

Sales of automatic guided vehicles on the rise

Technology seen as productivity booster by manufacturers

BY CANADIANMANUFACTURING.COM STAFF ON MAY 29, 2012 2:45PM



Dematic LaserTruck. Copyright © Dematic

Order picking is one of the most physically intensive jobs in the distribution industry, accounting for between 40 and 45 per cent of direct labour force, according to [Full Case Picking – Increasing Productivity by 25% with Driverless Trucks](#) by Marc Wulfraat, president of MWPVL International Inc., a supply chain, logistics and distribution consulting firm in Montreal, Que.

Companies are increasingly turning to automatic guided vehicles (AGVs), which Wulfraat says can increase order picking productivity by about 25 per cent and improve worker safety.

“We believe that this technology provides a relatively affordable solution that delivers a strong return on investment (ROI) for improving the productivity, ergonomics and safety associated with high-volume full case picking operations,” Wulfraat says.

Numbers from the Material Handling Industry of America (MHIA) point to an uptick in AGV sales.

The MHIA’s AGVS Industry Group reported US\$108 million dollars in AGV sales in 2011, which included 925 vehicles and 130 systems—a 25% increase over 2007 sales.

“Based on these numbers manufacturers of automation solutions, namely AGVs, are seeing a substantial interest in this technology and the many benefits companies can achieve through its use,” said Gary Forger, MHIA’s AGVS Industry Group managing executive and senior vice-president of professional development.

“I believe this can be attributed not only to an increasing acceptance of this technology but also because of its proven efficiency and cost effectiveness.”

Wulfraat examined and compared offerings of four AGV providers—Kollmorgen Corporation, Seegrid, Dematic and Crown.

In his view, the technology could be improved by making it more adaptable to changing day-to-day operations. As the systems are designed now, operations have to adapt to the equipment.

“One simple example of this is need to support operators passing each other within an operating aisle,” he explains.

Kollmorgen’s Pick-n-Go

Kollmorgen (Radford, Va.) offers the Pick-n-Go, which is best suited for large distribution centres. It’s suited to facilities with a warehouse management system (WMS) with voice-directed picking, according to Wulfraat. It’s usually deployed with a laser guidance system.

According to the MHIA, about half the AGV guidance systems are laser, with all other systems combined making up the other half.

“There were no installations of wire-guided vehicles in 2010 or 2011, which is due to an increased use of new guidance options such as laser, magnetic tape and optical,” said Sarah Carlson, chair of AGVS.

Dematic’s LaserTruck

Dematic announced back in 2010 it was partnering with Kollmorgen to use the company’s laser guidance system for its LaserTruck wireless forklifts and pallet jacks.

The solution addresses one of the weaknesses of AGV technology—unsophisticated vehicle management, Wulfraat notes.

“What is interesting about Dematic’s approach is that they have designed their technology around the basic philosophy that the operator and the truck should be decoupled,” Wulfraat says.

“This means that both resources can be independently managed to optimize the order picking process.”

Crown’s QuickPick

With Crown Equipment Corp.’s QuickPick Remote Advance System, order selectors walk behind the AGV wearing a wireless transceiver glove and use it to direct the vehicle to its next location, Wulfraat says.

“The benefit of Crown’s solution is a company can test-drive the solution by purchasing a couple of trucks to see if it’s something that can improve productivity,” Wulfraat says.

“The investment cost is low and there is no information technology investment, which can make this an attractive option for companies seeking a low complexity solution that does not require extensive bandwidth to deploy.”

Seegrid’s SaffetyPick

The Pittsburgh, Pa.-based Seegrid SafetyPick takes a different approach using vision-guided technology. A series of digital motion video cameras film 360-degrees around the AGV and record the movements. Deploying a SafetyPick simply involves taking the pallet jack on the desired route. After the pallet jack has been taught where to go and how to get there, it will do it on its own.

Wulfraat says Seegrid has been successful with companies needing to move pallets over long horizontal distances, such as between a manufacturing facility and a warehouse.

According to the AGVS Industry Group, the manufacturing industry is the top buyer of AGVs, accounting for 75 per cent of all systems sold in 2011.

“The remaining 25 per cent is in distribution centre operations,” says Randy Winger, vice-chair of AGVS. “There is a shift underway as AGVS expand increasingly into distribution centres. In fact the number of distribution centre applications increased 50 per cent since last year and seven times compared to 2007.”

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