



## CLAYTON ASSEMBLY PLANT & LOGISTICS WAREHOUSE

### QuickPick®

Warehouse Management  
Software



#### Integrated Visual Systems

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*SHINING THE LIGHT ON  
TECHNOLOGY...*

For more than 80 years, Caterpillar Inc. has been building the world's infrastructure. A Fortune 100 company, Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines and industrial gas turbines. Caterpillar products and components are manufactured in 50 U.S. facilities and in over 60 other locations, in 23 countries around the globe.

The manufacturing facility in Clayton, NC and the logistics warehouse in Smithfield, NC implemented the **QuickPick®** WMS system to facilitate real-time ordering and delivery of parts to the assembly line. In the manufacturing facility, each assembly area has dedicated part locations. Based on the build schedule, these line-side part locations are stocked and replenished with inventory from the off-site warehouse and yard.

Line checkers and assembly workers can order replenishment parts for an area by simply scanning the location tag and entering the number of "loads" needed. They can also raise the priority of the order if parts are needed immediately. The Line Orders which are generated are automatically assigned to the warehouse or yard storage area where the parts are stored.

Pickers sign-on to their "service area" utilizing mobile wireless terminals from LXE and Cisco access points. They are then directed to pick the orders in the stock bins assigned to that area. The system sorts orders and pick locations to assure that FIFO inventory rotation and picker efficiency is maintained.

*"Good Job Guys. I know this was a challenge but you guys worked through it."*

- Don Williams, IT Project Manager, Caterpillar

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SHINING THE LIGHT ON TECHNOLOGY

Orders picked in Clayton are delivered directly to the line. Orders picked in the warehouse in Smithfield are loaded, manifested and transferred to Clayton. When the truck arrives in Clayton, the parts are scanned as they are unloaded to confirm that everything on the manifest was received. When the line checkers deliver the parts they are scanned to verify the part number and assembly location.

A full transaction history is maintained for each load processed into inventory. The loads are PO received on the Caterpillar mainframe system and then downloaded through the WMS interface. Loads that were shipped directly to either facility and not crossed-docked in Peoria, IL will have barcode labels generated for them by the WMS.

When loads are downloaded into the WMS, they are flagged with an "LDI" status meaning they have been processed by the mainframe but not physically acknowledged (scanned) into the WMS. An RF function is utilized by the receiving clerk to confirm that loads have been scanned on the receiving dock. This function also checks for part shortages and alerts the operator if the part number for the load scanned needs to be "EXPEDITED".

Parts are then routed to a storage area based on the Part Master configuration. Parts that are in containers that cannot go directly to the line are routed to either the Load Split or Repack service areas to be placed in the appropriate container. To stock a load, the operator scans the Load ID and the system provides a suggested put-away location based on the stocking area for the part number, the size of the container and the availability of stock locations.

Caterpillar has approximately 200 users on the IVS.Warehousing WMS system. They utilize a Cisco wireless backbone and industrial wireless barcode terminals from LXE. A T1 line connects the Smithfield logistics warehouse to the manufacturing plant. All servers and mission critical workstations are located in the computer room at the Clayton facility.



### About Integrated Visual Systems

Integrated Visual System's sole focus is to deliver world class solutions to meet our clients automated data collection (ADC) requirements. To meet these specific requirements, we maintain a full development staff in-house. Both standard packages and custom designed applications are written and supported.

IVS provides a resource for companies who wish to implement integrated ADC systems without the expense of having a specialist on staff. With our years of experience in the design, installation, and support of ADC systems, we can help companies realize the full potential of the data collection equipment available on the market today and in the future. IVS supports ADC systems in a variety of industries including distribution, manufacturing, textiles, apparel and furniture.



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