Four Ways to Future-Proof Your Warehouse

Building a new warehouse is expensive, regardless of the current economic climate.

To maximize the return on investment, it's important to invest in tools and technology that will ensure the longevity of the facility – in terms of design, size, storage capacity, and function.

This means taking the time to look at your business needs now, as well as some projections for the future so you can be ready for growth as it comes.

Imagine spending millions of dollars on a new state-of-the-art warehouse facility that has a ton of bells and whistles, only to find it completely obsolete five years later.

That has great potential to be devastating to your business in more ways than one.

On the other hand, it's possible to spend millions of dollars building a top-of-the-line facility, only to find it is way too much for your needs.

Even with growth potential realized, it could still take years to reach your break-

even point, and you've created a cash flow issue because you've got so much funding tied up in the warehouse.

Keeping abreast of the latest warehouse technology trends isn't enough to plan for the future – it's about knowing your organization's future needs, too.

Today's technology makes it challenging for people who make choices about warehouse technology.

Automation makes it possible for the modern warehouse to improve storage space utilization, productivity, and efficiency, but as the Internet of Things (IoT) grows, we can expect to see even more impact on warehouses of the future – possibly making today's investments in technology obsolete.

In reality, there's always something shiny and new to consider for your organization's warehouse, and as such, it's critical to weigh the benefits of adopting the technology against the risks of waiting too long or adopting too early.

When it comes to warehouse automation, technology has advanced greatly over the last three years, and we have plenty of examples of successful implementations in a variety of industries.

For some industries like ecommerce, waiting just isn't a choice. E-commerce, in particular, is growing at an alarming rate – with global online spending reaching over $2 trillion in 2017, a 24.8% increase over the previous year.

By 2021, that number is expected to hit over $3.5 trillion. This puts incredible pressure on warehouses and their management systems, and those in the industry must quickly adapt to keep up with the pace.

Consumers want faster delivery. Amazon Prime is famous for its overnight and free two-day shipping options, but in certain markets has opened Amazon Prime Now, where products are delivered within two hours, for free, in response to the increased demand.

When you consider the number of SKUs making order picking and order fulfillment increasingly more complex and the burden of rising costs, and the fact that automation systems have gravitated away from proprietary closed systems, it's easy to see why there is less risk and more reward in implementing

technology that's capable of adapting to future industry changes.

Given that many companies simply aren't capable of scaling as quickly as Amazon because of the labor costs associated with operating multiple distribution centers, you must find other ways to improve efficiency and productivity to keep products shipping and inventory management under control.

> *Today's warehouses must be willing to reduce and eliminate manual processes in favor of warehouse automation technology. They must also plan for its evolution and factor that into their plans in order to ensure success in the future. Failure to do so could mean spending too much time on new solutions when it's too late.*

If you want to ensure your automated warehouses are capable of withstanding future technological advances and keeping business running smoothly, take a look at how you can future-proof your warehouses.

These Are The 4 Ways to Future-Proof Your Warehouse

1. ## Software Integration

   When warehouses first started using automation, many discovered existing warehouse management systems (WMS) weren't able to support it.

   As a result, they were supplemented with warehouse control systems and warehouse execution systems to provide the necessary functionality, but the tradeoff limited data collection and use.

   The best solutions take a bottom-up approach to integrated required functionality for warehouse automation in a single platform.

   Because the software architecture is decentralized, it will be able to adapt to changing requirements and equipment in the future, making it the standard.

2. Business Intelligence

It’s difficult to predict the future, but one thing we know for sure is the most efficient warehouses will be the ones that can make effective use of their data to optimize processes, anticipate changes in demand, and enhance availability.

The problem isn’t necessarily about data collection – it’s about integrating the data across various systems and visualizing in ways that allow warehouse staff to use it with ease.

Business intelligence tools are growing and emerging to provide greater insight and visibility into material flow, equipment operation, and process efficiency.

Current and future warehouse management systems must support business intelligence software solutions integration and insight visualization.

3. Virtualization Support

Virtualization has already made its way into several industries – and warehouse management is one of them.

Today, available platforms combine warehouse models with sensor data to create simulations on a digital “copy” of the warehouse.

Currently, that allows real-time condition monitoring, process modeling, material flow monitoring – all of which improve availability and productivity.

Adding virtualization support now also establishes the foundation for future developments that will continue to shape warehouse management, such as virtual reality and augmented reality.

By combining your platform’s virtualization capabilities with a VR headset, you can get a detailed, 3D view of your automated materials handling systems including what they will look like and how they were perform under various order profiles.

Augmented reality combines virtualization technology of one platform with augmented reality technology of other platforms, to help improve how services are delivered.

As augmented reality platforms become more industrialized, gamification could easily come into play.

Workers will be able to compare their performance with others in real time and compared that to a normalized task time across the workforce to optimize their productivity.

4. ## Modular Design

   As demand rapidly shifts from a traditional retail setting to e-commerce and omni-channel sales, few businesses are able to accurately forecast future warehousing needs.

   As a result, rigid automation systems are falling in popularity and being replaced with flexible, modular goods-to-persons systems that can easily scale and repurpose in new environments.

   Mobile warehouse robots can quickly and easily adapt to changes in demand and allow for a pay-as-you-grow model that adds more pick stations and robots on an as needed basis.

   The robots cooperate with automated storage and retrieval systems (as/rs) in your distribution center for faster, more efficient order fulfillment.

   Platform architecture keeps future flexibility at the front of things because the decentralized module-based design allows companies to deploy only the functions they need when they need them.

As the company grows and warehouse or supply chain needs change, there’s the ability to add business intelligence tools and other functionalities as needed.

No one knows exactly what the future will bring for warehousing, but if you have modular, integrated systems that allow for adequate business intelligence and virtualization, you will have a future-proof warehouse that will be ready to adapt

to technological changes and advances as they come, so you can reap their benefits right away.

Invest in tools and technology for the future now, so you can always remain ahead of the curve.

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