

Healthy Distribution: It's All In the Picking



PickDirector software generates the required number of shipping labels. After scanning a label, a pick-to-light display tells pickers how many items are required to fill an order.

Blackmores, Australia's leading natural health company, manages to keep those retailers supplied with the right products at the right time by synchronizing distribution with manufacturing. It recently consolidated packing, distribution and its main offices into one campus at Warriewood, on Sydney's northern beaches. The Blackmores facility brings the company's manufacturing and fulfillment operations under one roof for the first time in more than 15 years, providing efficiencies and cost savings to the operation.

This 70-year-old company supports a customer base of more than 5,000 health food stores, pharmacies, supermarkets and health practitioners throughout the country. It has also established strong export markets in the Australasian (Oceania) and Southeast Asian regions. Good manufacturing practices and supply chain innovation have been fundamental to this growth.

Blackmores consolidated manufacturing and distribution of its nutrition products in one site to satisfy growing market hunger. Their recipe includes pick-to-light, voice and RF picking systems integrated by a new software package.

By Jim McMahon

Retailers are challenged to keep up with the rapidly changing tastes of their customers. When it comes to diet management, consumer habits can change as fast as the nutrition trends they follow. That makes the job of the suppliers to those retailers even harder as they juggle the multiplying demands of multiplying retailers worldwide.

"Bringing our operations under one roof not only provided direct supply chain savings in excess of one million dollars per year, it also enabled us to significantly streamline our supply chain and enhance productivity across the board," says Blackmores' director of operations, Liz Burrows. "We've installed an additional production line in the new manufacturing facility, giving the business a 20 percent increase in production capacity to support future growth."



Once past the check-weighing system, cases for completed orders are conveyed to a sorter and automatically diverted down one of four shipping lanes for palletization and shipping.

Integrated Pick Systems

For the DC, Dematic (www.dematic.us) was brought in to build out the material handling system including conveyors and sortation equipment, with particular attention to automating the company's order picking, including voice picking, pick-to-light systems and RF.

A key factor when planning the IT strategy for the Blackmores campus was to identify and eliminate potential points of failure within its IT systems. Dematic integrated the company's put-away and replenishment functions within PickDirector, a software package that interfaces with Blackmores' host computer system.

The software supports a wide range of picking hardware and integrates with routing and sortation systems to increase efficiency and track containers and their contents. Essentially, a WMS is not needed, as the inventory data from the ERP (enterprise resource planning) system is pushed directly into PickDirector. It is a Windows and SQL database product that is able to operate voice picking technology, pick-to-light systems, put-to-light systems and RF-based picking solutions in a single platform.

With this software providing the interface for the DC's

picking systems, Blackmores was able to decommission a number of its prior servers, systems and interfaces. This simplified its distribution IT systems architecture, improved operational reliability and reduced its IT system management requirements.

"Blackmores' DC pick system incorporates high flexibility to ensure efficient material handling, storage and order fulfillment, even if its distribution requirements were to change over time," says Soeren Schauki with Dematic. "This was necessary because the company's SKU profile has changed considerably in recent years as a result of market growth and changing consumer behavior."

The new DC, which processes up to 500 orders per day, provides storage for 5,000 pallets housed in a combination of narrow-aisle, double-deep and selective racking up to 28 feet high. The various storage systems are serviced by a mobile material handling fleet, including wire-guided trucks, double-deep reach trucks and lift trucks. Separate, non-DC storage areas are provided for raw materials, packaging and quality control.

Split-Case Picking

All of Blackmores' split-case products are picked from a pick module comprising two aisles of carton live-storage and a small area of static shelving. A central, powered take-away conveyor with gravity conveyors on either side transports orders through the pick module, while an automated carton erector delivers empty cartons direct to the pick face via an overhead conveyor.

The split-case product locations within the pick module are equipped with pick-to-light alphanumeric displays, a function of the new software, enabling fast and accurate paperless picking. The clip-on displays are easy to reposition, making it easy to alter the configuration to accommodate changing layouts and product dimensions.

Pre-cubing software determines the size and number of cartons that will be required for an order, with PickDirector generating the required number of barcoded shipping labels. To begin an order, the operator applies the first label to the relevant sized carton and scans it. If any picks are required within that zone, the pick-to-light display indicates where and how many items are required, with the order proceeding through the pick module until all items for the order



Blackmores' director of operations Liz Burrows with Dematic's Soeren Schauki.

have been picked.

When a carton is full, or the order is completed, it is pushed onto the central powered take-away conveyor which transports the carton to packing via a check-weighing station.

With more than 50 percent of Blackmores' customers preferring to receive electronic invoices, only those orders requiring a printed invoice are diverted to an invoice station. The sealed cartons are then conveyed to the sorter where they are automatically diverted down one of four shipping lanes, and consolidated for shipping.

Full-Case Picking

The trend towards larger pack sizes in high volume product categories, such as fish oil capsules, together with strong growth in supermarket sales and export markets means that Blackmores now processes a much higher volume of full-case orders than it did just a few years ago.

Fast moving, full-case SKUs are picked from a combination of pallet live-storage and selective racking within the full-case pick module. Voice picking is used for picking full case SKUs which are labeled and placed directly onto a central take-away conveyor. Other full-case products are picked to pallets directly from bulk storage locations. Full pallets for larger customers and export orders are also picked from the bulk storage location and transported by lift truck.

The system takes order information directly from the company ERP and delivers it to the picker. With no paperwork, operators pick with both hands instead of just one. Tasks such as reading, writing, and searching for stock

locations are eliminated. Pickers wear a portable, belt-mounted speech recognition device and a headset. The terminal communicates to the host computer via standard RF. This paperless picking method eliminates pick lists. Operators simply listen, speak and scan.

"The hands-free, eyes-free feature of voice picking is providing productivity benefits," says Stephen Vile, Blackmores' supply chain manager. "We are now able to pick full cases twice as quickly as before, and with only half the workers. For the first few weeks we ran our existing RF system in conjunction with voice picking, until all of our people were familiar with the new technology. The voice picking performance was far superior."

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Jim McMahon is an independent technical writer who covers engineering solutions, technology and automation.

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