

MM&D

MATERIALS MANAGEMENT & DISTRIBUTION

CANADA'S SUPPLY CHAIN MAGAZINE

July/August 2015
\$15.00

Getting what you need

MM&D's Equipment Roundtable looks at how to ensure you get the right goods for your operation. —Page 16

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Publication mail agreement #40063170.

Getting what you need

Our Equipment Roundtable looks at trends driving warehouse equipment and how to ensure you are selecting the right tool for your needs

**Equipment Roundtable
panelists, from left to right:**

John Ferrari, senior vice-president, engineering, Konstant; Owen Moore, principal, BeWhere; Bruce Buscher, vice-president, Jervis B Webb; Lisa Vegso, general manager, Canada, Peco Pallet; Stan Dunton, international sales manager, Buckhorn Inc; Albert Goodhue, partner, GCL.

By Emily Atkins

MM&D recently brought together a group of warehouse and DC equipment experts to discuss the trends and changes in the business environment that are affecting the choices of warehouse equipment being made.

Participants on the panel were: Bruce Buscher, vice-president, Jervis B Webb, in the factory automation/distribution automation group; Stan Dunton, international sales manager, Buckhorn Inc; John Ferrari, senior vice-president, engineering, Konstant; Albert Goodhue, partner, GCL; Owen Moore, principal, BeWhere; and, Lisa Vegso, general manager, Canada, PECO Pallet.

We asked them to identify the problems and challenges DC and warehouse managers must handle in their operations. What are the demands they are facing, created by both internal and external factors?

The group identified several areas that are affecting the way warehousing gets done. These included:

- The growth and evolution of e-commerce;
- New requirements in customer service levels;
- The pressure to reduce costs and gain efficiencies;
- Growing need for order fulfillment and the cost of labour to do that; and,
- The role of technology in optimizing operations.

The growth of e-commerce is seen by all to be a huge influencer on DC operations. And this is making for some big operational changes.

But behind it all, said Albert Goodhue from GCL, is the amount of information available now. "Information is the biggest transformation that the industry is facing today. Basically, a distribution centre exists in order to service the customers. What technology can bring, definitely, is behaviour of customers, the big data."

Forecasting has always been key for DC management. But with so much more data being collected about customers, demand, peaks and troughs, Goodhue asked: "What is the ability of the DC manager to make decisions using that information?"

It allows for better service time, because the product is the right quantity at the right place for the service. "The paradox of this is that we're passing from managing pallets to a retail store where everybody goes to



Albert Goodhue

the store, to now breaking that pallet into units, then shipping that same pallet into 500 different orders," Goodhue said.

Equipment Highlight

Pallet preferences

"When I joined PECO two years ago, it was clear the Canadian market had a preference for stringer pallets, at least historically," said Lisa Vegso. "And we were challenged with coming into the Canadian market, working on bringing our service here. Do we introduce a stringer pallet?"

But what became apparent after talking with retailers and manufacturers, is that the market is really undergoing a transition to the block-style pallet.

Vegso says the trend is being driven mainly by the retailers, but with gradual, growing acceptance by the manufacturers, who are coming to recognize its benefits.

According to Vegso, these include its four-way entry that gives it efficiency gains from a handling perspective. It also weighs 20 to 30 pounds less than a traditional stringer pallet, which provides opportunity for cost savings from a transportation standpoint.

But what's happening now, Vegso adds, is some retailers are mandating a particular type of pallet. "So it's now become a mixture of stringer and block pallets and that creates a level of complexity," she said. "So when we talk about trying to drive efficiencies, the retailers are now receiving a mixture of block and stringer pallets."

She cited Costco, as an example that a couple of years ago moved to mandating block pallet-only acceptance, for in order to drive complexity out of their business. "I anticipate in the next couple of years, we're going to see other retailers move and take a similar stance in the marketplace," she concluded.

▶ MM&D's Equipment Roundtable is an editorial feature, made possible with the support of the following companies.

Their input was exclusively through their participation in the panel discussion.



KONSTANT™





John Ferrari

The proliferation of orders, growing demand for high levels of customer service, order perfection, and increasing speed were all factors panelists noted.

“The biggest challenge is you’re handling more orders and smaller-sized orders, so you’re moving

away from pallet picking and case picking into piece picking and managing a lot more orders in smaller quantities,” said Lisa Vegso from PECO Pallet. “I see that as the biggest challenge that warehouse managers are going to be facing with e-commerce. And what technology can assist with that?”

John Ferrari of Konstant believes the answer is in reducing the amount of time a picker has to travel to complete an order. One possible solution is “the introduction of a customized pick module system, designed for split-case and full-case picking. It integrates gravity pallet flow and carton flow by transporting product from your replenishment rack to the picker.”

An added benefit is flexibility. “If there’s a change in SKUs, if there’s an increase in product volume, they can handle that,” Ferrari said. “And they also integrate, for the most part, some degree of automation. The other thing with pick modules is that they truly reduce the amount of contention between replenishment and picking operations.”

For Jervis B Webb’s Bruce Buscher there’s a chicken-and-egg situation. “Technology can influence a lot of decisions you’re going to make,” he said. “But a lot of the issues we’ve identified actually will drive which technology’s best for you.”

For example, if your DC is located in a region with low labour availability, and “you can’t find anybody to operate your fork trucks, well, then, you better be looking at things like conveyors, or storage and retrieval systems,” he added.

Equipment Highlight

When AGVs and robots marry

AGVs have been on the scene in North America since 1958 or 1959. Robots have been around since the ‘70s.

“They’ve always been looked at as two different entities,” said Bruce Buscher. “The big trend that we’re seeing in warehouse and distribution right now is marrying the two of them together.”

The two already co-exist in warehousing and distribution, he said. From an order picking perspective, for example, a lot of companies want to use robots to do their order picking, because of the speed and accuracy, and they can run it on a 24/7 basis.

But, he continued, it comes down the size of area that you are picking from. How do you get picking robots to cover the huge spaces in some DCs?

“One of the things we’re doing more and more of these days is taking the robot, putting it on the automatic guided vehicle and taking the robot around,” he said.

“The robot is going up and down the aisles on an automatic guided vehicle and doing the picking for the customer.”

The trend is being driven by the availability of powerful new battery technology that allows an AGV to power itself—and the robot riding it—with a 30- to 45-second charging cycle.

As well, a lot of companies are moving to robots because they don’t have to worry about employee turnover, salaries or ergonomic issues.

With vision technology on the robot it can see what it’s picking up, it can pick up one or two pieces and move on. Light picking or voice picking systems may not be required any more because the robot knows how the warehouse is laid out. As well, the whole DC can be in the dark, offering more cost savings opportunities.

“The robot’s never going to forget the layout so all he’s got to know is, ‘I go to this position in the warehouse and my tote or my bin is going to be there,’” Buscher said. “I’m going to pick up a box or I’m going to pick up three pieces, I’m going to load it onto my system then I’m going to move on.”

Driving the trend in warehousing and distribution, Buscher noted, are accountability regulations. And it’s not just retail; pharmaceutical companies are looking at using this technology because of government regulations.

“They’ve got to have accountability and traceability. And what better way to do that? You’ve already got two computers, one running the AGV, one running on the robot; it’s very easy to get that information back to the inventory or the order fulfillment system.”

Planning

Planning is key, the panelists agreed.

“One of the challenges I’m hearing comes down to the design and planning on the front end,” Vegso said. “When we look at e-commerce as a growing trend, that didn’t exist 10 years ago, how do you build a racking system to support the needs today, but then have the adaptability and flexibility to be able to evolve that system as needs change?”

Flexibility is paramount in planning, even when you know what you have to move and store now.

“One of the biggest mistakes any distribution or



Owen Moore

Equipment Highlight

A new use for Bluetooth—asset tracking

A low-energy Bluetooth beacon might make its way into your warehouse soon.

Owen Moore explained how you can put it on your asset or sensitive shipments, and it communicates to cell phones and tablets from about 250 metres. It tells you the current temperature, the lowest temperature, the highest temperature, how many impacts it's had and at how much G-force. It also tells you light exposure.

You download an application on your Android and then you associate the beacon to your phone. From one up to many thousands of beacons can communicate to your phone and then

send that data to a server. It's battery-powered, and that lasts just over two years.

It can be applied throughout your supply chain. You can tell your customers exactly where a shipment is in the supply chain, you can tell them if perishable or sensitive goods have had any damage through impact or exposure to light or temperature.

"This can replace RFID and telematics at a fraction of the cost of both," Moore said. "So this is a tag you can buy for about 25 bucks, put it on a pallet, a more expensive pallet—maybe not a cheaper pallet—and monitor all that information throughout the supply chain."

warehouse manager would make when he's trying to figure out what kind of automation to put in, is—if he knows that he's got all these different shapes and sizes and SKUs—if he tries to find some automation that's going to solve all of his problems," Buscher said. "And 99.9 percent of the time it doesn't exist."

One solution is to capture a reasonable percentage of the volume—Buscher suggested 80 percent as a possible number—that can be managed with standard conveyors and sortation equipment, storage and retrieval and perhaps guided vehicles. And the remainder—the "uglies" as Buscher called them—are dealt with as needed.

Ferrari looked at it from an efficiency perspective, starting with choosing the right storage system to meet your business needs. "Whether you're handling small parts or palletized goods or large, bulky, odd items, you have to be methodical during the design

process, and truly value the utilization of the building cube, that's going to house the racking system," he said. "Most warehouses and distribution centres are going to require a mix of different storage types. And that usually translates into the most effective storage system solution."

Stan Dunton of Buckhorn Inc, points out that the planning process sometimes needs to go a little deeper. "It seems like the returnable packaging we do is the last thing that is thought of in the distribution centre," he said.

The racking gets planned, the retrieval and picking systems get organized, "and then at the very end they say, 'Hey, we need a plastic tote that's 22 inches by 22 inches by 13 and a half inches. Go order 42,000 of those.'"

Unfortunately, sometimes that tote doesn't exist. And DC planners don't realize that it takes time to design and create a mould for a new container, Dunton added.



Lisa Vegso

Equipment Highlight

Sustainable ROI

Proper planning is key to ensuring the equipment in your warehouse or DC does what it's supposed to. But there are other considerations, said Stan Dunton.

"When we approach the DC environment some of the tools that we bring to bear are return-on-investment models. You know, if you're looking at a shipment—let's say a corrugated box on a wooden pallet with some stretch wrap—there's the environmental impact of that, there's the up-front cost of that. If that asset isn't going to be returned and recovered, well, where does it end up going?"

He said it's important to consider the costs of disposable versus reusable assets, not just from a pure cost perspective but also on the ROI and environmental fronts.

"Obviously, a plastic pallet's going to cost more, a plastic shipping container's going to cost more, but when you offset the longevity of that asset and the price-per-trip continues to go down, at a certain point the packaging is free because it's paid for itself," he said. "So we use those ROI models; we use those sustainability scorecards."

There's also a growing trend towards customers wanting to know the environmental impact of the supply chain.

"If your customer or your customer's customer is keeping track of things like that, some low-hanging fruit might be the types of packaging that are being used, and if a substitute material could be used for that packaging. So that's generally how we approach it," Dunton added.

Vegso concurred: “When you’re looking at implementing any type of automation you’ve got to consider what is the container that’s going to be used, whether it’s a pallet or a plastic container. But certainly make sure your automation is aligned with what packaging or what product is going to be moving through that automation.”

If you try sometimes

Assuming that you have the plan and know what you need, the next question for the DC manager is how to persuade senior management to make the investment.

“I think the big trade-off for everybody managing a DC is customer service versus cost,” said Goodhue. “The DC exists because there’s product inside and we have orders coming in. And then they have to fulfill the orders in order to serve the customers. Customer service is the reason why the DC exists, and we want to do it at the minimum cost.”

BeWhere’s Owen Moore turned the problem on its head. “Do good customer service and cost efficiencies

need to be competing factors? Or can you implement some form of technology that allows you to improve your customer service without ramping up customer service personnel, and not have them directly competing?” he asked. “What are the major customer service issues and what are the technologies that help you resolve those issues? I always



Bruce Buscher

look to try and bring in technology that helps improve a company’s ROI.”

Ferrari also looked at the numbers: “I tell people, when you’re purchasing rack, consider the total cost of ownership.”

With racking this means knowing where the impact areas will be and making sure the cost of maintenance is built in. “If rack is not maintained properly the costs of repairs and replacement of components are going to be exponentially high.”

Buscher said the most important point is to know what problem you want to solve and how much you will save by going with a new system. But, he said, “it doesn’t necessarily mean you can justify it.” He points out a customer who is not “saving a dime in implementing this automation. What they are doing is they’re getting 44 percent more efficient with this new automation and the same number of people.”

But it isn’t always as simple as identifying the problem and finding a solution, said Goodhue. Every DC and operations manager sees tons of opportunity in front of him because DCs come with limitations: the height, the building, the materials handling, the lift trucks, the racking, warehouse management systems. But even

for something as simple as using bar-coding it’s hard to get the investment.

He went on to describe meeting with a company that wanted to increase its e-commerce fulfillment operation. “I said to the president of the company, ‘How much are you willing to invest and try to understand this?’ And he said, ‘You know what? My logistics and warehousing fulfillment cost is part of our marketing costs.’”

Because, Goodhue explained, if he wants to give free delivery, free delivery brings more orders, more customers, more revenue, and it costs a million dollars or \$10 million for him to do.

“But I think, for us, as supply chain professionals, e-commerce is only shining a light on us—light that shows we’re a link to revenue.” **MM&D**

Equipment Highlight

Rack standards

With recent advancements in material handling equipment and trends like rising land costs, storage racks are getting higher. But pallets aren’t getting any deeper. According to John Ferrari, tall, slender rack structures can pose a challenge with regard to lateral stability in some of the moderate-to-high seismic zones of this country.

A new Canadian rack standard is currently under development that will ultimately be referenced and enforced through the building code.

“So these are exciting times for the rack industry but also for users,” Ferrari said. “The public will be assured that moving forward, suppliers of storage systems will have to comply with the same minimum design requirements.”

Ferrari added that customers who are in the market for racking should consider that dealing with a rack supplier who has done performance testing and is very up to date with the research being done on rack structures, could result in significant cost savings in the overall storage project.

“It levels the playing field for suppliers of racking,” he said. “And these systems are getting awfully big. So, I think it’s a big step to develop such a document and it’s taken a lot of time. It’s a huge benefit for the storage and warehousing industry in general.”



Stan Dunton