incorporate the requirements of Kellogg's. A key issue being that under no circumstances could the warehouse interrupt production. The system had to be capable of managing product 24 hours a day 7 days a week.

Throughout the design process Dexion worked with Linfox and Kellogg's confident in the knowledge that the final design concept would be both acceptable and competitive. As the design process evolved,

Dexion continually researched the supplier market and identified the 'best of breed' equipment for the overall solution. This included pallet conveyors, robotics, storage and retrieval systems and IT hardware. Dexion has strategic alliances with a number of the suppliers and Dexion engineers are formally certified to fully support the system.

Once all the variables had been determined and the design concept approved, Linfox then conducted a tender process which Dexion was successful in winning.



The chosen solution sees the production facility connected to the Distribution Centre via an "air bridge" (a bridge linking the Kellogg's and Linfox facilities through which products flow along a conveyor). Pallets of finished product are loaded onto a pallet conveyor, taken over the air bridge and delivered to the Distribution Centre. Depending on the type of product, some pallets are moved to a fully automated section of the warehouse or to a more conventional storage facility.



> Photos of pallets travelling over the air bridge

In the automated section, pallets are stored in 5 aisles with 6 pallets deep on either side. Each aisle is serviced by an automated storage and retrieval system (ASRS), a dedicated fixed aisle crane that features a satellite, robotic unit that travels out and collects the required pallet.



This retrieval system is solid and proven technology, it's the innovation in the design of the overall system that makes this project so interesting.

Obviously the warehouse and system had to meet food grade requirements and the Dexion team worked closely with a steering committee representing Linfox and Kellogg's throughout the intensely detailed process.

The system presented a number of challenges for the Dexion Project Management team. Fundamentally, they had to engineer an advanced integrated system for a building that is designed for conventional warehousing.

A unique feature of the system is a component of Dexion's Real Time Distribution System (RDS) called the 'command and control centre'. The RDS drives the ASRS from a logical viewpoint and interfaces to the Linfox warehouse management system which in turn communicates with the Kellogg's ERP system.

The command and control centre provides a pictorial view of the ASRS model and enables the operator to see what the system is in real time. It is designed to reduce the amount of time it takes to resolve a particular issue as the operator is able to see where the problem is and fix it quickly.

Dexion began construction in May 2006 and Kellogg's then gave Linfox until the end of September to prove that the system was 100% fully operational. The Dexion team is pleased to say that the system was delivered in full, on time and to the operational specification.