Voice-Directed Warehousing Featuring Jennifer™

Maximize Performance, Minimize Cost

Intelligent Automation Made Easy

Long before Alexa and Siri, Jennifer™ was making work easier and faster for tens of thousands of workers on five continents.

Jennifer™ combinines voice, scanning, visual prompts and AI-based optimization to help automate any manual hands-on process in your warehouse. Best of all, Jennifer™ is multilingual. She speaks and listens in 30+ languages, helping employees work efficiently from day one.

Exceed 99.99% picking accuracy

Average 36% productivity gains

New worker training reduced by 90%

Hands and eyes free operation

20% improvement in inventory accuracy

50% reduction in labor hours

Lucas WORK SMARTER

The Fastest and Easiest Way to Address Ever-Changing Distribution Challenges

Reduce the number of workers you need

Pick, pack and ship more products with less people through intelligent voice-directed processes, workflow improvements, and process optimization.

Exceed your customers expectations

Deliver the right products to your customers with efficient pick and put validations, optimized QC/audit criteria and Jennifer's on demand assistance.

Keep workers safe and healthy

Improve worker safety and ergonomics by making workers more aware of their surroundings (especially when on a vehicle) with a hands and eyes free process.

No need to replace your WMS or host system

Reuse and extend your current systems with our standards-based interfaces that make integration quick and effective.

Make your workers efficient in every process

Provide your workers with easy-to-use multi-modal mobile applications that can be used to optimize your most important warehouse processes.

Help your managers make smarter decisions

Provide your managers and supervisors with customizable dashboards that displays real-time insights on the operational data they need.

Get new employees working efficiently in one day

Minimize time-spent training and onboarding with a deep neural network speech recognition technology supporting over 30 languages.

Stay prepared for ever-changing demands

Create flexibility with adaptive voice-directed workflows that are configured to meet your changing business requirements.
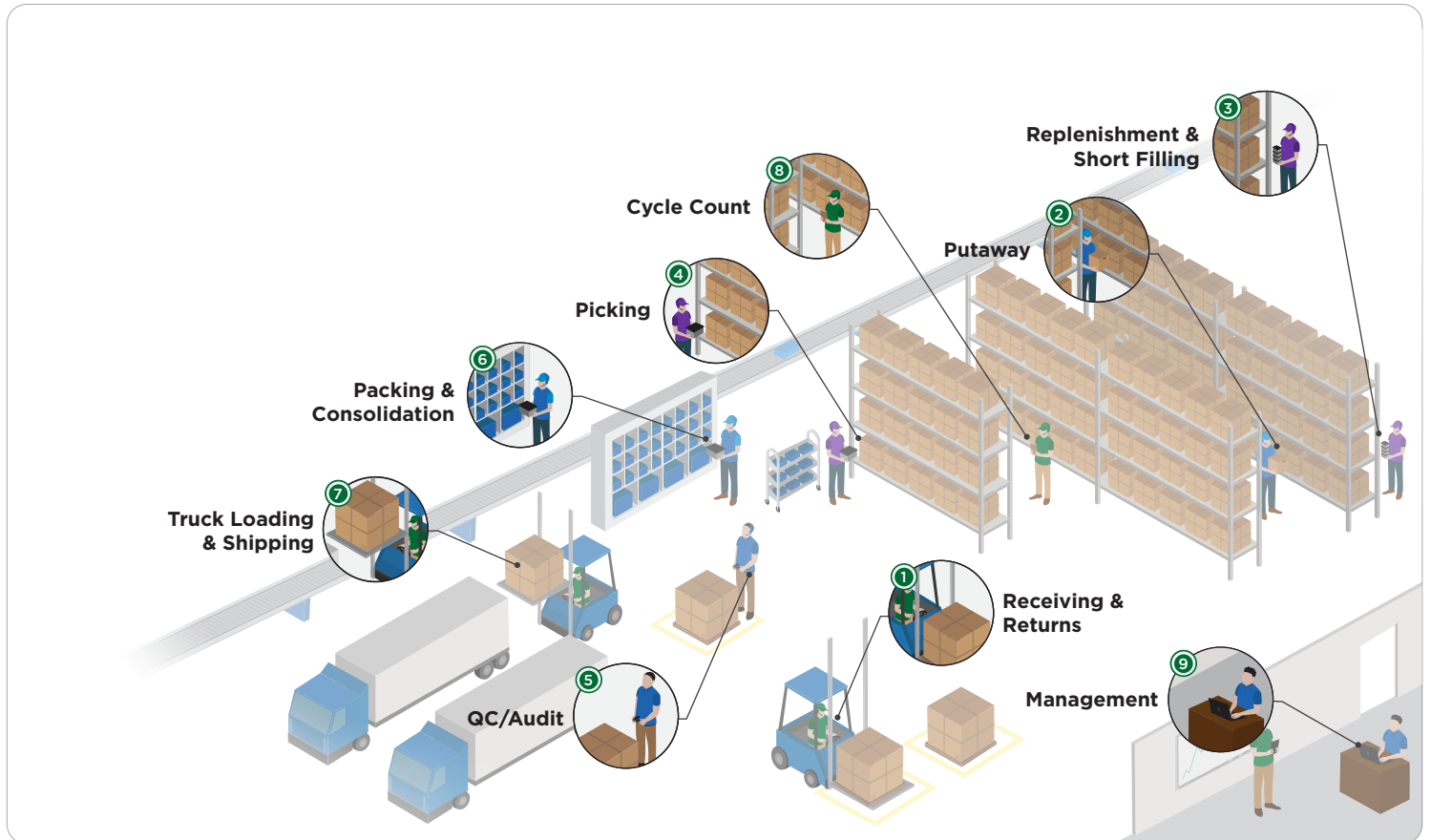
> *"You rarely implement a new system and have users tell you 'It's made my life so much easier!'*

Chris Rufa, Senior Director of Global Distribution

APEX
TOOL GROUP

Optimize the Most Important Processes In Your Warehouse

Jennifer™ provides adaptive workflows for end-to-end warehouse operations: picking, receiving, putaway, sortation, loading, audit, replenishment, cycle count, etc. These modules are designed to accommodate each DCs unique business rules, workflows and other requirements.

Piece Picking: Jennifer™ directs piece picking to totes or cartons on carts, or on conveyors in a pick module. Variations include bucket-brigade pick and pass systems (zoneless picking), pick-and-put for high volume items, and two-stage picking for slow moving items.

Pallet Picking: Full pallet picking, for outbound shipping, can be interleaved with other full pallet moves (cross docking, replenishment, putaway) to reduce so-called empty travel (when a lift truck is moving from one area to another with nothing on the forks).

Case Picking: Jennifer™ includes voice-directed case pick to pallet or to conveyor. Although voice picking typically eliminates the need for labels, Jennifer™ voice can be used alongside labels if that is needed for delivery or other purposes. Jennifer also supports two-stage picking processes for slow-moving cases.

Receiving: Jennifer™ can be used for receiving mixed or full pallets, including verifying quantities, identifying damage, and for sorting and staging items for put-away. Barcode scanning and visual display information are commonly incorporated in the voice-directed workflow.

Putaway: Voice-directed putaway can be used for full pallets, mixed pallets (multiple SKUs putaway in separate storage locations), or using carts with mixed SKUs. Barcode scanning is commonly incorporated in the voice-directed workflow, to identify/verify items for putaway.

Packing & Consolidation: Warehouses that do not have automated sortation systems can use Jennifer™ to assemble multi-line orders that have been picked in multiple zones or batches. Barcode scanning can be incorporated to identify/verify items. Items may be sorted to locations in a put wall.

Replenishment & Short Filling: Replenishment can be implemented for moving full pallets or mixed pallets from reserve or bulk storage to forward picking locations. In some instances, replenishment can be included in picking workflows or interleaved with other tasks.

Truck Loading & Shipping: Warehouses can use Jennifer™ to load pallets for route-stop delivery. Alternatives include system- or user-directed loading, and may include safety and other inspection steps (HACCP, for example). Systems may also support creation of a printed or electronic load map to improve delivery.
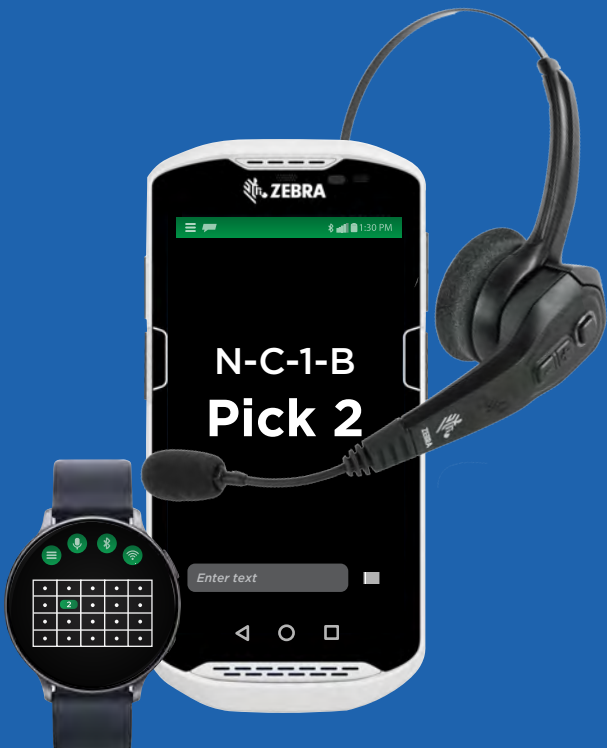
Receiving & Returns: Jennifer™ can be used for receiving mixed or full pallets, including verifying quantities, identifying damage, and for sorting and staging items for put-away. Barcode scanning and visual display information are commonly incorporated.

Cross Docking: Jennifer™ supports various types of cross dock processes, including full transfers from receiving to shipping, or moving and sorting to outbound staging destinations.

Cycle Count: In some instances, cycle count can be included in picking or other workflows, or it can be a separate task. Jennifer™ supports opportunistic cycle counts (directing a picker to count a location after he or she picks from it).

QC/Audit: Jennifer™ supports a voice-directed quality control/audit process. Jennifer™ enables managers to better prioritize which orders are checked with parameter-based criteria (inexperienced workers, orders, product type, and customers).

Mobile Apps Designed for Ease and Efficiency

N-C-1-B
Pick 2

Enter text

Multi-Modal
Interchangeable use of voice, screen and scanning ensures accuracy and productivity.

Multiple User Levels
Get new users up to speed quickly, and ensure power uses can hit top performance.

Adaptive Workflows and Dialogues
Intuitive processes and concise voice prompts are designed the way people want to work.

First and Best For Android
Since 2014, tens of thousands of workers have been using Lucas applications on Android mobile computers.
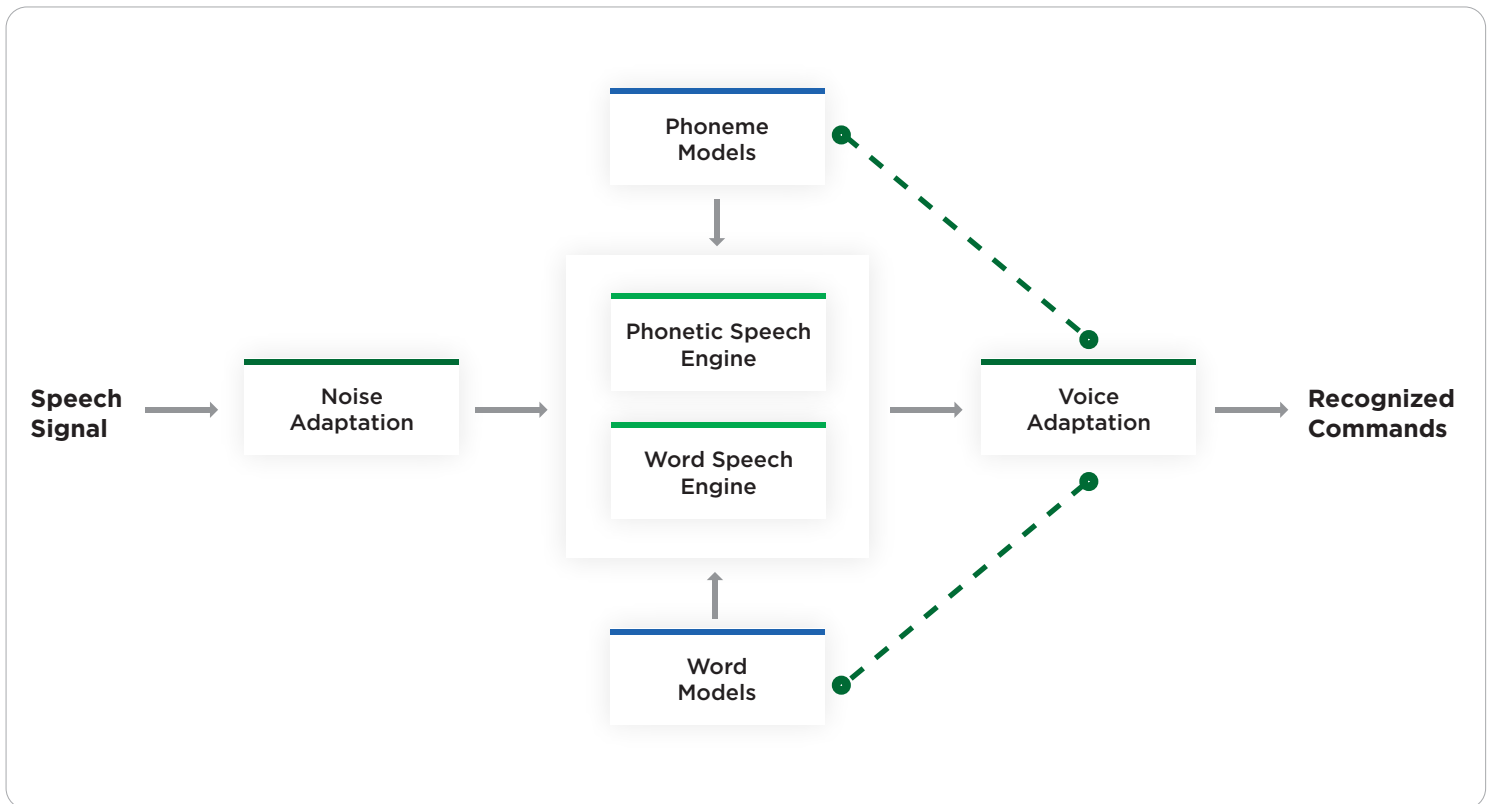
Built For Industry Standard Hardware
Use multi-purpose hardware, headsets, scanners and RFID readers to reduce costs.

Near-Perfect Speech Recognition For Every User in Any Environment

Jennifer™ incorporates the latest advances in speech recognition technology with additional noise filtering and audio processing technologies to ensure near-perfect recognition for 30+ languages in harsh industrial settings.

Automatic environment adaptation: Lucas speech recognition automatically adapts to sudden and frequent changes in background noise, and the system adapts to users, even as their speech patterns change throughout their shift.

Multilingual recognition: Jennifer™ voice is available in 30+ languages (Spanish, Mandarin, German, French, Arabic, etc.). DCs can mix and match languages within applications to support a diverse work environment.

No voice training required: Lucas speech recognition does not require a traditional 30-minute voice training. (While people use Lucas without training, the system is not speaker-independent.) Warehouse workers are able to get to work right away with near-perfect recognition.

Dual-recognition technology: Lucas speech recognition utilizes a deep neural network with multiple simultaneous recognition strategies (phonetic and word-based) to ensure optimal recognition, even for users with non-standard accents or non-standard speech patterns.

Seamless Integration With WMS, ERP, and Host Systems

The Lucas software is designed to easily integrate to virtually any on-premise, hosted, or cloud-based IT or automation system: ERP, order management, and warehouse management packages; custom-developed host systems; warehouse control systems; and other automation and IT systems used in the DC.

Example Integrations:

Enterprise Resource Planning
SAP, Oracle, Infor, Microsoft Dynamics

Warehouse Management Systems
Blue Yonder, Manhattan Associates, Körber/HighJump, Made4net

Warehouse Control Systems
Dematic, Fortna, Honeywell/Intelligrated

Labor Management Systems
Argent, Kronos, TZA

Route Accounting Software
Target, VIP, eoStar

Autonomous Mobile Robots
Fetch, inVia, Seegrid

Transportation Management Systems
BlueJay, E2open, Transplace

Other Systems
ShipExec, TraceLink

Regardless of the WMS or other systems you rely on today, Lucas standard-based system interfaces ensure that our voice-directed warehouse optimization solutions can work with it, adding to its capabilities and deferring to its strengths, where applicable.

Lucas supports multiple integration technologies and approaches ranging from direct, real-time interfaces to host or WMS systems to batch file transfers. In many cases, multiple integration and data transfer techniques may be used. In the end, the choice is always yours, based on what is the best approach to meet your operational needs.

Lets Turn Your Distribution Operation Into a Competitive Advantage, Together.

Lucas Systems helps companies transform their distribution center operations and continuously adapt to changing market dynamics. We dramatically increase worker productivity, operational agility, and accuracy and reduce the need for labor.

Lucas solutions are built on 23-plus years of deep process expertise and smart software using AI-based optimization technologies. Our solutions feature Jennifer™, the brain, voice, and orchestration engine that drives performance improvement gains. We help you make the smartest moves at the lowest cost with Jennifer™.

LUCAS | **Jennifer**

Visit www.lucasware.com or call (724) 940-7000 for more information.

What Our Customers Say

"What it used to take 12-14 people to pick in one shift, we can now do with 8-10 people.

Dale Adamson, AVP of Logistics and Distrbution

Baptist Health South Florida

"After they started using it, workers realized how much quicker it is. They appreciate that Jennifer is so much better than picking on paper.

Scott Van De Rijn, Director of Warehousing and Logistics

SLI

"This was the smoothest implementation of any technology I have been involved with in my 28 years.

Mac Whetsel, VP of Operations

Pet Supermarket

"Far and away, it's the best decision I ever made and the best product I ever brought in. This thing paid for itself in less than a year.

Chris Timmons, Executive VP of Operations

Eby-Brown