



Better mobile technology raises performance of warehouse workers who are visually impaired

North Central Sight Services integrates new WMS by CSSI warehouse management system with new Zebra® MC3300 mobile computers and improves the accuracy and efficiency of inventorying and picking.

SUMMARY



Customer

North Central Sight Services, Inc.
Williamsport, PA



Zebra Partner

CSSI Technologies, Registered
ISV and Solution Partner

Industry

Warehouse

Challenge

Upgrade WMS and mobile computers to accommodate workers with visual impairments for greater warehouse productivity.

Solution

WMS by CSSI
Zebra® MC3300 mobile computers

Results

- Full inventorying in 83% less time than previous manual cycle counting
- Two returns due to incorrect picks out of 15,070 orders in first eight months

Situation/challenge

The nonprofit agency employs 29 workers who are visually impaired, including its chief executive officer. Nine of these workers inventory, package and ship AbilityOne products in its warehouse as part of a program under the U.S. AbilityOne Commission®, a federal agency. The previous warehouse management system (WMS) and mobile devices provided a less-than-optimal user experience, adversely impacting warehouse productivity.

Solution

Lewisburg, PA-based CSSI Technologies, a Zebra Technologies Registered ISV and Solution Partner, integrated its WMS by CSSI product with Zebra® MC3300 mobile computers running applications with large characters, color coding and voice-directed picking.

Result

Productivity has increased dramatically. Monthly full inventorying takes just two hours, compared with manual cycle counting that previously took a day and a half. Picking accuracy also has improved, as reflected in the near elimination of returns.

Android™ migration yields better support—and user experiences

Windows® CE technical support ends in 2020, so North Central Sight Services had to move to an updated OS. In this case, Android™ made the most sense. The move also gave the nonprofit agency an opportunity to improve the productivity of its warehouse workers who are visually impaired with an upgrade to a new warehouse management system (WMS) and new state-of-the-art Zebra® MC3300 mobile computers.

North Central Sight Services provides employment opportunities for these individuals and provides them with an accessible workplace and tools as part of its mission “To provide exceptional programs, services and employment to the blind and visually impaired.” (See “A case of enhancing accessibility with technology.”)

North Central Sight Services started looking for ways to solve the accessibility challenge by engaging with CSSI, a Zebra® Registered ISV and Premier Solution Partner.

New WMS, Android™ devices accommodate disabilities

The existing WMS had many features that North Central Sight Services needed, including compatibility with its Great Plains accounting software (now Microsoft Dynamics GP), according to Kirk Ritter, senior account manager at CSSI. But the user experience on the old devices, with small text and black-and-white displays, did not accommodate the workers’ disabilities. Also, their limited range made accurate scanning of items on upper racks difficult.

After evaluating the customer’s needs, Ritter and CSSI arrived at an integrated technology solution: its own WMS by CSSI product and Zebra® MC3300 handheld mobile computers.

WMS by CSSI standardizes about 80% of its functionality and CSSI works with each customer to customize the remaining 20%, according to Ritter. Much of that involved enlarging and color-coding text for display on mobile devices. When a worker finishes scanning the correct items for an order, they get two simultaneous ‘success’ notifications: one in green text and one audible. Error notifications appear in red, accompanied by audible notifications.

“Scanning counts at the end of the month is so quick and easy—I don’t dread inventorying anymore.”

— Terri Kio
Industry Manager, NCSS



SUCCESS STORY

NORTH CENTRAL SIGHT SERVICES

Ritter notes that he could have recommended any of the multiple device brands and models CSSI offers. The MC3300s were clearly the best fit for North Central Sight Services, which ultimately chose a pistol-grip configuration, he says. The devices have functionality that enables the workers to complete tasks more efficiently, despite their disabilities:

- The new SE4850 scan engine features both short- and long-range scanning capability. Workers can be sure they're capturing data from both 1D and 2D barcodes in one scan as close as 2 inches away and as far away as 60 feet, every time.
- The modern color MC3300 interface suits the color coding CSSI programmed into the WMS.
- CSSI incorporated voice guidance into the customer's order-picking application using a Google voice programming tool. Workers don't need to rely on visual guidance alone to make their next pick.
- Also, North Central Sight Services used StageNow, part of Zebra's Mobility DNA software portfolio, to stage multiple MC3300s upon implementation.

Immediate benefits upon implementation

Once the customer gave CSSI approval to start on development work, it only took a month to get to testing and user acceptance training. Upon full implementation of the new technologies, North Central Sight Services began to enjoy immediate benefits.

Previously, workers cycle-counted inventory by writing down totals and then entering them into spreadsheets, a process that took a day and a half, according to Terri Kio, industry manager. "Before we used scanning in the process, we would manually count everything and write it down," she says. "That would take a day. Then we would recount the inventory, manually post it to a spreadsheet and then adjust it." Later, workers used



Windows® CE-compatible mobile computers, but connectivity was sporadic and workers wound up manually recording many of the item counts anyway.

Now, the MC3300s' user experience is so efficient that North Central Sight Services has begun full monthly inventorying, a process that takes just two hours. "Scanning counts at the end of the month is so quick and easy—I don't dread inventorying anymore," says Kio, adding that inventory accuracy also has improved.

The MC3300's long-range scanning and voice guidance capabilities also boost the efficiency and accuracy of other scanning-driven warehouse processes such as picking. Kio determined that only two orders out of 15,070 were returned due to inaccurate picks in the first eight months of the new technology implementation.

Ritter says CSSI's growing partnership with Zebra® gives the company greater go-to-market value. "Zebra® is giving me better tools to compete with," he says. "Our relationship is growing, based on Zebra® bringing new solutions to market sooner than competitors are. Also, my customers know that when they buy a Zebra® device, there will be an upgrade in three years. They want to share that information internally for budgeting purposes. For me, that's the benefit of selling Zebra® solutions."



Kio and North Central Sight Services are pleased with both the new MC3300s and their experience with CSSI. The Zebra® partner assigned an account administrator who provided weekly updates on the technology migration and helped the customer sell back its old devices. Also, Ritter brought in four different MC3300 configurations so the customer could try them out. “It all went so smoothly—everything was delivered on time and we weren’t waiting on anything,” Kio says.

A case of enhancing accessibility with technology

North Central Sight Services has made a commitment to providing genuine employment opportunities to workers who are visually impaired by participating in a U.S. government program. As part of its inherent purpose of serving this population, the nonprofit agency also makes an accessible workplace available.

AbilityOne, which dates to the 1930s, provides employment opportunities for more than 47,000 Americans who are blind or have other severe disabilities. They manufacture and ship more than 3,000 Skilcraft® and other AbilityOne products, including janitorial equipment, office supplies, medical supplies, tools and uniforms. The program is a trusted supplier to the U.S. government and military.

As the global population with visual impairments grows, employment programs such as these will become more important. In the United States, where North Central Sight Services is based, 19.1% of people with a disability were employed in 2018, compared with 65.9% of those without a disability, according to the U.S. Bureau of Labor Statistics. Also, the unemployment rate for those with a disability was 8%, versus 3.7% for those without a disability.

Organizations’ commitments to providing more accessible workplaces will grow in importance, too. In many cases, supplying workers with technology that accommodates disabilities will be a major aspect of their workplace accessibility initiatives. North Central Sight Services’ migration to CSSI’s warehouse management system (WMS) and Zebra’s MC3300 mobile computers is one prototypical example.

To learn more about how you can optimize your workforce with mobile computers, visit [zebra.com](https://www.zebra.com)



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