Körber Supply Chain

Extending voice across the warehouse

Nilfisk: From voice-enabled picking to industrial inspection

Following the successful implementation of a Körber voice system for picking, Nilfisk extended the use of voice to optimize the efficiency on their inspection line.

About Nilfisk

Headquartered in Brøndby, Denmark, Nilfisk is a world leader in professional and commercial cleaning solutions – with 28,000 products ranging from vacuum cleaners to rod iron scrubbers.

All orders placed in North and South America are fulfilled at the organization's 200,000 square foot distribution center (DC) located in Springdale, Arkansas, where quality control inspections also take place. Orders for the rest of the world are fulfilled out of four DCs strategically located across Europe.

At a glance

Project goals

- Optimize productivity at the main DC
- Reduce the need to hire an increasing number of people
- Make paper-based inspection line processes more efficient

Solution

- Voice-directed work
- Voice inspection

Benefits

- Increased productivity from 10 to 25 lines picked per hour
- Reduced headcount from 30 to 13 employees
- Increased accuracy from 99.2% to 99.8%
- Reduced training time by 97%

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The initial challenge

Nilfisk started looking into voice solutions because the organization was struggling to optimize productivity at its Springdale DC.

“While we were constantly hiring workers to keep up with demand, we realized we couldn’t hire our way out of the problem,” said Demetrius Smith, DC Manager and Head of Operations at Nilfisk.

With as many as 30 pickers per shift, Smith knew they needed a different solution to improve efficiency.

“We needed to optimize efficiencies in our processes so that we could manage projected sales increases for the next five years,” added Smith. “We couldn’t do that with the processes we were using, and there were no plans to invest in new buildings, so we had to find a creative way to get more work done in the space we had.”

“We are leaders in our industry, so we wanted to partner with leaders in the voice industry.”

Demetrius Smith
DC Manager and Head of Operations at Nilfisk

The initial solution

After evaluating a range of options from a number of different suppliers, Nilfisk chose to implement Körber voice solutions for all their warehouse picking procedures. Once Nilfisk began the voice technology implementation, it was only six months before the system was up and running.

“One of the main reasons we chose Körber was their reputation for easy implementations, and they didn’t disappoint.”

Demetrius Smith
DC Manager and Head of Operations at Nilfisk

Multiple language options

The project included voice-enabling all batch picking procedures, and because a high percentage of the workforce was Spanish speaking, Smith added this language option for the picking instructions. However, in his words, “One of the biggest surprises of the implementation was that no one wanted the Spanish option. They all said voice was so easy to use and understand that they had no problem sticking with English. Some of them were even using it to help them learn and understand English.”

Exceeding expectations

The one issue that arose throughout the whole process was with Nilfisk’s internal wireless network, which was initially struggling to provide coverage in the far corners of the large warehouse. “Even though it wasn’t an error on their part, Körber helped us figure out how to fix the problem. Once that was accomplished, we started seeing immediate improvements in productivity,” said Smith.

The initial results

Increased productivity
After implementing voice, Nilfisk experienced an immediate increase in picking productivity. “Before voice, our pickers could do 10 lines per hour,” said Smith. “During our first month with voice they were up to 15 lines. The second month they were at 17. Now, they’re consistently picking 25. I keep getting questions from upper management on where I think that number will stop. I tell them the sky is the limit with voice.”

Reduced headcount
The productivity gains have allowed Nilfisk to do more with less, leading to a significant reduction in headcount. “We are able to do more now with 13 pickers on voice than we were able to do with 30 pickers using RF and paper,” stated Smith.

Reduced operational costs
Another benefit of implementing voice has been a 35% decrease in overtime. In addition, the removal of paper-based systems has saved the organization a considerable amount of money. “We were constantly reprinting lost pick tickets. It wasn’t easy keeping up with 35 people’s worth of paper,” Smith recalled.

Increased accuracy
Along with keeping workers’ eyes on the assigned task, voice has another benefit over paper – all information is recorded in real time. “Prior to voice, we would have entire picking lines missed for orders because someone lost their list,” said Smith. “But now those lists are gone, our accuracy has increased from 99.2% to 99.8%.”

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Improved safety
According to Smith, one of the biggest unquantifiable benefits of voice is the impact on workplace safety. “We have a three-level mezzanine, and before voice someone would have to hold a bucket, labels, RF guns, and anything they picked up, then carry it all up and down the stairs. Now that they are hands free, they can safely walk up and down the stairs, securely holding whatever they picked in one hand.”

Reduced training time
Nilfisk has reported a 97% decrease in training time for pickers. “Before voice, it took more than a week. New workers would spend valuable time shadowing our more experienced workers to learn what to do, where to get the paper and tickets, where things were located, and how to use the RF guns. It was inefficient at best,” said Smith. “Now that we have voice, it only takes about one hour to train workers so they can start working in the warehouse almost immediately.”

“We can do more now with 13 pickers on voice than we could do with 30 pickers using RF and paper.”

Demetrius Smith
DC Manager and Head of Operations at Nilfisk

Improved customer service
With voice-enabled working, Nilfisk can deliver products faster. “Our turnaround time before voice was 48 hours, now it takes 12. Furthermore, we can still take orders until 3pm and ship out that same day, which has been great for customer service,” said Smith.

Return on investment
According to Smith, the return on investment (ROI) for voice was far better than expected. “We were originally quoted nine months to achieve ROI, but with the reduced headcount and operational costs, we achieved it in three.”

Expanding the use of voice

While implementing voice for picking procedures, Smith began to investigate how voice could impact the rest of Nilfisk's operation, particularly for the inspection line.

The inspection line was set up in three stages, with six employees. Each person had to:

- Complete their task
- Write their initials on a piece of paper
- Pass the piece of paper to the next person

Replicating process efficiencies
"Voice eliminated the need for paper in our picking process, and we knew we could replicate those efficiency gains on our inspection line. We needed to cut down on the amount of time it took each assembler to find a clipboard, sign the paper, remove it, and pass it on" explained Smith. "We also wanted to remove the data entry and paper storage from the process – that wasn't what we were paying them to do."

For the inspection process, the voice system guides the assemblers through their allocated tasks, logging information back into the system as tasks are completed. The system keeps track of which users are completing the inspections, and updates in real time, so there is no longer any need for writing initials, data entry, or paper storage.

"Voice has saved us so much time. For instance, if there's ever an issue with a product, we don't have to dig back through multiple sheets of paper to find out who worked on the item. We can just look it up in the system."

Demetrius Smith
DC Manager and Head of Operations at Nilfisk

The results of extending voice

Increased productivity
Once the paper was removed from the inspection process, Nilfisk saw an immediate and significant increase in productivity. "Inspection line time dropped 30% by removing the paperwork, signatures, data entry, and paper storage. Now the whole process is a great deal easier and much more efficient."

ROI
One of the most compelling parts of extending voice, according to Smith, was the ROI. "Since we already had most of the infrastructure in place, we were able to achieve ROI for the inspection line in only one month."

The future

Nilfisk is planning to expand voice beyond the US operation and into Europe.

"Based on what we've done in Springdale, and on our experience of working with Körber, we're sure that Nilfisk can bring voice to our European distribution market as well," added Smith.

When asked to give his professional opinion to any other organization considering voice, Smith's advice was simple: "Pick the leader in the industry, because they know their business and will learn yours. Voice will help you get ahead of the curve and stay ahead."

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