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Implementing ASRS to Support Social Distancing

With the CDC recommending social distancing to prevent the spread of COVID-19, automated storage and retrieval solutions can support social distancing in the warehouse through assigned work zones 6-feet apart, reduced labor requirements and zero interaction processes.

Implementing ASRS to Support Social Distancing

Preventing the Spread of COVID-19

The coronavirus has created a pandemic that has impacted manufacturing and distribution operations in so many ways. When "stay at home" orders went into effect some operations saw unprecedented growth rates while others temporarily shut down. Many operations and facilities managers are now faced with the task of assessing current processes, reducing employee contact and interaction and adjusting to the guidelines from the Centers for Disease Controls and Prevention (CDC) to reduce the threat of exposure to COVID-19.

Social Distancing is the new normal and has made its way into the workplace, including manufacturing and distribution centers. It's a simple concept—maintain a 6-foot distance between you and the people around you. While it is a challenge in the office where people are in cubicles, it's an even greater challenge in the warehouse where people are required to be onsite to perform their job and are crossing paths frequently. Adjusting a facility to accommodate these changes can be quite the undertaking.

Social distancing is just one of the long-term effects COVID-19 will have on manufacturing, distribution, logistics and supply chains globally. Adapting your warehouse operations for social distancing will not only provide your workers a safer work environment, it will help prepare you for a second wave of the virus. This white paper will review how implementing automated storage and retrieval systems (ASRS) can help support social distancing in the warehouse.

How ASRS Technologies Support Social Distancing

Optimized Work Zones for Social Distancing

The use of ASRS allows for easy assignment of work zones. Multiple units can be combined into one pod or work zone, and one person can be assigned to each work zone. Instead of workers walking up and down aisles throughout the warehouse criss-crossing paths throughout the day, they can now be assigned to a specific zone for the entirety of their shift to maintain a 6-foot distance from other workers.

Work zones can be designed 6-feet apart. To protect employees further, zones can be separated by plexi glass dividers.
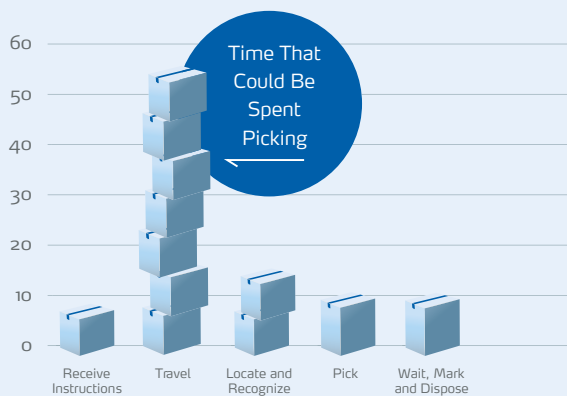

Work Zone One   Work Zone Two   Work Zone Three

Maintaining Social Distancing
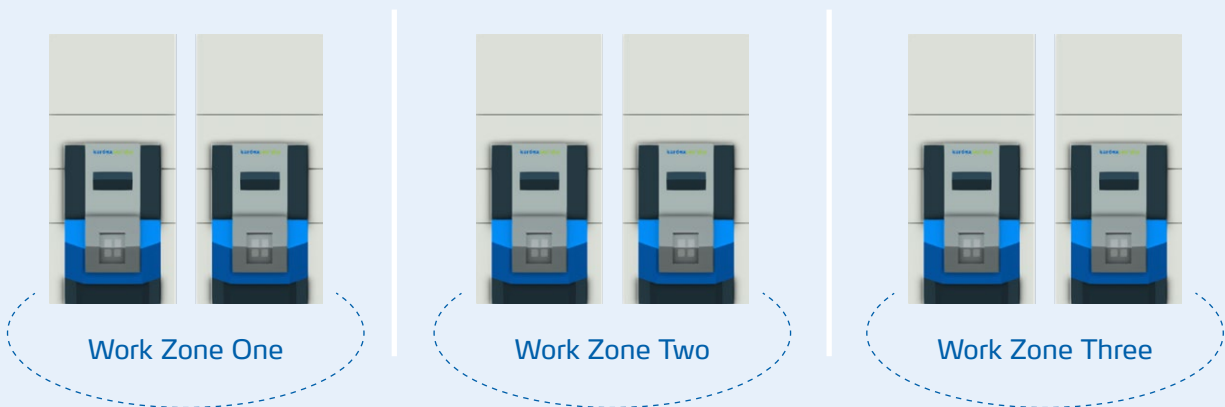
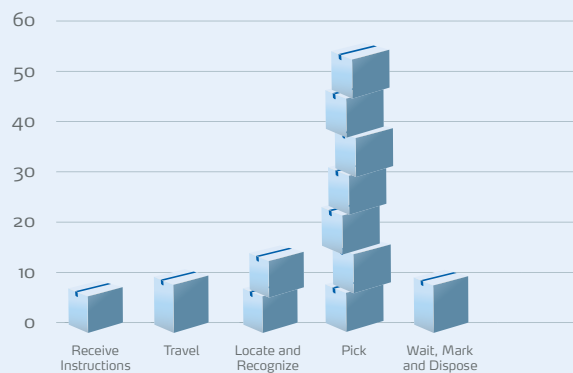**Operate with Reduced Staff while Boosting Productivity**

Automated storage and retrieval systems reduce labor requirements while increasing productivity, which is particularly helpful as implementing social distancing requires overall less people in the warehouse. Designed on the goods-to-person principal, ASRS bring stored parts to the operator with the touch of a button. This allows the operator to remain in one area to pick parts instead of spending time walking up and down aisles searching for parts.

Not only do these systems provide workers more distance from one another, they increase productivity by eliminating the time spent walking up and down aisles to search for stored items. Automation keeps workers safely within their assigned workstation, less fatigued and more productive. Installing an automated storage and retrieval system can reduce labor requirements by as much as 66%, enabling current workers to be reassigned to new tasks (such as cleaning and sanitizing) while easing hiring pressures and labor expenses.

Before Automation

Time That Could Be Spent Picking

Receive Instructions	Travel	Locate and Recognize	Pick	Wait, Mark and Dispose

After Automation

|				
Receive Instructions	Travel	Locate and Recognize	Pick	Wait, Mark and Dispose

In addition, goods-to-person picking systems can also speed up item picking for a boost in throughput, yielding higher rates of product picked or moved through the facility within a given period of time. This allows an operation to extend order cutoff times, so more orders can be filled within a day, or to pick up to 400% more items with the same number of workers during the same amount of time.

Making Space for Distancing

Social distancing might seem near impossible for manufacturing and distribution facilities that are already squeezed for space. In some facilities, creating distance between workers means using only every other workstation, which will dramatically decrease productivity. ASRS recover up to 85% of your existing warehouse, stockroom, toolcrib or parts area.

This essentially enables you to take space from an existing area and reallocate it to another area to accommodate social distancing. This could be the solution to finding the physical space for social distancing in manufacturing cells or in a distribution shipping area.

Before Automation

After Automation
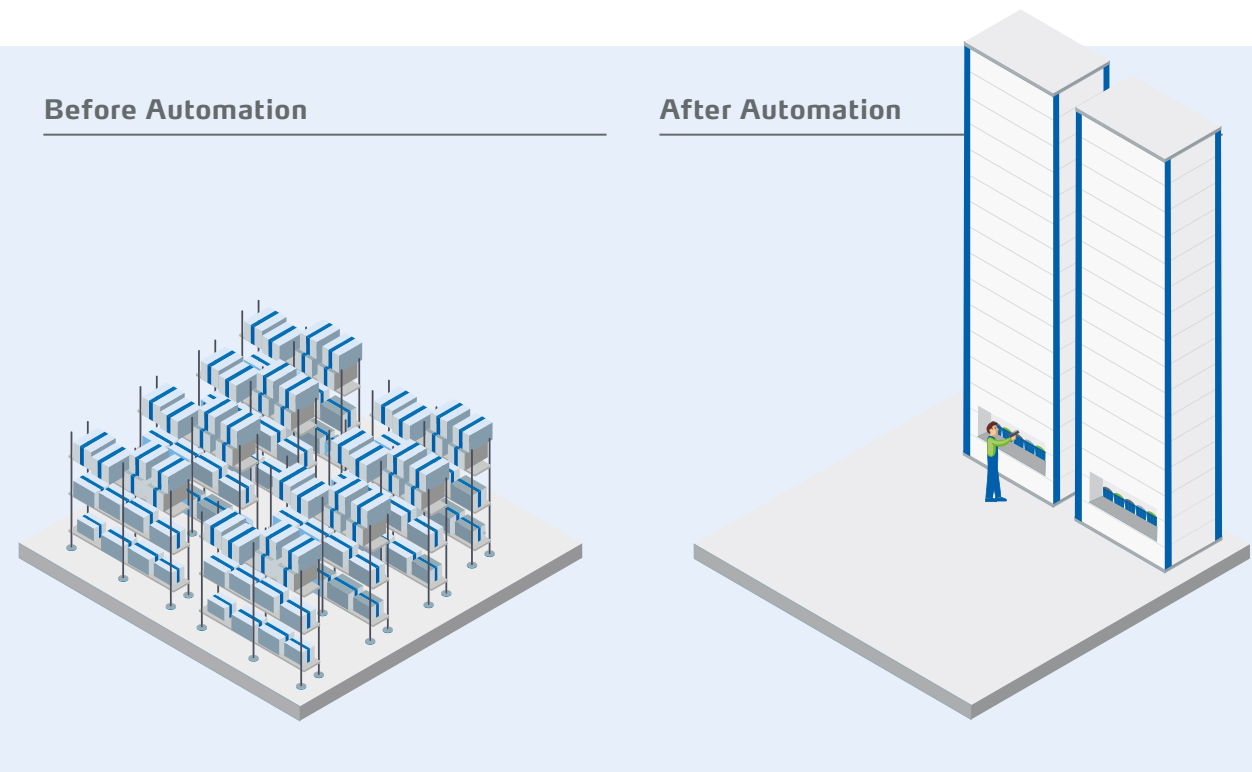
Implementing an automated solution immediately reduces the amount of square footage required to store items within static shelving and pallet rack in two ways: one, by utilizing previously unused overhead space, and two, by compressing items stored within the technology for greater storage capacity. This is because the volumetric efficiency of each automated technology is so much greater, shown below.

Storage System Comparison of Net Cube Capacity & Space

| Technology	Capacity (Wasted Space Within Unit)	Space (Wasted Vertical Height Based on 20' Ceiling
Static Shelving / Rack	50–70%	70%
Horizontal Carousels	25%	30%
Vertical Carousels	20%	10%
Vertical Lift Modules (VLMs)	10%	10%
Vertical Buffer Modules (VBMs)	15%	10%

Automated Storage & Retrieval Technologies

Vertical Buffer Modules (VBMs) – In the middle of a multi-segment shelving system is an aisle, where a moveable mast with a telescopic gripper operates. The control unit sets the gripper in motion picking a bin and transporting it to a picking station.

Vertical Lift Modules (VLMs) – An enclosed automated storage and retrieval system that incorporates two columns of trays with a central inserter/extractor that automatically locates and retrieves stored trays from both columns, then presents them to the operator at a waist-high pick window. These systems save up to 85% of floor space compared to static shelving and rack.

Vertical Carousels – Comprised of a series of shelves that rotate around a track—similar to a Ferris wheel—these automated storage and retrieval systems quickly deliver stored items to an ergonomically positioned work counter at the operator's command. When compared to static shelving and rack, they save up to 75% of floor space.
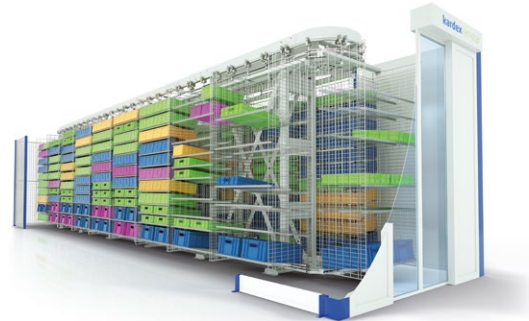
Horizontal Carousels – Consisting of bins mounted on an oval track that rotate horizontally to deliver stored items to an operator. These automated storage and retrieval systems save up to 60% of floor space when compared to standard shelving and rack.

Implementing & Maintaining an ASRS

Quick, Easy & Safe Purchase & Delivery

The development, design and proposal of the solution can be done with only one visit to your site. We will conduct one on-site visit to assess your current inventory and storage method. During this time, we measure physical spaces and SKUs to determine the type and quantity of automated storage and retrieval systems needed for your application. If an on-site visit is not possible currently, we can work together with you to virtually assess your SKUs and provide the best solution.

The required unit(s) can be delivered quickly to your exact location, often in a matter of weeks.

Short Installation Time

Our installation technicians are onsite for a limited time. Depending on the number of machines, most installations are completed in less than one week. Our technicians abide by local safety regulations as mandated by the CDC and government officials. Further, they will adhere to any additional internal guidelines while at your facility including PPE use, safety training, etc.

Remote Support

Remote Support is a cloud-based service platform which monitors installed Kardex Remstar solutions and conducts services remotely when possible. This helps companies minimize downtime and increase productivity while remaining socially distant. Assistance can be provided quickly, efficiently and most importantly remotely. Remote Support consists of two applications, Remote Assistance and Remote Analytics.

Remote Assistance

The Remote Assistance solution allows for faster reaction times and the ability to proactively fix upcoming errors remotely. Remote Assistance is the digital lifeline to Kardex Remstar machines, which monitors the condition of intralogistics systems. The solution monitors everything from simple warnings to fatal errors. This allows us to proactively contact you if we see problems occurring, remotely access the machine to fix errors proactively, before major issues arise.

Remote Analytics

Further, operational data such as picking cycles are analyzed as well. Kardex Remstar can notify you when machine utilization is lower than expected, leading to a higher process reliability and effectiveness.

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Implementing Social Distancing

COVID-19 has impacted the manufacturing and distribution world in a way we've never seen. In order to protect workers and business operations, sustainable social distancing solutions are critical. Automation is the answer. Implementing automated storage and retrieval systems into your operation will help facilities comply with social distancing recommendations and prepare for future virus outbreaks.

Practice proper hygiene and don't forget to wash your hands. Stay safe!

About Kardex Remstar

Kardex Remstar, LLC, a company of the Kardex Group, is a leading provider of automated storage and retrieval systems for manufacturing, distribution, warehousing, offices and institutions. For information about the company's dynamic storage solutions visit www.kardexremstar.com.