EBOOK

Voice your opinion

Discussing the future of voice-enabled supply chain solutions

infios
a Körber company

The director of warehouse operations walks into a board meeting to present on the year's performance. But as he pulls up the numbers and starts his presentation, in the back of his mind he's thinking about the real story: the disappearing workforce, the rapid growth in order volumes and same-day shipping requirements, due to ecommerce, and all the fixes his team has applied to workflows, processes, and systems during the last 12 months to keep boxes moving.

He's proud of the team's work, the KPIs look good and the board seems pleased. Then they "ask" for 10% improved profitability over the next four quarters (again). It's the third year in a row the board has asked for this level of optimization. Knowing that customers care about rapid fulfilment now more than ever, the business wants to gain a competitive advantage. But the director is facing major issues in terms of warehouse resources.

Taking the executives' challenge as a springboard, he reveals his next slide...

It's an image of a warehouse picker speaking into a headset while pulling inventory from a rack. The director explains that maximizing warehouse profitability isn't possible unless the workforce has the right tools for the job. He goes on to discuss how voice technology opens new doors to operational savings, cost efficiency, and an empowered warehouse workforce. He tells them that voice is a bridge between the workforce and the warehouse management system (WMS)—and to new technologies that will enable the business to manage the supply chain of the future.

"Voice picking proved much more productive for us, and we really liked the fact that it was hands-free. Accuracy, productivity, and training time were all important—and voice delivered on every metric."

Noah Skelton
Warehouse Manager, Harbor Wholesale

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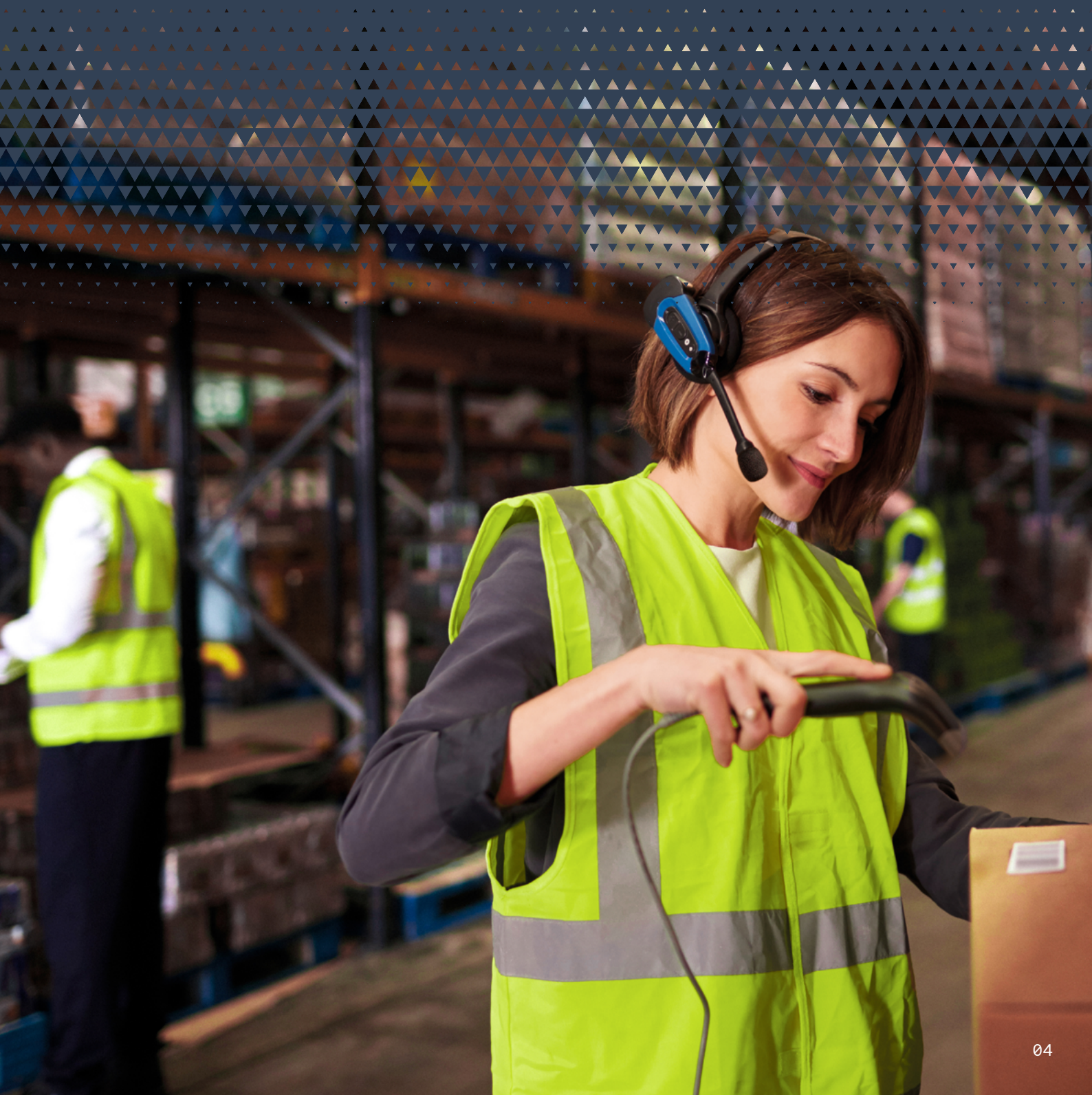
Voice-directed warehouse technology



What is voice-directed work?

Speed and accuracy are key requirements for a thriving warehouse. Voice-directed work (VDW) enables hands-free and eyes-free operations for faster task completion with less scope for error. Typical applications include picking, replenishing, put-away, and cycle counting. However, today's businesses are discovering a wide range of additional use cases (covered later in this white paper).

In typical voice applications, you can expect a range of major improvements.

Productivity
By removing the need for screens or paper-based work orders, voice-enhanced operations generate up to 35% increased productivity. There are no distractions, and instructions for new tasks are delivered via a headset as soon as the current task is completed, which keeps workers and operations moving more efficiently.

Accuracy
With a hands-free, eyes-free approach to working, VDW reduces mis-picks by up to 50%. The warehouse worker receives clear instructions by voice, and every step in the process is validated by verbal feedback. This enables the workforce to keep their eyes locked on tasks. In addition, VDW can easily be combined with barcode scanning, providing another layer of traceability, if the warehouse requires this.

Efficiency
More efficient training and onboarding contributes to increased productivity. By providing simple, step-by-step instructions over the headset, new operators become productive more rapidly and training can be completed in less than an hour.

Advanced technology

Voice-directed work is designed to enable fast and highly effective speech recognition on a battery-powered mobile device. It eliminates miscommunication by learning the unique features of an individual's speech patterns. This results in a seamless exchange of information between the voice system and the warehouse worker.

Fluent in over 50 languages
Voice technology systems can recognize more than 50 languages, which can help organizations tap into new talent pools and expand into new regions.

More than just giving orders
Voice does a great deal more than giving orders. In a typical workflow, the voice system issues instructions to users through the headset as they move through the warehouse, as well as providing relevant picking information, inventory status updates, and data relating to other warehouse processes.

Warehouse workers provide updates to the system of record in real time as their work progresses. This improves inventory traceability in the warehouse, while providing a vital layer of performance data that can highlight training needs and other opportunities to optimize the workforce.

Why is voice-directed work so relevant today?

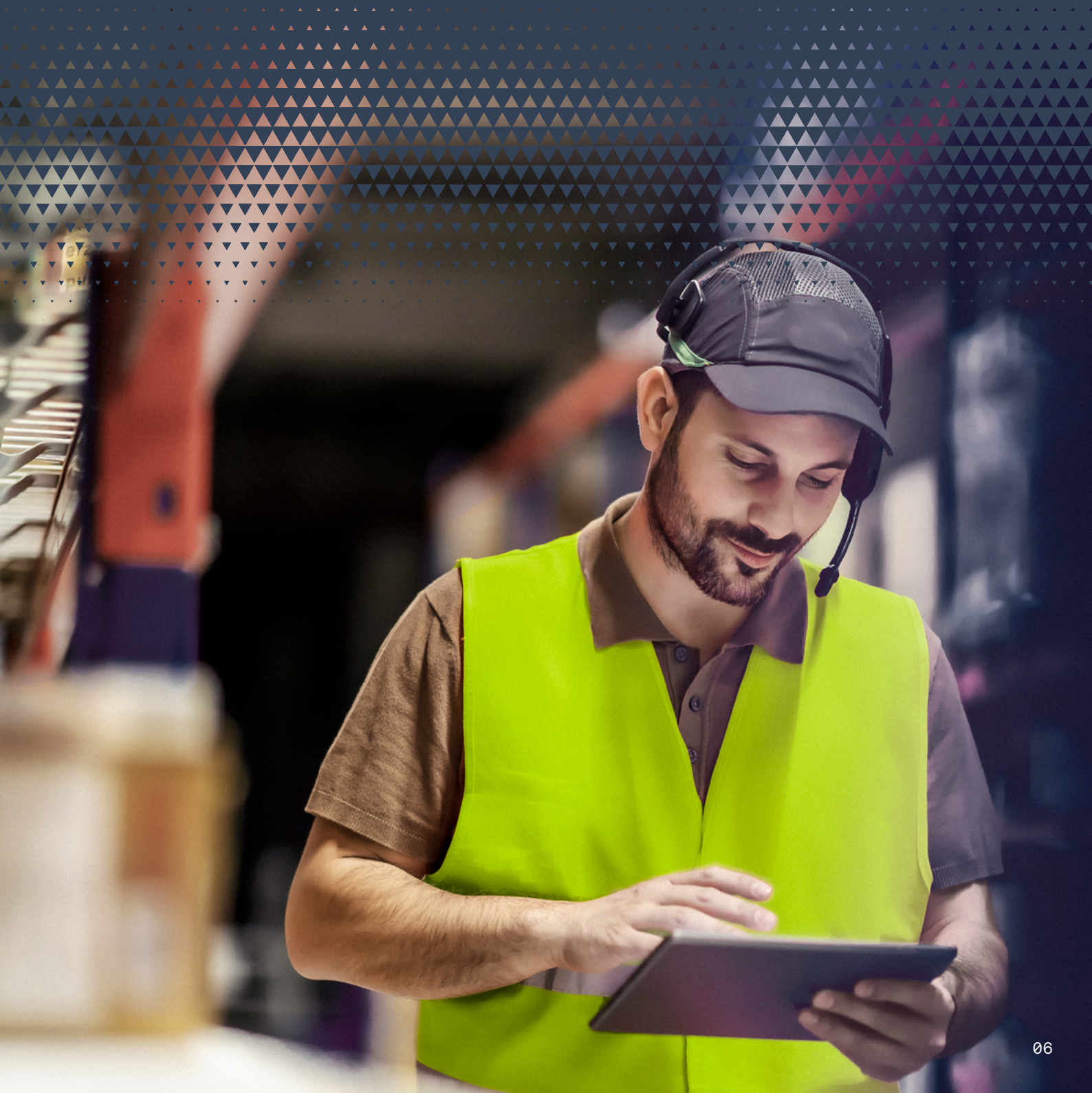
Customers expect packages to be delivered in shorter time frames than ever before. Driven by the growth of ecommerce and rapidly changing retailer requirements, order profiles have shifted from bulk pallets to small-batch, higher-volume orders. At the same time, as the talent pool continues to dry up, supply chain managers are using technology to fill the productivity gap. To address this combination of challenges, organizations need tools that will help them move boxes faster and more accurately with fewer workers in the warehouse.

The same technology that enabled cumbersome mobile phones to evolve into today's smartphones has been used to optimize voice systems. Better batteries, smaller and faster chips, pitch-perfect microphones, and other innovative advancements, have brought new levels of operational efficiency to voice directed work.

Rapid return on investment
VDW has proven to be a warehouse solution that can provide a fast return on investment in less than 12 months. It's also highly flexible, allowing supply chain businesses to rapidly adapt to changing customer demands such as faster delivery of products.

SECTION 02

The future of voice technology



Ongoing advancements

VDW is a highly capable system that effectively addresses the challenges facing today's warehouses and distribution centers. However, in such a fast-paced and dynamic industry, it's essential to look to the future.

Why play catchup when the market is impacted by the next big disruptive change? Voice technology can be applied to new work applications and expand the potential of robotics, big data, and other technologies that push the boundaries of supply chain technology as we know it.

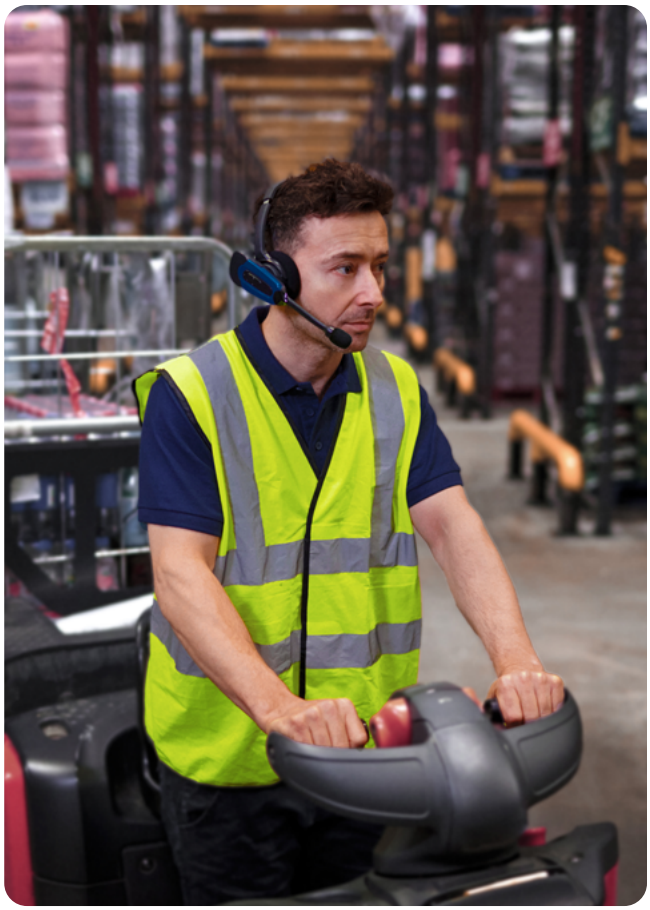
The remainder of this white paper provides an overview of voice solutions for the future.

Voice-directed versus voice-assisted

In a typical warehouse voice application, executive orders from the WMS (or other systems, depending on the business) are communicated to the workforce via simple, step-by-step instructions. The warehouse worker carries out the instructions, and the voice system delivers updates to the WMS at key milestones. This is known as voice-directed workflow. It's simple, fast, effective, and ideal for repetitive tasks. However, voice technology is also highly effective for a wide range of applications.

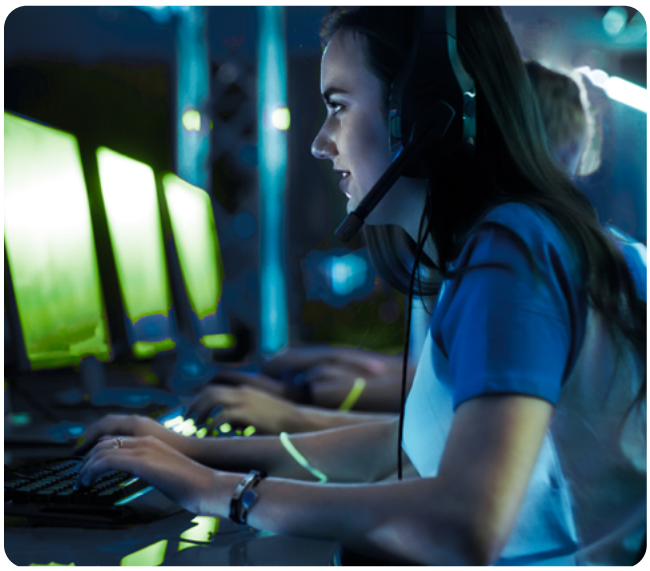
Voice-assisted work allows a warehouse worker to control the prioritization and flow of information. For example, a user in a retail store tasked with overnight restocking can communicate with the inventory management system to check stock counts or pricing while stocking shelves—without having to access a terminal. Voice-assisted work also helps nurses, for instance, to administer medication, maintain patient records, and perform facility upkeep tasks.

These use cases transform voice technology systems into virtual assistants, providing a high level of convenience and increasing productivity for workers carrying out multiple high-priority tasks with less structured processes.



"We've been so pleased with how voice has gone for picking that we are evaluating all areas of the distribution center to see if we can further the benefits. Right now, I'm looking at extending it into our replenishment workflows to work with our forklift operators, and possibly in our returns processes."

Paul Courchene
Logistics Core Team Leader, Patterson Companies



Multimodal capabilities

As a multimodal tool, voice can integrate with other sensory-based systems to complement other technologies needed for complex projects.

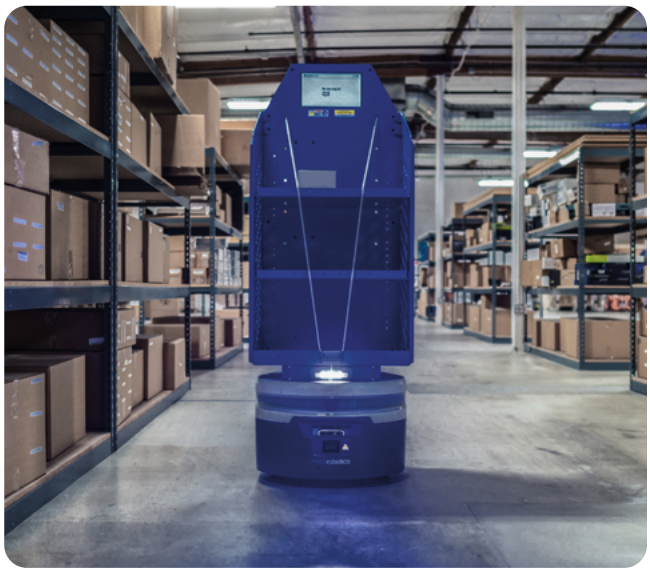
For example, a warehouse operator troubleshooting malfunctioning machinery can use multimodal technology combining voice with a wearable heads-up display (HUD). In this instance, the HUD can show a schematic of the machinery while the voice system provides step-by-step guidance to complete the necessary maintenance. This can significantly reduce the time it takes to troubleshoot, while increasing accuracy, minimizing errors and reducing costs.

In another example, an operator can use voice and HUD technology to quickly complete highly repetitive tasks, such as inspecting returns. The HUD displays checklists and images of the product while voice records the inspection process to the WMS. This results in inventory going back into circulation faster, and increased inspection accuracy means there's less risk of damaged goods being resold.

A guiding voice

Voice technology effectively delivers clear instructions to operators, which means workers need less training. The technology also acts as a guide, helping workers quickly learn workflow processes, warehouse layout, and even how to use other technologies. By providing key information at opportune moments, this guiding voice helps users become more productive as they carry out their tasks.

Seconds truly count in the warehouse. Fortunately, VDW is one of the simplest user interfaces to learn. Each worker is guided through the business process, so they will be productive as soon as they start working in the warehouse.



Robotics, automation and voice

Although labor issues are driving many businesses to look into robotics and automation solutions, warehouses will always need a human workforce. When considering picking and other voice-directed work, we typically think of person-to-goods operations. However, as an intermediary between the WMS and operators, voice lets workers tap into robotics or automation on the floor to create a goods-to-person dynamic. For some operations, goods-to-person can improve productivity, increase capacity, and create safer conditions for workers who still benefit from a hands-free, eyes-free voice interface.

Mixed models are also emerging with automated vehicles, or materials handling equipment, assigned to a voice-directed warehouse worker to assist with product delivery, retrieval, or placement on high-bay racks. The voice system issues instructions to robots, reducing manual handling and optimizing the travel time of workers and inventory.

For businesses needing rapid productivity from temporary labor —without sacrificing quality —voice-directed work is the ideal solution.

Giving Android a voice

Google's Android operating system is the new standard for rugged, multi-function warehouse computers. VDW is fully compatible with Android and can take advantage of its very familiar user interface and enterprise management capabilities to further simplify training and support. This means younger warehouse workers, who are usually smartphone experts, can be onboarded even faster.

VDW's huge user base has gained impressive returns on investment with voice-only interfaces. However, a device with a screen can be advantageous when dealing with complex passwords, troubleshooting or communicating rich information such as a product image. Tools included with these devices (such as cameras) can support newer VDW applications like inspection. At this point, it's worth noting that it's important to work with a voice specialist to achieve the greatest combined benefits of voice and vision technologies.

Younger warehouse workers, who are usually smartphone experts, can be onboarded very quickly.

Big data opportunities

Without doubt, inventory and logistics information from the WMS is vital. However, a deeper knowledge of worker activity can be just as important in terms of optimization and transparency. By analyzing the low-level data available from a VDW system, valuable operational insights can be gained to enable better management and identify further opportunities for optimization.

The latest mobile devices used for VDW have accelerometers, gyroscopes, and Internet of Things capabilities, which enables deeper levels of granular data to be collected in real time. This could be data about real-time location, physical movements, routes chosen, time to complete tasks, aisle traffic and more.

Managers can use the data to gain greater transparency at the point of warehouse activity from the control room. In addition, dashboards and KPIs driven by voice highlight process improvements that were previously operational blind spots for many organizations.

SECTION 03

Conclusion

Back in the board meeting, the director is nearing the end of his presentation. He reiterates the challenges and business case. Then he explains how the warehouse is so much more than a giant repository for SKUs. It is, in fact, the point of connection between the business and customers, and that's an ever-changing landscape.

The board listens to how voice technology offers solutions to increase efficiency in line with a decreasing workforce and rising customer expectations. The thirty-plus years voice has been in the market proves its viability. And as the bridge between laborers and warehouse systems, voice can help transition the company into new areas of profitability and navigate new warehousing challenges as and when they arise.

See how Infios's voice-directed work solutions can help your business.

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