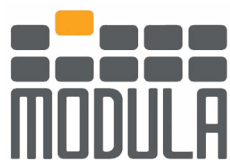


USING AUTOMATION TO SOLVE WAREHOUSING'S BIGGEST LABOR CHALLENGES



MODERN
MATERIALS HANDLING.



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A PERSISTENT PROBLEM that's been exacerbated by the global pandemic, the current labor shortage is having a major impact on the nation's warehouse operators. A sector with traditionally high employee turnover rates, logistics providers are particularly vulnerable to labor challenges thanks to the massive increase in e-commerce orders, the remote work trend and constant supply chain disruptions. The idea that warehouse work is laborious, unrewarding and time-intensive doesn't help its cause.

As companies work to keep pace with demand and maintain their workforces, more of them are turning to automation for help with this increasingly difficult balancing act. By incorporating automation into their warehouse and distribution center (DC) operations, organizations are experiencing significant benefits such as higher throughput levels, improved safety, higher efficiencies and the ability to redeploy human labor to more important projects, not to mention freeing up valuable floor space for new customers.

This white paper explores the new labor reality in the U.S., explains the role that automation is playing in helping companies overcome their most pressing labor challenges, and describes how one global manufacturer uses automated vertical lift modules (VLMs) to offset the current labor challenges, reduce its order picking time from 30 minutes down to 5 and maintain 99.99% equipment uptime.

MANAGING IN THE "PERFECT STORM"

Consumers rapid shift to e-commerce from in-store shopping came right at a time when warehouses and DCs were already struggling to find and retain employees. Almost overnight, online ordering became the shopping method of choice for both B2C and B2B customers. As they worked to keep up with the onslaught of smaller, more frequent orders arriving in higher velocities, fulfillment

centers and DCs suddenly found themselves in need of more human labor.

However, this time around, everything from workplace health concerns to shutdowns to the remote work trend (among other issues) thwarted companies' ability to find, hire and retain the necessary labor force. In 2021, supply chain issues such as inventory shortages, transportation constraints and port congestion only exacerbated the problem.

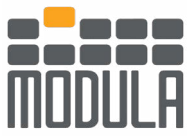
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— CSCMP/Annual State of Logistics Report

"Companies have long been interested in automation, but the fragility of human labor in the pandemic highlighted its value," CSCMP points out in its Annual State of Logistics Report. "As the pandemic spurred reductions in human interactions, interest grew in robotics and other automated processes. This was true not only across complex warehouse automation systems, but

also for simple interactions such as confirmation of delivery, now increasingly accomplished with a photograph rather than a signature." Automation has become the key to maximizing the utilization of the warehouse asset.

As a sector that was already using automation pre-pandemic, warehousing took an even bigger interest in technology as a way to augment their human labor forces and meet customer needs while also maintaining profitability. With the number of individual e-commerce orders escalating, these organizations took a hard look at their current fulfillment setups and realized that they needed a serious upgrade.



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Here's why: the traditional shelving systems that many warehouses use to store goods force employees to spend their days walking back and forth through the aisles and stooping low or reaching high to retrieve items. In other situations, they have to climb ladders or use lifting equipment to retrieve items that are stored in high places.

At best, these activities cause stress and strain. At worst, they can lead to serious

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injuries. When automated storage solutions are put in place, workers no longer have to “go to” the items; those goods are delivered right to them. Items are stored in a tall, efficiently-packed machine, and a worker touches a screen to “withdraw” the required items. He or she can remain in a localized area,

retrieving all of the items needed without walking the floor and passing by other workers—a key requirement for a socially-distanced workplace.

The VLM delivers the items to the picker at an ergonomically-proper height, allowing them to retrieve or restock with no physical stress. And because the machine ensures that the right item is picked—not the worker—the mental strain often associated with picking and packing is eliminated.

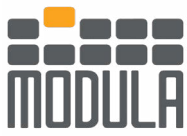
WORKERS: SIMPLY NOT AVAILABLE ANYMORE

During the pandemic, roughly 11 million people left the U.S. workforce, and many of them have either switched careers or have yet to return to their jobs. As a result, many people who would have been candidates for warehousing jobs are simply not available anymore.

“Warehouse and DC operators are having to pay more for low-skilled workers” says Rick Havener, North America director of sales for Modula, a U.S. manufacturer of VLMs and automated storage and retrieval systems (AS/RS). “This and other factors have made labor a major problem in the distribution environment, where social distancing has become an imperative that's just not practical in a 'manual' setting.”

Modula helps companies work through these challenges and fully leverage the power of automation in their quest to overcome the labor shortage. Once in place, Modula's automated storage solutions enhance accuracy and speed, both of which have become table stakes for any company delivering its goods in the e-commerce environment where orders must be picked, packaged, labeled, and shipped as quickly as possible in order to meet increasingly slim delivery windows.

With traditional warehouse shelving, a picker must walk to the goods, a process that takes time and can result in many different types of distractions along the way. In most cases, this worker can pick up to about 40 lines per hour. With a properly-aligned VLM system in place, that rate shoots up to at least 150 lines per hour, and in many cases as high as 250 lines per hour. “The productivity gains are huge with VLMs,” says Havener, “and therefore the requirement for labor is reduced substantially.”



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SAVING TIME, MONEY AND EFFORT WITH AUTOMATION

Based in Switzerland, GF Machining Solutions is one of the world's leading providers of machines, automation solutions and services to the tool and mold making industry and to manufacturers of precision components. A part of the Georg Fischer Group, GF Machining Solutions (GFMS) makes electric discharge machines, high-speed/high-performance milling machines, 3D laser surface texturing machines, and 3D metal printing machines (among other products).

Known for its high levels of innovation, GF Machining Solutions operates in more than 50 countries and has production facilities and research and development centers in Switzerland, the U.S., Sweden and China. With about 250 employees in North America, the company has its U.S. headquarters in Lincolnshire, Ill. Using a hub-and-spoke distribution model, GF Machining Solutions supplies all of its U.S. locations from a master warehouse in Woodridge, Ill. Six years ago, the company realized that its existing warehouse automation was outdated and no longer serving it very well. This, in turn, directly impacted its customer service levels and its service technicians' ability to serve its customers in a prompt manner.

"We concluded that we required an update and we wanted to leverage the latest technology for greater picking efficiency and increased uptime," says Stan Pokrzywa, operations manager. "It's a difficult conversation to have with customers that have invested millions of dollars in GF machine tools, suggesting we possibly can't maintain uptime of their equipment just because we have aging infrastructure."

Mark Sanhamel, director of operations, says that GFMS has invested millions of dollars in domestic parts inventory to maintain the uptime of its prestigious clientele and that it was "only logical to

modernize the company's logistical capabilities."

When a service technician introduced Pokrzywa to Modula and its U.S.-made VLMs, he says the decision to replace the company's aging automation with three Modula VLMs was "pretty easy." Pokrzywa says the GF Machining Solutions team was particularly impressed by the company's modern, state-of-the-art product options. "Some companies haven't changed their automation technology in the last 20 years," he says, "so Modula won out pretty easily over the other vendors."

Modula also offered ease of integration that other vendors couldn't be able to provide.

"We looked at what was going to be involved and at the pre-setup, and Modula's plan was superior to anything else out there," says Pokrzywa. "That made our decision easier, and I'm happy to say everything turned out like Modula said it would. It was by far one of the smoothest and error-free integrations we've ever experienced."

Because the VLMs are so easy to use, training new employees is a fast and simple process. Once trained, individuals have a picking capacity that's roughly three times faster than GF Machining Solutions' previous system. "Our Modula VLMs allowed us to take what might have been done by four people down to just one person," says Sanhamel, who estimates that machine uptime has been about 99.99% over the last six years. "We don't have to worry about these units going down."

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The company has also reduced its order picking time from 30 minutes down to about five minutes. Put-away is also faster than the company's previous, cart-based system. "We couldn't get everything put away in eight hours. Now, we can get everything put away and picked within that time frame," says Sanhamel. "Everything is put away by noon, and then in the afternoon we start the picking process."

When the pandemic emerged in 2020, GFMS was well prepared to continue serving its customers while also onboarding new warehousing employees and ensuring safe social distancing for those workers. "Job openings in logistics alone are at a 20-year high; finding the right people is extremely difficult," says Pokrzywa. "We wouldn't be able to operate our infrastructure like this if we didn't have this automation in place."

DOING MORE WITH LESS

As they look for ways to do more with less, today's warehouse and DC operators are increasingly turning to technology for help. Using VLMs, these organizations can not only reduce their reliance on human labor but also free up employees to focus on more important tasks, but they can also greatly reduce picking errors, improve worker satisfaction and enhance their customer service levels—all of which can be unattainable in a constrained labor environment.

With the Infrastructure Investment and Jobs Act expected to provide \$944 billion in total

spending over five years, totaling \$550 billion. In new spending, warehouse operators that adopt smarter solutions now may be able to curtail the potential tax implications of this bill.

"The infrastructure package could prove to be a double-edged sword for logistics companies, however, especially as the Biden administration seeks to secure funding through corporate tax increases," CSCMP points out in its report. "To prepare, logistics companies should seek to offset tax increases through bolstering efficiency and adopting smarter solutions, while also cutting costs where possible. Automation can satisfy all three of these issues. VLM's can add another arrow in the quiver: free up valuable floor space to onboard new customers and increase revenue.

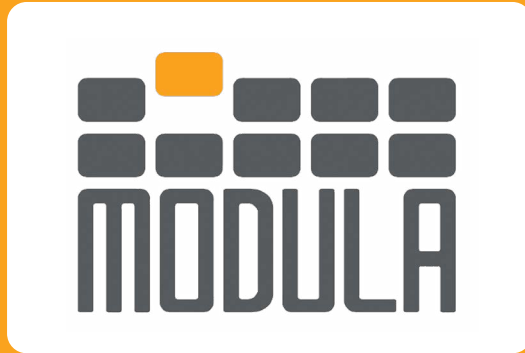
With a typical return on investment (ROI) of nine to 18 months, Modula's automated equipment ensures a quick payback while also solving inefficiencies, saving time

and reducing reliance on labor. "We're at a point where there is no labor available, and especially not at the prices companies were previously willing to pay for it," Havener concludes.

"The question is: do you shell out more for labor, or do you adopt automation that will come to work every day in exchange for a fixed amount of overhead?" Havener asks. "Once you realize that automation is a capital expense with a good ROI, the answer to that question becomes pretty clear."

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ABOUT US

The leading provider of modern storage solutions and inventory management systems

Modula is a leading manufacturer of automated storage solutions, designed to optimize space and improve picking and storage operations for any industrial sector or environment. Our vertical lift module (VLM) line maximizes the storage potential of high-ceiling facilities, securing items in enclosed units up to 54 feet tall. Our horizontal carousels are ideal for low-ceiling environments, as well as those seeking maximum throughput. For both solutions, automated delivery dramatically increases productivity and saves operators from unnecessary bending, walking and reaching for parts.

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