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The Future of **Warehouse Technology**

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E-BOOK

What Will Warehouse Technology of the Future Look Like?

Will it be all virtual reality and robots or perhaps something a little more pragmatic? You might have seen the speculative and imaginary video of pickers with augmented reality glasses viewing all kinds of images superimposed over the actual warehouse. Or even the video of a warehouse with the lights out and not a person to be seen, but continuing to operate by robots.

While these visions of the future entertain and intrigue us, they rarely are the best solution to today's warehouse technology problems. While we are in a period of technological change in the warehouse, the transformation we will soon see works within the existing processes rather than replaces them.

The next major advancement in the warehouse will be a combination of old, new and refactored technologies that will add huge benefits to efficiency, usability and accuracy.

Multimodal Warehousing

A multimodal order picking solution combines existing warehouse technologies such as voice, visual cues and video in ways that are innovative and removes key steps in the current order picking flow the warehouse worker follows. In essence, streamlining the process to make it faster, more adaptable and more accurate.

Imagine a warehouse picker with a wrist-mounted Android device, a bodycam and a headset — all technology solutions that are available for off-the-shelf prices and easy to implement. Now connect them together into a seamless and integrated solution and the order picking flow could be something like this:

The picker hears a voice prompt to "go to location X1."

The picker walks to location X1, stands in front of it and the bodycam reads the shelf barcode (without the picker having to do anything additional).

The system recognizes that the picker is in the correct location and a voice prompts the picker to "pick two of item A." At the same time the Android device on the picker's wrist displays a picture of what should be picked, the unit of measure and a big number two in order to reinforce the message from the voice prompt.

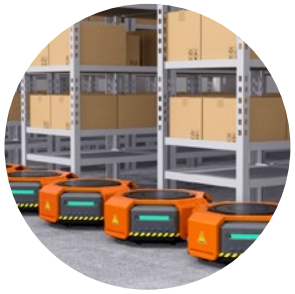
The picker grabs two of "item A," looks at the barcode and the bodycam again reads the barcode to identify the picker selected the right item. Naturally, if any of these barcodes are wrong the voice and wrist device can alert the picker of the error.

The picker confirms that two "item As" were picked with a simple tap on the wrist device and the picker is on to the next request.

While this order picking process may sound complex, it actually removes several steps for the picker, such as no scanning or looking at the terminal. It is not only an incredibly fluid and smooth process that only requires the picker to stop if there is an error or something needs to be checked, but it's hyperefficient while retaining all the controls needed to be 100% accurate.

Multimodal Cobots

Cobots or collaborative robot warehouse technology will be the first real wave of picking automation widely used in warehouses throughout North America. Cobot technology is accelerating rapidly, but more importantly, so is the adoption and real-world testing of the technology.



There are three key factors that make cobots a natural addition for the warehouse that needs to become more efficient.

Cobots can easily be dropped into an existing warehouse. There is no need to make significant infrastructure or architecture changes.

Cobot systems can quickly scale up and down with demand. When things are quiet, a warehouse can run with just one or two cobots. Then in those busy seasons, more cobots can rapidly be added to scale up the picking operation.

Users can rapidly adopt the technology. The learning curve on picking or putaway with a cobot is very short and it has been proven that adapting an existing warehouse function to a cobot-enabled one is a single day operation.

Now let's take that multimodal warehouse picking flow and make it a "cobot-enabled" order picking flow. It could be something like this:

- The picker hears a voice prompt to "go to location X1." This is one of the aisles of locations managed by the picker. Note: The picker does not leave these aisles, but simply acts as the arms and eyes of the cobot. The cobot does all the cross aisle walking and figuring out the right place to go.
- The picker walks to location X1, stands in front of it and the bodycam reads the shelf barcode (without the picker having to do anything additional).
- There is a cobot waiting there with several picking bins stacked in its mobile rack.
- The system recognizes that the picker is in the correct location and a voice prompts the picker to "pick five of item A." At the same time, the display on the cobot shows a picture of what should be picked, the unit of measure and a big number five to reinforce the message from the voice prompt.
- The picker grabs the five of "item A," looks at the barcode and the bodycam again reads the barcode to identify the picker selected the right item. Naturally, if any of these barcodes are wrong, the voice and wrist device can alert the picker of the error.
- The cobot highlights the top bin to drop two and the middle bin to drop three of the item. The picker drops the items and taps confirm on the cobot.
- The cobot wheels off and the picker is directed to the next spot where a cobot needs serving with one or more picks.

Here the picking process is even more efficient than the first one simply because the picker is focused on a set of aisles in the warehouse and never has to lose time traveling around — the cobot does the travel for the picker.

Tomorrow Is Here

Unlike virtual reality, self-managed robots and other aspirational visions you hear about, these two examples of multimodal order picking and cobot-enabled solutions are not imaginary. Distributors need pragmatic solutions that can adapt to seasonal requirements and condense the number of steps it takes to execute a process in order prevent errors, wasted time and resources. Tecsys offers these kinds of flexible and adaptive systems today — and at a fraction of the price of automated storage and retrieval (ASRs), AutoStore, specialized voice- or video-based picking systems. We designed our **warehouse management software** so it is scalable and adaptable to help you adjust your operations as your needs change. This simple and highly flexible approach to order picking is the real future of modern warehouse technology.

Speak to a warehouse supply chain expert today

About **Tecsys**

Since our founding in 1983, so much has changed in supply chain technology. But one thing has remained consistent across industries, geographies and decades — by transforming their supply chains, good organizations can become great.

Our solutions and services create clarity from operational complexity with end-to-end supply chain visibility. Our customers reduce operating costs, improve customer service and uncover optimization opportunities.

We believe that visionary organizations should have the opportunity to thrive. And they should not have to sacrifice their core values and principles as they grow. Our approach to supply chain transformation enables growing organizations to realize their aspirations.

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