



Modernizing Municipal Inventory Management with Mobile Data Collection and ERP Integration

Case Study:

IBC International Bar Coding Delivers a Municipality-Wide Inventory Tracking Solution

Executive Summary

A medium-sized municipality was facing significant operational inefficiencies caused by a paper-based inventory management process. Employees relied on clipboards, manual inventory counts, and handwritten checkout records to track materials used across public works, parks, utilities, fleet maintenance, fire department, and facilities operations. The lack of real-time inventory visibility often resulted in misplaced items, duplicate purchases, and time-consuming searches for inventory.

To address these challenges, the municipality partnered with IBC International Bar Coding Systems & Consulting to implement an integrated inventory management solution consisting of Zebra mobile computers running a custom Android application, Zebra desktop label printers, a centralized enterprise server, and an intermediate database layer connecting inventory transactions with its Unit4 ERP system.

The result was a municipality-wide transformation that reduced annual labor costs associated with inventory picking and tracking from more than \$300,000 to approximately \$55,000, while improving inventory accuracy and recovering an additional \$10,000 in returned materials during the first year of operation.

The Challenge

The municipality needed a solution capable of:

- Digitizing inventory transactions across all departments
- Integrating with the existing Unit4 ERP environment
- Tracking materials issued against work orders
- Improving inventory visibility and accountability

The existing clipboard-based process generated annual labor costs exceeding **\$300,000**, largely due to time spent locating materials, manually recording transactions, and reconciling inventory counts. Without real-time inventory visibility, employees frequently struggled to determine stock availability and item locations, creating additional inefficiencies across municipal operations.



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The Challenge

The municipality needed a solution capable of:

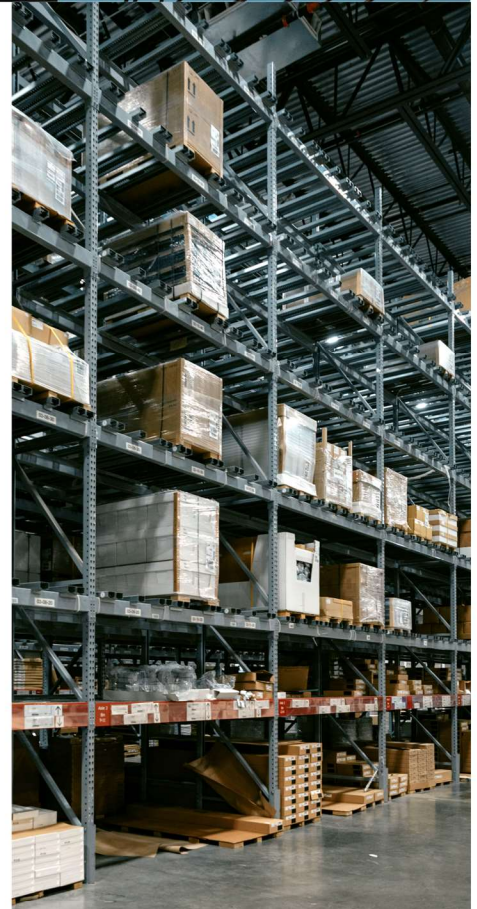
- Digitizing inventory transactions across all departments
- Integrating with the existing Unit4 ERP environment
- Tracking materials issued against work orders
- Improving inventory visibility and accountability
- Reducing labor associated with manual inventory processes

The Solution

IBC International Bar Coding designed and implemented a fully integrated inventory management platform featuring:

- [Zebra Android Mobile Computers](#) for real-time inventory transactions
- [Custom Android API Applications](#) for item lookup, checkout, receiving, and work order allocation
- [Zebra Desktop Label Printers](#) for barcode identification and inventory labeling
- Enterprise Server Infrastructure for centralized data management
- Intermediate Database Integration Layer connecting mobile transactions to Unit4 ERP
- Municipality-Wide Deployment across inventory locations and operational departments

The intermediate database served as a validation and synchronization layer between the mobile platform and Unit4, ensuring accurate, reliable data exchange without disrupting existing ERP processes



Key Impact: IBC's integrated mobile inventory solution reduced annual labor costs by more than 80%, while providing real-time inventory visibility and recovering \$10,000 in previously untracked returned materials during the first year of operation.