

## Honeywell's Vocollect Solutions for SAP®

### Data Integration Options and Considerations for Vocollect Voice

#### Executive Summary

Vocollect solutions have an unparalleled track record of successful implementations for the distribution center and warehouse environment. In fact, Vocollect has been successfully implemented at more locations than all our competitors locations combined.

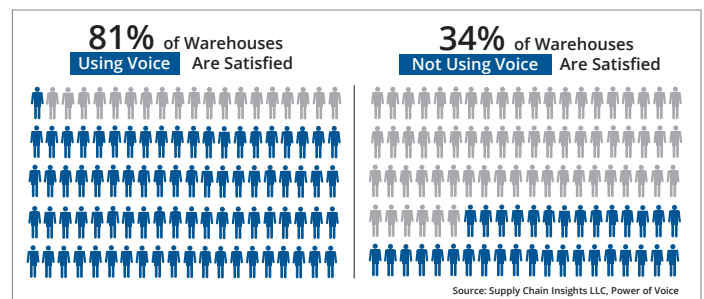
Honeywell and our skilled SAP partners provide you with the most enhanced and streamlined “best-in-class, voice-enabled” business processes to help take your SAP solution to the next level of operating efficiency. We uniquely offer an optimized end-to-end, voice-enabled solution specifically designed to fully leverage existing SAP-centric environments. Our certified integration capability helps ease your effort to add Vocollect Voice to an existing SAP IM, WM or EWM environment. SAP Labs has certified and tested Vocollect’s native SAP interface to ensure that we fully leverage your existing SAP NetWeaver® platform, thus providing you a low-risk, configurable solution.

Our integration flexibility maximizes your existing SAP investment. Honeywell and our partners enable both direct and indirect integrations for SAP powered warehouses. We provide a rich set of implementation options, explored in this paper, that develop a strong business case for leveraging Vocollect solutions throughout your facility. We also will provide a deeper understanding of the technical advantages of various integration approaches with the goal of showing how you can run a better business with voice.

#### Voice Goes Mainstream

Since the 1990s, warehouse distribution center (DC) voice solutions have experienced tremendous adoption. With a typical ROI of less than one year and greater than 50% decrease in errors, voice has grown from a disruptive technology into a proven staple for today’s efficient DC. This dramatic growth has resulted in more than a million users. It has been driven by increased worker productivity, solution flexibility, and a fundamental reduction of risk.

Not surprisingly, Supply Chain Insights identified that voice enabled warehouse users are 2.4 times more satisfied than their non-voice counterparts.



Voice is not new to SAP users. Until a few years ago, it had been more of a niche application than a mainstream solution offering<sup>1</sup>. Adoption expanded as the technology matured and evolved and as SAP users focused more on improving their logistics and fulfillment processes. Voice technology plays a major role within the warehouse and distribution center for users of SAP and non-SAP systems.

#### Key Drivers to Implement a Voice Solution

The mainstream movement that has established voice as a major technology player is attributed to the following key drivers:

- **Proof of Success** – Voice solutions have grown rapidly and experienced such success because voice makes efficient businesses even more effective. SAP recently added Pick-by-Voice transactions within EWM9. Positive feedback is consistent across multiple industries and many applications. The market has crossed the chasm to mainstream and no longer is only for early adopters.
- **Voice-Enabling Your SAP Warehouse** - SAP voice solutions share a common backbone with traditional RF handheld scanning applications and thus, reduce the total cost to implement a voice solution. Most businesses leverage existing SAP capabilities to maximize the benefits of voice.

<sup>1</sup> Source: Tompkins International, 'Voice-Enabling Your SAP Warehouse: Building the Business Case for Voice Technology', 2010

- **A Changing Workforce** – Dramatic workforce changes in the past decade transformed the DC into a multi-ethnic, multi-language environment. Voice has been an excellent way to provide non-native speakers with a way to assimilate rapidly into the new warehouse environment. The introduction of a highly tech-savvy millennial generation into this workforce also contributed to the acceptance and desirability of voice.
- **More Powerful and Capable Mobile Devices** - The processing power of voice-enabled mobile computers has grown dramatically, now extending to support voice and hands-free scanning on a single device, and better enabling an increased number of workflows to be supported with voice. Voice now supports more than just picking activities with many DCs voice-enabling put-away, replenishment, cycle-counting, and beyond.
- **Proliferation of Wireless LANs** - Warehousing has been at the forefront of the development of wireless LANs since the late 1980s. But early deployments of this technology were costly, custom propositions. The emergence of 802.11 standards propelled wireless LANs from custom to commonplace. Today, most distribution operations use handheld devices which leverage a wireless LAN.

## Vocollect – A Proven Record of Success in SAP Environments

Your challenge is to drive profitable growth, streamline existing processes, and make your efficient business run even better – all while further reducing costs. Honeywell can help you identify additional approaches to reduce your operating costs, while supporting your desire to increase workforce productivity and greater worker accuracy.

### What Does a Second Cost?

*Consider the cost of a single second in a pick, what is it worth? For a typical DC with 35 operators per shift, picking 200 lines per hour and 1.5 shifts, those costs quickly add up. With labor @ \$18.00/hour and 260 working days, a single second more per pick costs \$109,200 per year!*

While your return on investment in SAP is measured in years, the success of Vocollect Voice is measured in months. Most customers show a measurable “hard” investment break-even in less than nine (9) months. Your velocity toward gaining business value is a key operational deliverable and a reason why Honeywell’s Vocollect Solutions remains the industry’s dominant voice solution. This short payback period does not take into account the many “soft” benefits obtained from implementing voice, such as reduced safety incidents and a reduction in damaged goods. Much of this is due to a more focused worker who is not distracted by a screen or using a keyboard because of the

‘hands-free, eyes-free’ environment.

We help you achieve business benefits rapidly by starting with best-in-class workflow processes, proven and optimized by thousands of individual customer implementations. Then together, we enhance the solution to fit your unique requirements.

We have a proven global best-practice pedigree across a multitude of industries. Honeywell excels at delivering more successful multi-site implementations than all of our competitors combined. We attribute this success to the quantifiable value we provide our customers after their first site implementation, which provides the continuing business justification to implement our solution at additional locations. The graphic below shows just some SAP businesses using Vocollect Voice:



### Vocollect in Action → Glanbia (SAP WM Warehouse)

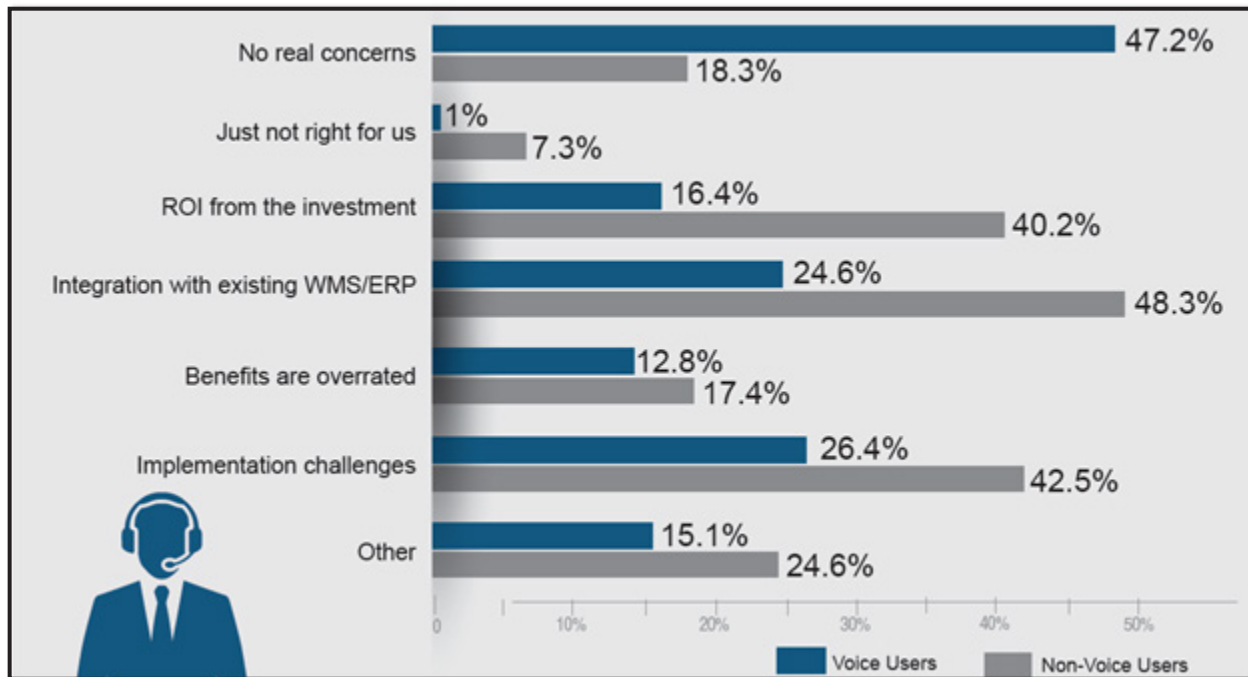
Voice has had a tremendous effect on productivity in the food warehouse, including a 60-percent increase since moving to the technology. Even greater increases have been realized in the central milk distribution center. In that facility, productivity has nearly doubled, with a 95-percent increase.

“Eliminating the paper means workers do not have to stop and mark their sheets. They instead keep moving,” says Glanbia Supply Chain Manager. “We also eliminated the dead time going back to the office to get additional paperwork. We have better locating now, so workers do not have to look for products. And we have less time spent rectifying errors. Overall, it is a much more fluid process.”

Accuracy has also improved since moving to voice, with a 600-percent decrease in errors. This has resulted in a 45-percent drop in credit claims. “The error rate reduction has been very noticeable by our customers,” notes Mee. “We have reduced our claims, as we now know when a product was picked, who picked it, and what truck it went out on. It has brought us marketplace credibility and has lowered our supply chain costs, allowing us to remain competitive during a difficult economic environment.”

Source: DC Velocity Magazine

While thousands of organizations are successfully using voice technology, Supply Chain Digest ([www.scdigest.com](http://www.scdigest.com)) recently undertook research about the warehouse market and asked some questions that helped to identify key misunderstandings and reasons why voice has not been adopted. When asked to identify areas of concern about voice technology, survey respondents expressed two main concerns: having to lean on IT resources to make changes to existing WMS/ERP infrastructure and integration issues.



This finding is consistent with the interaction we and our partners have witnessed first-hand from the many years we have been helping to reengineer processes and offering innovative workflow improvements. While implementing voice does require time and focus, it is a project with a short life span per facility requiring limited IT support resources for success. Virtually all your workers will be operational on day one and most will be performing at higher levels after their first week using Honeywell’s Vocollect Solutions. While difficult technology projects have scarred many, Vocollect projects are manageable and controllable - with limited scope creep due to the use of best-in-class business processes as a starting point for business process optimization. The maturity of Vocollect Voice integrations has greatly enhanced the Vocollect Voice experience for the SAP community. Certified voice integrations provide comfort to the SAP community that they can achieve the benefits of voice with an efficient and accurate implementation while leveraging SAP best practices.

## SAP Integration Considerations

Solutions such as Vocollect Voice must consider their SAP integration options, whether direct or indirect (middleware). There are use cases for both options to be leveraged jointly.

In a direct integration, SAP manages the mobile workers, overall workflow and all metrics and records. The Vocollect direct integration solution, VoiceDirect ERP for SAP, provides a customer real-time pick location and quantity information, which is vital for operations providing available-to-promise inventory order commitments.

In an indirect (a.k.a. middleware) integration, a supplemental application is used between SAP and the worker to augment capabilities within SAP or overcome other physical limitations within the warehouse. The middleware option is often driven by poor RF infrastructure, response time concerns, and customers looking for ways to supplement – without risk – key, known functional gaps within their SAP WM environment.

## Vocollect in Action → Brady

### Australia’s first direct interface of voice picking to SAP WM

In busy DC environments, for repetitive high-volume tasks such as applying labels or reading stored products manufacturing details, saving just a few seconds per operation can translate into meaningful efficiency gains. Advanced voice solutions, such as those being used by Brady, guide workers through their tasks using spoken instructions. With hands and vision remaining free, they can concentrate much better on the essentials and work more quickly and more precisely. For each voice input - and thus without appreciable loss of efficiency - workers can also continuously send control and status information, meaning any misunderstandings can be corrected immediately and error rates can be lowered further. Furthermore, real-time communications with the central control software enable management to gain an overview of the situation and to initiate any replenishing or other processes early.

“The seamless integration of our SAP WM and Vocollect enabled voice picking systems has greatly streamlined and simplified a critical interface, and has significantly improved the robustness and reliability of our paperless picking operations.”

- Operations Manager, Brady

## Making the Right Choice

When selecting an integration method one size does not fit all. The decision is best made by considering the physical and technology demands within the warehouse. To get the most from an investment in voice, consider real-time communications, picking speed, wireless connectivity, and IT support/maintenance.

Factor	Direct Integration	Indirect Integration
<b>Real-time Communications</b>	Enables real time use of WM/EWM capabilities (replenishment, cross docking, etc.)	May impact use of some WM/EWM capabilities (real-time replenishment, cross docking, etc.)
<b>Picking Speed</b>	Superior for low-density picking and other such applications; may negatively impact speed for small quantity, close proximity picking scenarios.	Premier middleware applications can organize and queue work for pickers to achieve their highest possible speeds.
<b>Wireless Connectivity</b>	Direct integrations require near total Wi-Fi connectivity; while momentary interruptions are not problematic direct integrations are dependent on the WMS system to direct workers to the next activity.	Depending on the solution, middleware integrations can enable workers to function untethered from the network for significant periods.
<b>IT Support</b>	Direct integrations are primarily supported with SAP capable resources.	Indirect integrations are primarily supported by non-SAP resources.

## Secondary Integration Considerations

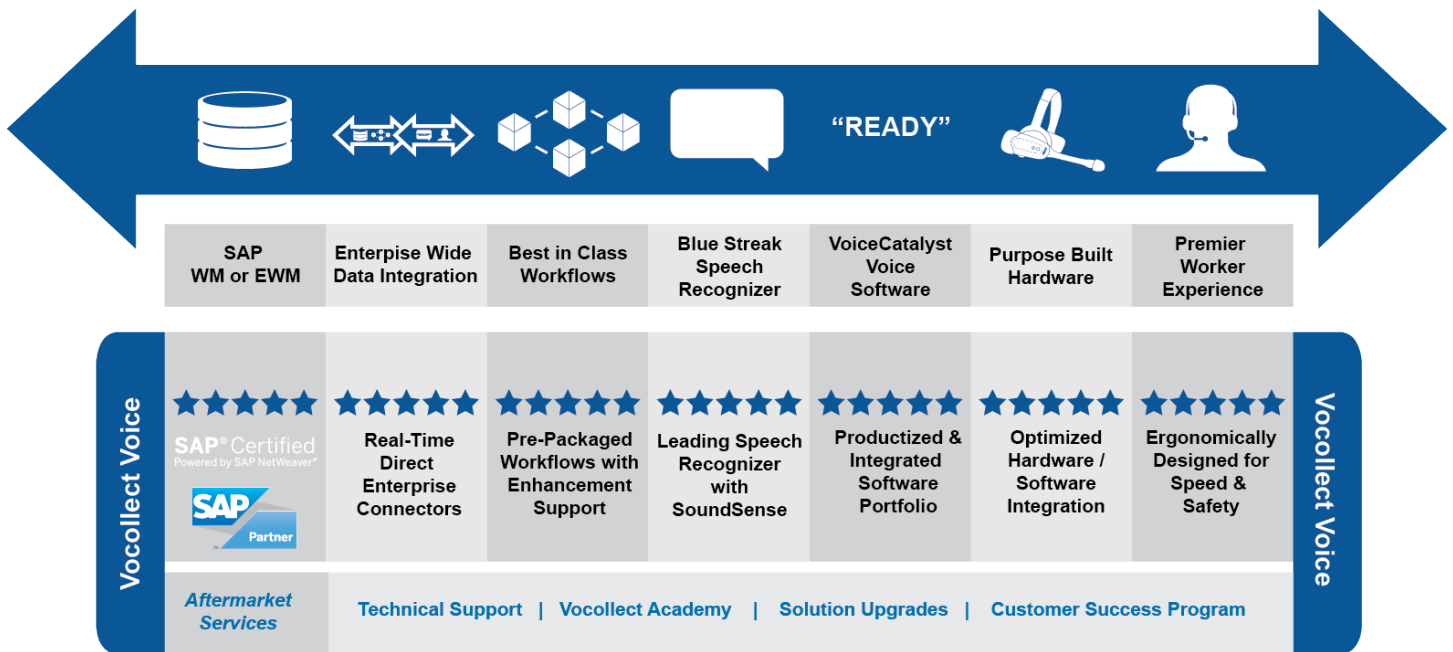
While the above factors are primary drivers of the integration strategy, one must understand and plan for additional aspects within a voice solution to ensure they meet the DCs needs. The following table illustrates these considerations and how they differ when in a direct versus a middleware voice implementation.

Component	Direct Voice Integration	Indirect Voice Integration
<b>Deliveries</b>	Processed in SAP: With a direct integration the execution of warehouse orders occur directly within SAP.	Received from SAP by the middleware system; pick verifications occur within the middleware system and completed pick transactions are provided back to SAP for update.
<b>User Accounts</b>	User accounts for each worker are created and retained within SAP.	User accounts are created for each user in the middleware system.
<b>Metrics and Records</b>	Deliveries, warehouse orders and KPIs are created and retained within SAP.	Deliveries, transactions and KPIs are created and retained within middleware.
<b>Voice Optimization</b>	Workflow voice optimized in SAP.	Workflow voice optimized in middleware.
<b>SAP Connectivity</b>	Requires a nearly continuous connection to SAP.	Can run untethered from SAP for periods of time.
<b>Data Exchange Timing</b>	Real time integration: Data is continuously shared with SAP (data is not synchronized as it is not stored on both systems).	Near time or batch connection to SAP: Data is synchronized with SAP on a periodic basis. May range from a few seconds to larger blocks of time depending on middleware system.
<b>Voice Interaction (Voice Dialogue)</b>	In both direct and indirect integrations, the voice solution manages the workers voice interaction (the steps to voice-direct a worker to perform an action).	
<b>Worker Experience</b>	Transform the workers' experience from paper/screen navigation and system learning to a natural dialogue. Implemented properly, actions and terminology are distilled into simple, easy-to-follow prompts and instructions.	

## Vocollect Optimized Solutions

Vocollect solutions lead the market with our "seamlessly integrated voice solution" that is uniquely designed to help you run a better business with voice. Providing an optimized solution at every touch point takes high levels of commitment and financial investment. Our ability to positively help you successfully implement our solutions is demonstrated by our broad success with almost one million users around the globe and growing.

The graphic below helps raise the visibility and importance of various elements needed to offer a world-class voice solution in industrial environments. Vocollect Solutions are beyond comparison due to all components being fully optimized to maximize bi-directional data integration from SAP, while providing the industry's premier worker experience.



## Vocollect Compared to Other Technology Methods

<p><b>Vocollect Voice vs. RF Scanning</b></p> <ul style="list-style-type: none"> <li>Reduces operating cost through greater productivity</li> <li>Reduces worker startup cost with shorter training and less complexity</li> <li>Increases accuracy and safety by keeping workers hands and eyes free; resulting in less product damage and mis-picks and fewer accidents</li> </ul>	<p><b>Vocollect Voice vs. Paper</b></p> <ul style="list-style-type: none"> <li>Lower operating cost through faster processes, less data entry, shorter training and less complexity</li> <li>Improves process and inventory control through real time updates and labor tracking</li> <li>Increases accuracy and safety by reducing damage, improving accuracy and providing a cleaner environment</li> </ul>	<p><b>Vocollect Voice vs. Pick-To-Light</b></p> <ul style="list-style-type: none"> <li>Reduces operating costs by enabling batch cluster and wave picking</li> <li>Reduces acquisition, operating, and reconfiguration costs through cheaper implementation, less maintenance and reconfiguration process</li> <li>Improves accuracy by empowering workers with information, such as past and future picks</li> </ul>
--	---	---



See Vocollect Voice in Action at  
[YouTube.com/vocollect](https://www.youtube.com/vocollect)

## Vocollect SAP Integration Options

We provide three primary integration options for SAP, direct integration via VoiceDirect ERP for SAP, indirect (middleware) integration via VoiceLink, and a SAP Console integration via VoiceExpress.

### Direct: Vocollect VoiceDirect ERP for SAP

VoiceDirect ERP for SAP interface is a SAP Labs certified direct, real-time SAP NetWeaver application. VoiceDirect ERP for SAP is designed for the SAP integrator. Supporting both standard and custom ITS mobile transactions VoiceDirect ERP for SAP drives efficiency and accuracy with SAP's WM and EWM warehouse management systems. VoiceDirect ERP for SAP integrates with the Pick-by-Voice (PBV) transactions within EWM 9.

### Middleware: Vocollect VoiceLink

VoiceLink leverages a flexible and open middleware layer to support near real-time integration with Vocollect Voice. VoiceLink enables each customer configuration to be completely customer controlled (often with the support of their Vocollect partner). VoiceLink supports seamless integration and configuration of Vocollect Voice applications within any technical environment.

### SAP Console: Vocollect VoiceExpress

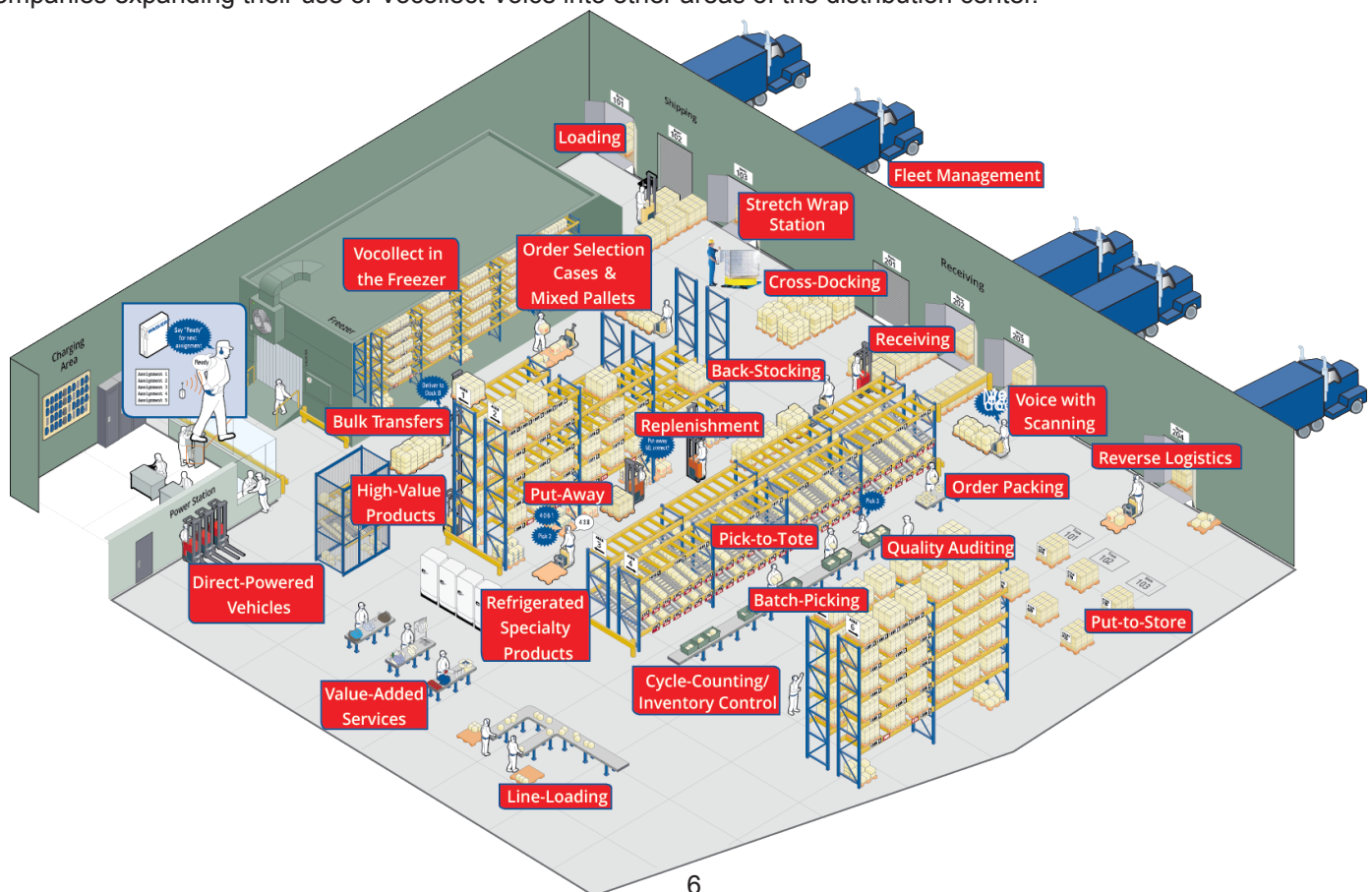
VoiceExpress is a customer-specific, voice-to-WMS interface providing fast and interactive implementation of Vocollect Voice-enabled telnet workflows through so that DC operators can realize the productivity, accuracy and training benefits of Vocollect Voice with legacy SAP Console workflows.

### Choosing the Right Integration

We and our partner community are able to assist SAP warehouse decision makers with understanding different options in order to select the best SAP Voice implementation for each

## Vocollect Across the Warehouse

The addition of Vocollect Voice to your distribution center operations offers you the transformative workforce performance gains you require, with the infrastructure flexibility you need. While voice technology initially was implemented to enhance the process flow for various fulfillment tasks, the extremely positive operational benefits resulted in a growing number of companies expanding their use of Vocollect Voice into other areas of the distribution center.



## About Honeywell

Vocollect, offered by Honeywell, is the most trusted and deployed voice-enabled workflow performance solution in the world. Our best-in-class workflow performance capabilities help customers run a better business with voice and enable nearly one million mobile workers to process more than \$5 billion of products every day in challenging industrial environments. Together with a global team of over 2,000 certified professionals, Vocollect solutions enable companies to save more than \$20 billion annually by further optimizing operations, improving business decision capabilities, and delivering the industry's premier worker experience. Vocollect solutions integrate with all major WMS, ERP and material handling systems and supports the industry's leading mobile computing devices. For more information, visit [www.vocollect.com](http://www.vocollect.com).

Honeywell Scanning & Mobility (HSM) is a leading manufacturer of high-performance image- and laser-based data collection hardware, including rugged mobile computers and bar code scanners, radio frequency identification solutions, enabled workflow and printing solutions. With the broadest product portfolio in the automatic identification and data collection industry, HSM provides data collection hardware for retail, healthcare, distribution centers, direct store delivery, field service and transportation and logistics companies seeking to improve operations and enhance customer service. Additionally, HSM provides advanced software, service and professional solutions that help customers effectively manage data and assets. HSM products are sold worldwide through a network of distributor and reseller partners. For more information on Honeywell Scanning & Mobility visit [www.honeywellaidc.com](http://www.honeywellaidc.com).

Honeywell ([www.honeywell.com](http://www.honeywell.com)) is a Fortune 100 diversified technology and manufacturing leader, serving customers worldwide with aerospace products and services; control technologies for buildings, homes and industry; automotive products; turbochargers; and performance materials. Based in Morris Township, N.J., Honeywell's shares are traded on the New York, London, and Chicago Stock Exchanges. For more news and information on Honeywell visit [www.honeywellnow.com](http://www.honeywellnow.com).

### **Honeywell Scanning & Mobility**

703 Rodi Road  
Pittsburgh, PA 15235  
United States

+1.412.829.8145  
[info@vocollect.com](mailto:info@vocollect.com)

### **Honeywell Scanning & Mobility**

Gemini House  
Mercury Park  
Wycombe Lane, Wooburn Green  
Buckinghamshire, HP10 0HH  
United Kingdom

+44 (0) 1628 55 2900  
[voc\\_emea@vocollect.com](mailto:voc_emea@vocollect.com)

### **Honeywell Scanning & Mobility**

21/F Honeywell Tower  
Olympia Plaza  
255 King's Road  
North Point, Hong Kong

Hong Kong: +852 3915 7000  
China: +86 10 5957 4817  
Australia: +61 409 527 201  
[apac@vocollect.com](mailto:apac@vocollect.com)

### **Honeywell Scanning & Mobility**

North: +52 55 5241 4800 ext. 4915  
South: +1.412.349.2477  
[latin\\_america@vocollect.com](mailto:latin_america@vocollect.com)

### **Honeywell Scanning & Mobility**

New Pier Takeshiba South Tower 20F  
1-16-1 Kaigan Minato-ku,  
Tokyo 105-0022  
Japan

Japan: +81 (0)3 6730-7234  
[japan@vocollect.com](mailto:japan@vocollect.com)

### **Honeywell Scanning & Mobility**

151 Lorong Chuan  
#05-02A/03 New Tech Park, Lobby C  
Singapore 556741

Singapore: +65 6305 2369  
[singapore@vocollect.com](mailto:singapore@vocollect.com)

© Copyright 2014, Honeywell International, Inc. All rights reserved. Honeywell and its product names are among the trademarks and/or service marks owned by Honeywell International Inc., or its subsidiaries.

Microsoft, Windows, and Windows XP are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. SAP and SAP NetWeaver are registered trademarks of SAP AG in Germany and in several other countries.

YouTube is a trademark of Google, Inc.

All other trademarks are property of their respective owners.