

Top Five Challenges for Voice Technology in the Warehouse

Sponsored by Ehrhardt Partner Group (EPG)

COVID-19 is squeezing distribution center operations in retail and e-commerce, as companies frantically push essential freight out the door and onto store shelves. Warehouse voice recognition software can save valuable time and costs, but is it worth the investment in licenses and training?

1 COVID-19 has accelerated the shift from brick-and-mortar retail to e-commerce fulfillment, demanding ever greater flexibility from D.C. operations.

From hoarding of groceries and household essentials, to soaring e-commerce orders from home, to continuous replenishment of disposable personal protective equipment (PPE), D.C.s have become a major pain point in the retail supply chain. Dramatic ebbs and surges in goods flow well beyond the usual seasonal peaks have left operators scrambling to properly scale operations to improve velocity.

Flexibility is key, especially at the case-picking level common in grocery retail, where COVID-19 has forced warehouse operators to make snap decisions about shifts. In an already embattled retail sector, D.C.s have picked much of the low-hanging fruit in terms of automation and process improvements. Businesses are now turning their focus toward technology solutions that produce incremental savings in minutes and dollars that add up to big gains.

Voice recognition technology, leveraging hand-held devices, is an appropriate tool in the kit, but until recently it has involved significant tradeoffs.

2 Scaling workforce capacity up or down quickly with demand is a key challenge, for D.C.s and for workers.

In crisis situations, as D.C.s add overtime and extra shifts, in some cases doubling the workforce, operators struggle to locate, onboard and integrate workers of varying skill levels trained in different warehouse management software (WMS) systems and technologies. Onboarding must be simple, fast and secure, so that workers hit the ground running. It must also be cost-effective, given the industry's high turnover rates and growing numbers of non-seasonal temporary workers.

Making the shift from hand-held screen and keyboard devices to wearable devices that provide voice-driven commands in key workflow processes — case, piece and pallet picking; put-away; replenishment; cross-docking and truck loading, among others — that can cut time per move by more than a third and dramatically eliminate errors. The basic reasons are simple: voice is faster than keying, and the worker is eyes-free and hands-free. But operators have hesitated over high licensing costs, burdensome “voice template” speech training, and limited I.T. resources.

3 A modern warehouse employs a diverse workforce that makes implementation of voice technology difficult.

Warehouse employees today come from a wide range of backgrounds, often with limited English proficiency, strong foreign accents or regional dialects, and even speech disabilities. This complicates onboarding and training for traditional voice recognition software.

Previous generations of voice solutions used voice template training, with a 45-minute test script in which the new employee repeats key words and phrases. One of the negatives to voice template training is that it often has to be repeated monthly, as recognition errors grow and harm overall productivity gains. Modern voice solutions today utilize deep neural network technology, which provides unparalleled voice recognition and has eliminated the need to train the worker's voice initially, as well as the ongoing need to retrain monthly. Customers who have used both voice technology approaches have consistently shown an 8% to 15% improvement in worker productivity using the modern neural network technology approach to voice recognition. This 8% to 15% is in addition to the 15% to 25% productivity when adding voice initially.

4 The COVID-19 workplace environment only adds to the challenge for employees speaking through protective masks amid loud ambient noise levels.

Warehouses are noisy places, with forklift signal beeps, pallet drops, fans, refrigeration equipment and loud voices competing with voice commands reading SKU numbers from behind a face mask or shield. Even a best-case COVID-19 scenario suggests that for the next year, fewer employees maintaining safe distances will be handling higher volumes of on-demand freight moving through D.C.s at higher velocity. Voice technology must get interpretation right the first time, or an efficiency advantage quickly is lost. The performance advantages of using modern neural network technology with workers wearing COVID-19 protective face masks become even more paramount, versus previous voice template training approaches for voice recognition.

5 For companies already using older voice technology, upgrades aren't necessarily a simple matter.

Peerless Research Group, in its 2019 Annual Warehouse/D.C. Operations Survey, found that while voice systems had gained in use to 14% of respondents, adoption is slowed by two interrelated operator concerns: whether the equipment and software will perform reliably, and whether in-house I.T.

resources and expertise are adequate to execute and manage integration with internal WMS or enterprise resource planning (ERP) systems. Those concerns apply to switching systems as well as new adoptions.

Integration has dramatically changed over the past five years, however, as most WMS platforms

have been improved to streamline the voice integration process using web services and other easier-to-implement integration techniques. Gone are the days of proprietary technologies and extensive customization efforts. SAP, for example, now offers the ability for voice solutions to natively integrate with its Extended Warehouse Management (EWM) solution.



EPG's Lydia Voice Solution Stresses Flexibility

Ehrhardt Partner Group's (EPG) neural network-driven voice recognition within its Lydia Voice solution has dramatically gained market share the last two years, due to its extreme voice recognition performance and flexibility in addressing varied customer needs. Lydia Voice is available via either perpetual license or on a subscription basis. Warehouse workers have the option of using conventional headsets (wired and wireless) or "VoiceWear vests," which provide integrated speakers and microphones.

"COVID-19 certainly has helped shine a bright light on the increased significance around voice recognition performance," says Scott Deutsch, EPG president for the Americas. "Our Lydia Voice neural network-driven voice recognition solution has out-performed older voice solutions especially with workers now wearing face masks. We are able to do this without old-fashioned ongoing voice template training techniques on leading Android devices."

With the phaseout of Windows devices this year, requiring an estimated \$1 billion for refreshing older voice systems, EPG's Lydia Voice appears well-positioned for explosive growth.

For more information, visit <https://Lead.me/Lydia-Voice>.