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THE DEFINITIVE GUIDE TO WAREHOUSE AUTOMATION

Your Resource For
Understanding Automation
And How It Could Benefit
Your Warehouse Operations

OVERVIEW

Warehouse management is evolving.

Over the last few decades, warehouses and distribution centers have moved from mostly manual processes, with manual labor and paper-based tracking and reporting, to automated processes where technological advances support better resource utilization and space optimization.

The entire world is moving toward automation to drive efficiency and speed, and many warehouse managers are making that move as well. Companies across a multitude of industries face increasing market pressures from commoditization, supply chain transformation, rising consumer expectations and a shrinking pool of skilled labor. Warehousing and distribution managers are turning to automation as a highly effective way to gain efficiencies, cut costs and scale operations.

This essential guide covers the state of automation and why many businesses are moving toward automated solutions. It reviews trends in automation, common functions to automate and expected benefits, as well as, how to assess your automation readiness.

Read on to discover the data and metrics you should analyze in order to determine which piece of automation to tackle first. You can also use this guide to calculate key savings that help you justify an investment in automation. As you begin your automation project, reference the list of five things to keep in mind to ensure a successful implementation.

The State of Automation & Driving Factors

STATE OF AUTOMATION

Warehouses are faced with increasing complexities such as rising customer service expectations, labor availability challenges and less time for scheduled downtime. With the proliferation of giant e-retailers like Amazon leading the way with automation and driving fast-paced distribution, the idea of the autonomous warehouse is becoming more widespread.

While many manufacturing and distribution companies are planning to implement autonomous solutions, most of them are not there yet. What's their main motivation for automation? The answer lies in the importance of the consumer, the decentralization of distribution centers and the changing labor force, all combined with advancing technologies within the warehousing sector.

DRIVING FACTORS

1

It's all about the consumer.

Many companies are changing their warehouse processes to meet consumer behaviors and expectations. Customers demand faster, more accurate fulfillment at reduced costs. Today's consumer wants instant gratification. With the rise of next day (and same day) delivery, distribution centers need to fill orders as quickly as possible because the customer of today requires speed fueled by the demand associated with e-commerce and the visibility provided by social media.

2

More decentralized distribution centers.

Warehouses and distribution centers are becoming more regionally located and decentralized to fill orders faster. Fulfillment is becoming more complex and requires more agile and rapid response to meet consumer demands.

The State of Automation & Driving Factors

DRIVING FACTORS

3

Technology is making the impossible, possible.

Technologies such as voice recognition software and visual-based solutions can help speed up worker onboarding and reduce training time by up to 50%. Voice technologies also support all key languages, broadening the work pool selection and enabling more diversity.

4

The labor force is changing.

Warehouse labor continues to be scarce and is starting to include a larger mix of non-native speaking workers. This language barrier presents a challenge on its own, and when you factor in the high turnover typically seen in warehouse jobs, it can be difficult to maintain high levels of productivity. Utilizing automation technologies such as the voice software mentioned above helps managers easily assimilate and integrate non-native speakers into their workforce.

Another labor force trend includes aging warehouse management. As these workers retire, organizations lose "tribal knowledge" that is cultivated through long-term experience. By adopting technology and automation, operations can maintain best practices and help the changing workforce integrate more quickly into the existing team.

Finally, employee well-being is vital for satisfaction and retention. Employees desire safety, diversity and social justice. Distribution center operators need the right technology and equipment to help employees feel inspired and satisfied with their jobs.

ALONG WITH THE CHANGING WORKFORCE DEMOGRAPHICS AND INCREASED LABOR COSTS, INDUSTRY GROWTH IS OUTPACING THE LABOR POOL SIX TO ONE.

Trends & Statistics: Automation by the Numbers

75%

A Zebra Technologies report said 75% of IT and operations decision makers plan to move to a Warehouse Management System by 2020 to help manage more locations and SKUs.

$1M

27% of warehouse and distribution center professionals are expected to spend $1 million or more on material handling systems and related technologies in 2020, according to a 2019 survey by Peerless Research Group.

60%

Researchers at the McKinsey Global Institute suggest that, across all industries, there is already the potential to automate more than 30% of the tasks that make up 60% of today's jobs.

*

Modern Material Handling's (MMH) recent "Annual Warehouse and Distribution Center (DC) Equipment Survey" highlights the ongoing push to infuse more software, automation, and robotics into the warehouse. Of the 32% of companies that will invest in these technologies over the next 12 months, 40% want more robotics; 55% are investing in enterprise resource planning (ERP) and warehouse management systems (WMS); and 71% are buying more material handling equipment.

Reasons to Automate

Reduced Costs, More Efficiency, Better Planning.

In addition to significantly reducing long-term costs, automation of your warehouse helps optimize and strategically organize your operations. Incorporating automation technologies allows your business to become more proactive rather than reactive. Having the ability to track the flow of inventory and the ability to optimize the speed of goods through the facility lead to more efficient procedures and better planning.

TOP BENEFITS OF WAREHOUSE AUTOMATION

REDUCES OPERATING EXPENSES

Less human error and human intervention reduces damage to goods and equipment as well as unnecessary costs and overhead.

REDUCES MANUAL PROCESSES

Minimizing the handling of stock keeping units (SKUs) increases accuracy and expediency.

PROTECTS COMPANY ASSETS

Reducing mistakes protects and improves your company's brand and reputation with customers and partners.

MAXIMIZES WAREHOUSE SPACE

Automation equipment and systems helps to optimize space utilization, layout and flow.

INCREASES EFFICIENCY & PRODUCTIVITY

Automation allows human resources to be reallocated to more important tasks.

STREAMLINES USE OF EQUIPMENT

Using technology such as barcode scanners and mobile computers helps with the effective and correct use of existing material handling equipment.

Defining Automation and Identifying Opportunities

Automation is best suited for repetitive tasks that are process-oriented, time-consuming or prone to errors. Warehouse automation can typically be divided into two parts: Process Automation and Physical Automation.

PROCESS AUTOMATION digitally integrates manual process data into a software environment, such as an Enterprise Resource Planning (ERP) system. It is also known as system automation. It is comprised of an ecosystem of barcoding and scanners to input, track and store data.

PHYSICAL AUTOMATION includes a variety of mechanized automation and equipment, such as robots, robotic systems, automated vehicles and retrieval systems. Physical automation includes goods-to-person (GTP) technology, driverless automated guided vehicles (AGVs) and Autonomous Mobile Robots (AMRs).

WAREHOUSE OPERATIONS THAT CAN BE AUTOMATED INCLUDE:

PICKING AUTOMATION

Modular shelving and warehouse robotics can automate the picking process. For example, batch picking enables more orders to be picked, reducing the amount of wasted travel time and resulting in greater productivity.

RACKING

Automating industrial racking and other storage systems enables warehouses to be optimized for volume, space and speed.

BARCODE LABELS AND SCANNING

Because warehouses rely on documentation to keep track of what inventory is moving in and out of the facility, automating with barcode labels, rack labels, warehouse signs and scanners that read these labels saves a dramatic amount of man-hours.

CONVEYORS

Automated conveyors enable faster transport and replace physically demanding labor tasks, increasing throughput and efficiency. They also reduce or eliminate product damage resulting in fewer returns and more satisfied customers.

AUTOMATED VEHICLES

Automated Guided Vehicles (AGVs), such as self-guided forklifts and pallet jacks are able to operate without human operators. They follow digital paths through the warehouse to load and unload pallets and other containers. These vehicles can be implemented in an existing warehouse operation without an entire overhaul. Plus, they can be leased or purchased, reducing the upfront cost and commitment.

INVENTORY AUTOMATION

Many facilities are reliant on pen-and-paper methods, resulting in more errors in data entry, transcription, and ultimately inconsistent inventory counts. Automated inventory management is more accurate, enables more control and is one of the most cost-effective strategies to implement.

Automation Isn't All or Nothing

The goal of any warehouse is to achieve key operational metrics, exceed customer service requirements and move goods more effectively and profitably. As customers and companies demand more from their warehouses and distribution centers, order fulfillment becomes more complex. To overcome these complexities, warehouses turn to automation by incorporating a mix of advanced technologies, optimizing processes and augmenting human labor to increase throughput and improve efficiency in the overall supply chain.

However, warehouse automation can be a loaded term. Normally a warehouse doesn't go from zero automation to fully automated overnight. The level of automation inside a warehouse can differ widely with the implementation of various processes and automated solutions. Warehouse automation can typically be categorized into four levels.

1 LEVEL ONE: SYSTEM AUTOMATION

Combines conventional picking with productivity and accuracy improvement with a warehouse management system (WMS), radio-frequency (RF) or voice-directed picking, or labor management system (LMS).

2 LEVEL TWO: MECHANIZED AUTOMATION

Mechanized solutions that automate horizontal movement and reduce labor. Solutions include conveyors, pick modules, stretch wrap applicators and layer picking equipment.

3 LEVEL THREE: SEMI-AUTOMATION

Installations that boost storage efficiency and minimize travel and manual handling with automated storage and retrieval systems (AS/RS), conveyors and sortation, and warehouse control software (WCS) to direct equipment operation in line with the WMS. Example technologies include warehouse navigation, RFID technology and AGVs for stacking and transportation.

4 LEVEL FOUR: FULL & SOPHISTICATED AUTOMATION

High-speed (potentially "lights out") installations that include a combination of high-density AS/RS, extensive conveyor and sortation systems, automated layer picking, case palletizing, WCS and WMS.

WHAT IS A LIGHTS-OUT WAREHOUSE?

A lights-out warehouse is a warehouse or distribution center that runs on machines with no human workers present. Lights-out can sometimes be a metaphorical term for the increased use of automation in the workplace since it eliminates some or all human labor.

Evaluating Automation Readiness

Do you think your warehouse could be better optimized by utilizing some of these automation technologies?

HERE ARE SOME SIGNS YOU MAY BE READY TO AUTOMATE:

- ✓ Your current processes are too labor and time-intensive
- ✓ Order fulfillment is inaccurate with high rates of order errors, returns, or delays
- ✓ Overstocking or running out of stock because inventory level counts are rarely correct
- ✓ Inefficient utilization of warehouse employees or increased headcount to check and recheck order accuracy
- ✓ You have paper-based processes
- ✓ Your legacy solution requires too much upkeep
- ✓ You are misplacing inventory or losing inventory after it is received
- ✓ There is low morale among warehouse workers and managers
- ✓ Your customers are unhappy

Automation Assessment in 3 Steps

Once you decide your business can benefit from automated systems and processes, it is important to build a plan based on your unique needs. When deciding to invest in automation for any warehousing and distribution operation, start with these three steps.

STEP 1 ANALYZE DESIGN AND DATA

1

Analyze existing assets, such as the existing design and framework of the warehouse. Also, look at data such as number of SKUs and throughput rates. This is necessary for determining the requirements of the operation.

STEP 2 DETERMINE YOUR APPROACH

2

Determine which parts of the operation are best suited for automation and determine what to tackle first.

STEP3 JUSTIFY COSTS

3

After examining the metrics and customer data, outline the benefits of a design that generates the maximum savings.

1. *Analyze your warehouse design and data.*

When analyzing what type of automation you may need, first take a look at your existing assets and data as well as the physical framework of your warehouse.

You can ask these five questions to gather basic data to evaluate your operation for automation.

1

How much inventory has to be stored in a given year?

Inventory should be counted in pallets and pallet positions, where appropriate. A typical automated system stores over 500 pallet positions. Systems that store less than that, may not be ideal candidates for automation.

2

How many items (SKUs) are in inventory?

It should include the different variations of product size, type of container, etc. The amount of SKUs will define which type of system is needed.

3

How many SKUs represent 80% of annual sales volume and 80% of the inventory?

Oftentimes, 80% of a company's inventory is based on 20% of its SKUs. This will help you determine the right type of storage depth, better manage "slow-moving" products and target top inventory to optimize space.

4

How many unit loads per hour enter and exit the warehouse operation?

Throughput will help determine the number of storage and retrieval machines (S/RMs) needed. If throughput is less than 20-30 pallets per total hours, it might be harder to justify automation.

5

How many hours (or shifts) is the warehouse operating?

The amount of active hours will determine whether automated equipment will be used for more than one shift. Ideally when two or three shifts are needed, it is easier to justify automation.

1. *Analyze your warehouse design and data.*

AISLE WIDTH

In the past, a width of 11 feet was required to accommodate forklifts. However, modern wire-guided vehicles allow for cutting aisle widths to just 5 feet, adding more storage space.

PRODUCT VELOCITY

Instead of storing similar products together, you can group products according to velocity by putting fast-moving products closer to shipping lanes.

OTHER METRICS TO CONSIDER

TRAVEL TIME

More space does not necessarily equal better product storage. In some cases, expanding the square footage of your warehouse only doubles or triples travel time.

DUST AND HONEYCOMBS

Identify slow-moving and stagnant products that are gathering dust. Also, look for wasted space not being utilized between, behind, or alongside products.

2. *Determine what to tackle first – and how.*

Unsure of where to start? Completely understandable. There is no one-size-fits-all solution for every warehouse. Customer demand, the proliferation of e-commerce and changes in today's supply chain have complicated processes in the warehouse industry. It is important to ask: What are our main goals? What problems are we trying to solve? Keep in mind that there are many automation options available. Here are some ideas for getting started when optimizing your warehouse operation.

STEP 1 RETROFIT YOUR EXISTING FACILITY (DO MORE WITH LESS)

Retrofitting a warehouse with automation allows businesses to increase storage without having to expand the existing facility. You not only eliminate the need for new construction, you also receive the benefits of increased productivity, better inventory accuracy and optimizing processes for efficiencies and future growth. By utilizing an AS/RS and AGVs you can reduce your building footprint by 50%. Also, it is easy to justify costs from automated equipment and systems if general construction can be reduced. From an environmental perspective, you reduce your organization's carbon footprint. Implementing automated systems that can run in a "lights out" environment can also lead to increased energy savings.

STEP 2 CONSOLIDATE AND CENTRALIZE OPERATIONS

Combining operations helps reduce costs in regards to additional labor, energy consumption and fuel costs. It also eliminates many logistical challenges of collecting different products in multiple locations. It reduces the volume of work in remote sites and orders are filled more efficiently.

STEP 3 OPTIMIZE PICKING PROCESS WITH REAL-TIME, VISUAL AND VOICE-BASED SOLUTIONS

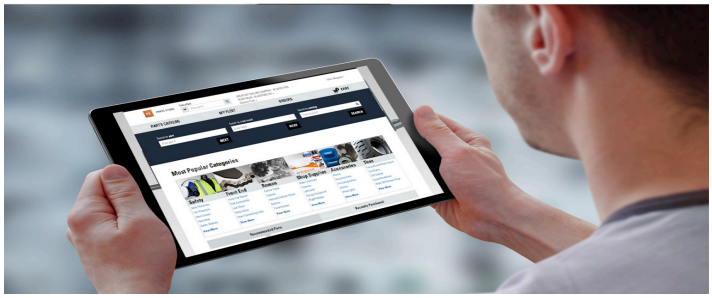
Implementing real-time solutions helps ensure that order selectors don't run out of product. Order selection tunnels can also be integrated to reduce square footage requirements and travel distance.

STEP 4 UPDATE YOUR WAREHOUSE MANAGEMENT SOFTWARE

Like any software application, WMS, WCS and WES software is an evolving collection of programs. Not using the latest version or keeping your system up to date can mean you are missing out on operational improvements or new technology that improves performance and reliability.

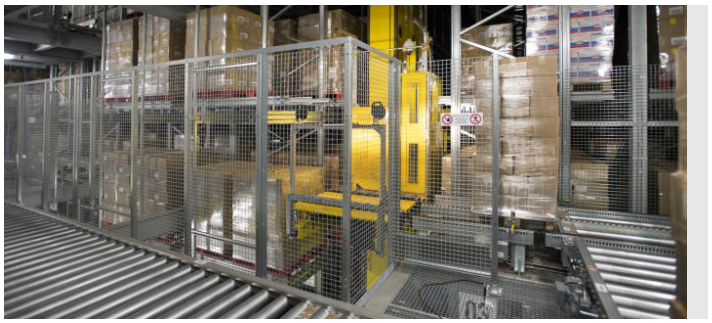
Common Areas for Improvement Inside the Warehouse

Software, equipment and automated systems are key components you will find in an automated warehouse that enable the most efficiencies. Take a look at the common types of each element as well as important questions to ask as you consider the best option for your business.



SOFTWARE & TECHNOLOGY

AUTONOMOUS EQUIPMENT



AUTOMATED SYSTEMS

Software & Technology

Warehouse management and inventory control systems help automate and streamline standard, repeatable tasks to improve operational efficiency as well as reduce costs. By integrating with an ERP and other inventory control systems, businesses get more visibility into valuable data about their operations and can enhance business processes.

WES vs. WCS vs. WMS

WAREHOUSE MANAGEMENT SYSTEM (WMS)

A specialized application that controls the flow of inventory in and out of a distribution center. This application is the most common because it is the brain of the facility, managing flow of inventory, labor tasks and orders from receipt to shipping. It manages, tracks and controls inventory across multiple channels and customers.

WAREHOUSE CONTROL SYSTEM (WCS)

A real-time, integrated control solution that manages the flow of items, cartons and pallets on various automated equipment, such as conveyors, AS/RS, carousels, etc. WCS solutions are well suited for highly-automated facilities because it exchanges real-time communication, command processing, equipment signals and optimization of inventory or material.

WAREHOUSE EXECUTION SYSTEM (WES)

A WES is considered an all-inclusive software solution that offers WMS and WCS functionality on a single application which simplifies and streamlines warehouse communication and controls. Using a WES means complex integrations are dramatically reduced – you are assured that the WMS and the WCS will communicate. A WES also offers more flexibility when integrating with other applications and host systems, such as ERPs, PLCs and other automated equipment.

Software & Technology

There are many factors that go into determining the right system to implement in your warehouse operations. It is key to understand the way inventory moves through your facility. Typically, highly-automated facilities need a WCS or WES and the control it provides. Some questions to ask when deciding which system to implement are listed below.

WHICH SYSTEM IS RIGHT FOR MY BUSINESS?

- ✓ How automated or non-automated is the facility?
- ✓ How does the inventory move through the facility?
- ✓ Is the distribution center single channel or multichannel?
- ✓ How many end users do you have?
- ✓ How many facilities do you have and do they require a single view?
- ✓ How important is inventory management to your operations?

Autonomous Equipment

Factors such as labor costs and shortages, ever-increasing SKUs, expectations for shorter delivery time and safety requirements are driving the need for more automation inside warehouses and distribution centers. Because it is becoming more difficult to hire, recruit and train labor, many are also turning to autonomous equipment such as Automated Guided Vehicles (AGVs).

AGVs provide the greatest ROI when used in processes and applications that have routine, predictable and repeatable movements. Two common types of AGVs include:

AGV Stackers

This automated vertical order picker combines sound mechanical engineering with automation and navigation components. This vehicle is primarily used for the horizontal transportation, automated handling and stacking of palletized goods into storage racking.

Flexibility

This vehicle can be used in mixed operations with manual trucks and pedestrians. The adjustable forks mean that it is also ideally equipped for the transport of special load carriers and pallets.

Safety & Efficiency

An AGV stacker can be programmed to prioritize and process orders, improving operational performance. The onboard system includes sensors and reflectors to monitor for obstacles and uses laser navigation for precise accuracy within millimeters which is important for interfacing with conveyors.This precision is important for interfacing with conveyors or transferring goods from other horizontal transport vehicles like tuggers.

AGV Tow Tractors

This automated towing vehicle enables you to manage the automated handling of standardized horizontal transport processes. The automated tow tractor (often called a tugger) can operate around the clock to increase throughput in your warehouse.

Productivity

The automated tow tractor provides consistent transport of materials by moving more product per travel cycle time. It has the ability to tow multiple carts, and some can also function fully as a manual truck with an onboard operator.

Operational Control

With AGV control panels, everything is at a glance. The panel provides a rapid overview of the current status of transport tasks. Prioritized orders can also be entered and processed in the corresponding sequence.

Accuracy & Reliability

Advanced navigation technology facilitates the highest degree of precision and allows for pinpoint accuracy in the positioning of trucks and loads at defined stations. Different navigation types can be designed and specified according to the project.

Considering an AGV?

Identifying the most beneficial task to automate is the first step when considering AGV implementation. Key questions to understand are below.

KEY QUESTIONS

1. What is the load/unit?
2. What is the volume or throughput of the product movement?
3. What are the temperature conditions?
4. How many shifts are you currently running?
5. What is the labor content?
6. What are the space requirements?
7. What type of Warehouse Management Software do you have?

Automated Systems

At the heart of many automated warehouses are automated storage and retrieval systems (AS/RS). They can reduce the complexity caused by ever-growing warehouses and the number of SKUs by utilizing automated machinery, equipment and software. An ideal, next-generation AS/RS provides real savings, high rates of return and extended reliability. The average lifespan of these systems are 20-30 years or more with internal return rates (IRR) of over 20%.

Major components of AS/RS in an automated warehouse

Racking systems

- For storage of product

Storage and retrieval machine (S/RM) or crane

- Equipment that runs on a floor rail to replace and retrieve loads

Load-handling device or shuttle

- Moves product from the crane to rack locations

Conveyor systems

- Moves goods to and from the AS/RS and dock areas

Warehouse Execution System (WES)

- Controls, tracks and optimizes product movement

Robotic Systems

- These systems complement AS/RS, and are often called “order fulfillment systems.” They work with the WES to trigger and automate replenishment by releasing cases and layers to fulfill orders

Benefits of AS/RS

The mix of storage and retrieval machines (S/RMs) or cranes, the flexibility of the AS/RS system and innovative WES software increase throughput and reduce redundancy allowing for better management of SKUs.

OPTIMIZED SPACE UTILIZATION:

In a "tight site" or land-locked building an AS/RS can optimize growth by densifying and adding height to a storage system. Existing spaces can be retrofitted and new building heights can enable growth by housing more inventory to meet customer demand. AS/RS technologies provide dense storage, saving up to 85% of floor space occupied by shelving.

REDUCED COSTS OF LABOR & EQUIPMENT:

Although every warehouse is different, on average, one single crane operating on three shifts can do the same work as three forklifts and nine employees. These systems require 2/3 less labor to operate when compared to manual shelving.

LOWER MAINTENANCE COSTS:

Equipment leasing and maintenance costs are usually more expensive than AS/RS maintenance.

LOWER ENERGY COSTS:

An AS/RS allows businesses to reduce costs by operating in smaller spaces, covering less square footage, in a tighter cube with smaller ingress/regress openings.

LESS WASTE AND INCREASED SAFETY:

Less product damage and locked inventory prevents theft, and stretch wrapping costs decrease because less wrap is needed to secure goods on pallets.

IMPROVED PICK ACCURACY:

Pick to light technology directs the operator to the exact location of the item, achieving 99.9% pick accuracy.

INCREASED THROUGHPUT:

AS/RS enables faster picking, helping to keep up with demand.

GREATER INVENTORY CONTROL:

Always know what you have and where it is located.

IMPROVED ERGONOMICS:

Attracts younger workers interested in learning and working with automated systems.

Along with the benefits above, the AS/RS industry is more mature and many of the technologies have a proven track record of success. The equipment is robust, systems are more stable, and the software is more user friendly with easier access to operational metrics.

Many manufacturers and distributors struggle to maximize storage space. Warehouse space is at a premium and new construction is expensive, especially when not planned properly. With high-density, deep AS/RS design, companies can optimize their existing space by storing more inventory into a smaller space as well as make room for future growth.

Some companies eliminate off-site storage or cross docking to remote facilities altogether. By eliminating the inefficiency of double handling and extra transportation and storage costs, savings quickly add up.

3. *Justify Costs: Making the Case for Automation*

Automation has numerous benefits. It improves efficiency, productivity and accuracy, increases visibility, control and operational agility, cuts costs, reduces overhead and safety stock and drives higher customer satisfaction. However, making the case for automation typically requires operations managers to prove the value in dollars and cents. The key areas where you can achieve savings are with labor, real estate and equipment usage.

LABOR

Labor costs are typically the largest expense in the warehouse, and in many operations, such as third-party logistics providers (3PLs), it can account for up to 50% of a warehouse's total operating costs. In contrast, productivity in automated environments is significantly higher, there is an increase in safety and a reduction in training time. Automation would determine when, where, and how to divert product down the correct lane, preventing human error that could cause bottlenecks or damaged product and improving efficiency within the warehouse. Also, it is important to consider that labor is a variable cost, and automated equipment is a fixed cost that typically provides a return on investment in only two to three years.

REAL ESTATE

As we face the reality of expanding e-commerce and customer ordering practices and expectations, companies will have to look at the way they organize and operate their warehouse. As a business scales its inventory and fulfillment activity, there is no way to avoid investing in their facilities and real estate. The question to ask is whether you need to expand, relocate, or consolidate. Incorporating automation into an existing facility gives you the additional storage space at a lower cost. If a building is retrofitted with automation, density can increase to 30-50% more storage.

EQUIPMENT USAGE

Some AGVs can operate for two full shifts or more without the need to be charged. And while human personnel is limited on how long they can work, AGVs can run 24/7. AGVs are also built with safety in mind. Increased safety means reduced operational downtime and costs associated with injury. Using AGVs and automated systems for consistent and recurrent tasks helps provide enhanced efficiency and optimized processes.

PROVE IT! DO THE MATH

There are many programs and spreadsheets that can help you determine net present value (NPV) and the internal rate of return (IRR) of operational changes. You can use discounted cash flow budgeting techniques instead of straight payback methods. These metrics help to justify the initial cost difference of installing an automated system versus a conventional system. Then, you can determine the differential of cash flow between a conventional approach and the automated approach and apply the cost difference in the cash stream to help offset the initial investment of automation.

Have You Decided to Automate?

Automation is the fastest-growing category of supply chain innovations that significantly improve efficiencies and lower overall costs. It helps improve workflow, boost throughput, and optimize space. When you are ready to take the next step to move forward with automation, keep in mind these five things.

1

Purchase high-quality equipment

If choosing less than quality equipment, the initial cost savings will be moot if you have downtime and expensive repairs.

2

Think long term

An automated system has a 25+ year lifecycle. Automation will pay for itself in years not months. Typical payback periods are three to five years. Your investment will generate significant savings.

3

Bring in operating expertise

Automation implementation is more successful when operating personnel and experts are brought in from the start.

4

Be proactive

Preventative maintenance is always less expensive. Having a regular maintenance schedule prevents major repair costs and dissatisfied customers.

5

Select the right vendor

An automation partner should understand and recommend the type of automation to fit your needs. The vendor should focus your unique requirements and develop a warehouse automation strategy that meets your budget and helps you achieve your objectives.

Partnering with a knowledgeable warehouse solutions provider can enable your business to operate well into the future and enable growth to meet and exceed your short and long-term business goals.

Call 888.EQDEPOT to speak with an expert at Equipment Depot today and get a free site evaluation with recommendations on how automation could benefit your operations.

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