

Description:

CTGTALK is a terminal emulation based, multi-modal hardware, speaker adaptable voice solution. The CTGTALK approach results in a voice solution that is easier to implement, manage, use and justify.

Key Features:

- Voice enables terminal emulation programs
- Works on handheld devices reducing network traffic
- Uses the business logic from existing WMS instead of proprietary programming methods
- Negligible impact due to WMS upgrades
- Works on standard multi-modal hardware
- Uses non-proprietary head sets
- Speaker adaptable requires no voice training - Recognizes everyone instead of requiring the operator's voice to be trained in the system
- Speech recognition = what is being said vs. Voice recognition = who is speaking
- Operators can use any device
- Human quality text to speech voices in 30+ languages
- Automatic noise filtering: There is no need to take noise samples to effectively
- Removes artifacts from the voice band
- Can easily adjust for changes in workflow
- No proprietary programming tools required to learn or maintain
- Operates in extreme conditions including high noise environments of 100 decibels +
- Conversational Filtering: CTGTALK detects the difference between normal conversations and work instructions virtually eliminating noise generated responses.
- Contexted grammar: Allow only the vocabulary words or phrases that makes sense for a given screen context
- Rapid implementation: weeks vs months



Value Drivers:

- Improved productivity 10-30%
- Improved pick accuracy (customer service) 99.9+%
- Reduced employee training (faster ramp up time)
- Removes trips back to assignment desk
- Removes cost of printing and distributing picking documents
- Removes cost of re-keying order amendments, picking confirmations and catch weights
- Hands free & Eyes free – makes picking easier
- Real-time feedback for proactive management
- Real time stock updating
- Improved safety – hands free & eyes free
- Reduced training – verbal prompts easier
- Target ROI of 12 months or less

Target Prospects:

- Firms that distribute high volume or high value merchandise where there is low tolerance for:
 - errors that incur
 - lost sales
 - costly returns processing
- \$100MM revenue and up
- Minimum 10 concurrent picking operators
- Operating characteristics:
 - Full case picking
 - Paper-based or RF picking
 - High error rate and/or cost
 - Diverse product mix (wide variations in size, shape, weight, etc.)
 - High labor costs and/or excessive overtime
 - High count of repetitive tasks (each pick/case pick)
 - High turnover/seasonal workforce
 - Special processing requirements (catch weight, labeling, lot verifications)
 - Large volumes of repetitive tasks (each pick/case pick)



Target Industries:

- Retail and Wholesale Grocery
- Food Service
- Food Manufacturing
- General Merchandise, Health & Beauty
- Convenience Stores
- Apparel / Garment
- Automobile Manufacturing
- Package Sortation
- Auto Parts Retailers
- Pharmaceutical
- Electronics
- Drug wholesale
- High volume office supplies
- Book publishing
- Aerospace and defense
- Liquor and spirits
- Computer electronics
- Home furnishings
- Candy & Tobacco

Process Types:

- Full case order picking
- Split case order picking
- Manufacturing QA
- Pallet receiving and breakdown
- Putaway and replenishment forklift operations
- Shipping / load building
- Cycle counting
- Package sortation requiring human intervention for non labeled products
- Examples:
 - Full case pick to pallet or cart from floor locations serpentine through the warehouse
 - Picking cases of snack chips from floor pallet locations to 1 to 5 carts from floor locations throughout the warehouse
 - Picking batteries, cases of anti-freeze, mufflers, alternators, etc. from floor locations throughout the warehouse
 - Full case pick to belt from fixed locations on floor pallets
 - Picking cases of cookies, crackers, snack chips from staged floor pallet locations and fixed flow rack locations on either side of a pick belt
 - Individual items from cases to cartons on a pick cart
 - Picking single item books from cases in bin shelving to cartons on a pick cart. Can include scanning of ISBN to confirm.
 - Pallet build in shipping
 - Sorting cases from a conveyor to specific outbound pallets for load building.



Company	Application	Productivity	Accuracy	Other
Food Service	Full cast pick to pallet labels	12% increase	Errors down 75%	Improved training 60%
Auto Parts Retail	17,000 SKUs – case pick	12.5% increase	N/A	Improved training 50%
Apparel Manufacturing	Case pick w/integrated scan	7% increase (375 units/hr)	Errors down 75%	\$300k in savings
Apparel Retail	Each and case pick	10%	Errors down 50% (99.98%)	60+% cost reduction
General Retail	Case pick	70% increase (180 cases/hr)		
Publishing	Each and case pick w/scan	200% increase	99.0 to 99.7%	
Restaurant	Multi apps in production	N/A	99.94% achieved	Improved training 50%
Pharmaceuticals	Batch pick up to 64 orders	150% increase		
Food Service		14% increase	70% reduction	Eliminated temps
Food Manufacturing	Case pick 150-200 SKUs	15% increase		High Employee acceptance
Food Service		10% increase	Reduced errors 60% 99.9% achieved	
Food Service	500k case picks per week		Reduced errors 50%	6 month ROI
Food Service	20,000 SKUs 45 cases/day	300 cases/hour	Errors down 70% (99.9%)	Re-staffed 4QA checkers



Implementation:

Implementation of CTGTALK takes approximately 6 weeks and requires general technical training and acoustic/process consulting.

Typical implementation activities include:

- **Discovery (2 weeks):** Review and document existing in-scope processes
- **Design (2 weeks):** Work with client to create future state processes for the in-scope areas of the DC. These processes will mostly be focused on speech enabling current systems and processes but some additional enhancement to the existing processes may be achievable as well.
- **Development (1 week):** Program the required changes in the terminal emulation programs
 - Customized Grammar files and vocabulary
 - Site Acoustic Survey
 - Target device and headset acoustic calibration
 - Voice technology developer training
- **Demonstration (2 days):** Support client in a formal demonstration of the new future state speech-enabled processes
- **Delivery (3 days):** Provide onsite assistance during the startup of the new processes and trouble shoot any speech related problems encountered.

