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Dexion helps two of Kimberley-Clark's national DCs rise to a new level



 **Kimberly-Clark**

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Smarter thinking.

AHEAD OF THE CURVE

KIMBERLY-CLARK AND DEXION TAKE TWO NATIONAL DCS TO A NEW LEVEL.



The large window behind Jeff Steadman's desk overlooks the docking bays of the Kimberly-Clark national distribution centre he manages. A 29-year veteran of the business, Jeff can see every one of the 60-odd B-Double trucks that come and go each day without leaving his chair.

Some bring cartons of Huggies and Snugglers Nappies from the company's mill in nearby Ingleburn. Others go the other way, distributing combinations of the 700-odd products warehoused here to regional centres across Australia and New Zealand.

Jeff thinks these trucks illustrate nicely the gains made at this new facility at Erskine Park, in Sydney's outer west.

"In the old DCs under the old paper-and-SAP system, it'd take three guys an hour and a quarter to turn one of those trucks around. Now we can do it in three minutes.

"In a business where transportation is more expensive than warehousing, that's pretty significant."

Along with its sister facility in South Australia (adjacent to Kimberly-Clark's Millicent mill),

Erskine Park represents a new level of best practice from a company that's been setting the industry pace for 150 years.

Globally, Kimberly-Clark is a genuine business giant, turning over more than \$20 billion in 150 countries. Kimberly-Clark Australia (KCA) makes many of our most loved and demanded super-market brands. Kleenex Tissues, Cottonelle and Wondersoft toilet tissue, Viva paper towel and of course, Huggies nappies.

It's also a committed follower of LEAN business principles, which seek to eliminate the



expenditure of resources for any goal other than the creation of value for the end customer.

At Erskine Park and Millicent, that means looking for constant and ongoing improvement in order accuracy and cost control. In 2006, management recognised that existing supply chain processes across the company were outdated and hampering these efforts, and started looking for an outside partner to help.

Dexion was appointed to design a solution and, after a competitive tender, to implement it.

Whole-of-business redesign

"It wasn't as simple as just building a new warehouse," says KCA's Mario Carniato, manager of e-supply chain. "It meant a redesign through the entire business, from product barcodes to the size of our pallets to the introduction of regional distribution hubs that could service our customers more responsively.

"We weren't looking at small details here and there. We were looking to streamline our supply chain from start to finish."

Technology was at the heart of Dexion's proposed solution, specifically in the form of the company's proprietary RDS (Real-time Distribution System), which manages and controls warehouse and distribution centre operations from receipt of goods to dispatch in real time.

"Though conducted with characteristic thoroughness, KCA's existing linked chain of paper-and-SAP reporting systems was unable to provide up-to-the minute data that the company needed," says Dexion's Michael Jee.

"We'd recently implemented an ASRS solution at Linfox Kellogg's Botany and took



the KCA team along to have a look. They could really see the possibilities."

"Kimberly-Clark always had good aggregated statistics to track key outcome metrics (KPI)," says Mario Carniato. "But there wasn't the ability to really drill down into it and get to the causal factors – the good stuff that you need to drive ongoing improvement. That's something we really wanted to achieve."

Dexion's RDS is designed to integrate with the client's other systems. In the case of KCA, it had to integrate with the SAP ERP, a custom-developed RORO (Roll On, Roll Off) system, a vehicle scheduling system (TMS), and a SSCC pallet label printing/application system retrofitted into the company's production lines. Specially-built RORO trucks use the RORO conveying system to operate a shuttle between Erskine Park and Ingleburn.

For three months, before a forklift had been delivered or a single row of racking installed, a group of Dexion and KCA employees met to develop process and system 'blueprints'. Once the RDS system had been customised to suit the blueprint, the team then met in a boardroom at Dexion's corporate headquarters in Sydney's North Ryde to perform the first of four rounds of testing. To conduct this first 'functional RDS' test, the team constructed a mini representation of the warehouse in the boardroom by taping out pathway and storage locations on the floor, and using empty product shippers, to troubleshoot all proposed processes within the newly customised system.

"We wanted to surface any problems here so we wouldn't make them when the project went live," says Jeff Steadman. "We invited the guys from the floor, team leaders and the operational guys along so that we'd be sure to test for all the variations that they actually experience on the floor – not just what the design team thinks

happens. We wanted to get everyone's perspective on the job, and get the key people engaged as soon as we could."

While the Millicent DC was built on spare land within the existing manufacturing facility, Erskine Park was a greenfields site. Dexion's involvement was intimate, even to the extent of being involved in the site selection.

Erskine Park went live in late 2008. The physical hub of the solution is an automated storage and retrieval system (ASRS), three- and four-bins deep. Seven twenty-five metre high cranes serve nine levels and 41,000 gross pallet positions. At full speed, it can pick 190 pallets an hour.

The scale of the project kept everyone on their toes. Thirty-seven 'mini-projects' had to be solved by the KCA/Dexion team, such as reducing the height of pallets by 70cm to meet stricter OH&S guidelines.

In view at all times

While KCA was working to extract more efficiency from its processes, its customers, national retailers like Coles and Woolworths, were doing precisely the same thing: reducing inventories and demanding better 'trackability' of individual orders.

Critically, the application of the Dexion RDS required full implementation of SSCC (serial shipping container code) barcode pallet labels across the KCA network. The team developed two types of SSCC, affectionately called 'skinny labels' and 'fat labels' by Jeff and Mario. The SSCC is a special barcode label that allows a module of goods (in this case a pallet) to be correctly and uniquely identified at every stage of the supply chain from factory to the supermarket shelf and beyond.

The 'fat label' SSCC conforms to the GS1 Grocery Industry Standard and is integral to





customers' fast-flowing e-enabled, barcode-enabled processes.

It also forms part of the contents of the ASN (advanced shipping notice), a little electronic message that arrives at each receiving DC before the truck, preparing the receiving warehouse for docking and put-away. Today, the SSCC is the central point of the Kimberly-Clark process, driving the RDS and the other technology systems spoked out around it.

The quiet sounds of success

As you walk through Erskine Park, the thing that strikes you is the sense of order and calm. There is the quiet grumble of half-a-dozen fork trucks and the occasional string of electronic beeps as one of them reverses or rounds a corner. Deep in the background, if you know what to listen for, you can hear the hum of the nine-storey ASRS cranes as they pick their way through the 41,000 pallet positions.

As Mario Carniato shows me through, he doesn't once have to raise his voice to be heard. The main source of noise comes from a radio playing classic rock in one of the loading bays. It certainly doesn't feel like a place responsible for distributing millions of cases per month of some of Australia's biggest brands to every Coles, Woolworths and IGA supermarket in the land.

He points toward a series of coloured charts pinned to a staff noticeboard. Bright rectangles graph the monthly progress of measures such as cross-docking, total pick rate and selective pick rate.

"As a company we've got a charter of constant innovation," notes Mario. "The system now gives us such a detailed level of information that we're really making micro-adjustments all the time to get the most out of it.

"For example, deployment from NDC to RDC used to be handled in great detail by head office in Sydney's Milson's Point. The planners would create detailed stock transfer orders at SKU x qty level for specific truckloads 2-4 days in advance.

"With the redesigned processes, enabled by better capability (ASRS, fat labels and RDS, etc.), planners now schedule vehicles based on near-term forecast aggregate cubic requirements (that is not SKU x qty specific), create the stock transfer order only 1 day in advance, still at total requirement level (not vehicle-specific), and the local DC operators determine which SKU x qty to put onto the individual vehicles only four hours in advance of vehicle arrival.

"This turnaround time is still dropping. Ideally, in future we'll wait for the truck to arrive on site before we specify which SKU x qty will be picked and loaded for that vehicle. The

advantage is that we maximise the availability of newly-available stock, and avoid the need to continually change plans made days earlier."

As well as fast-moving supermarket goods, KCA also deals with some highly specialised and low-volume items for hospitals and other specialised businesses through its B2B divisions. And while the receiving systems of these customers have nothing like the level of sophistication of a Coles or Woolworths, the SSCC is still uniformly applied.

"They're not there yet, but they will be one day," Mario Carniato explains. "We're already seeing a higher level of logistical organisation with customers like NSW Health. We introduced GTIN barcodes on all levels of packaging 30 years ago, across our entire product range, even in the B2B divisions, before they were really being requested by customers, so that we'd be ahead of the curve. Implementing this system now allows us to be proactive and add more value to our clients' businesses."

Dexion and Kimberly-Clark designed the new DC to meet projected demand and technology in the year 2015. And while there's plenty of room for the business to grow, one suspects that Mario, Jeff and the rest of the team will have their eyes on a farther horizon long before then.

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