

RFID Evidence Management & Real-Time Chain-of-Custody Tracking for Law Enforcement

Case Study:
IBC International Bar Coding
Develops RFID Evidence Management for Law Enforcement

Executive Summary

A North American law enforcement agency engaged **IBC International Bar Coding Systems & Consulting** to modernize the management and tracking of evidence within its evidence room. The agency required a system capable of maintaining continuous visibility of evidence from intake through storage, movement, inventory, and release. Traditional evidence-room processes can create operational risks when items are misplaced, incorrectly categorized, or moved without appropriate authorization. IBC developed an integrated **RFID evidence management system** combining RFID Asset Evidence Labels, digital scales, encrypted databases, RFID mobile computers, IBC RFID Portal Doors, employee RFID access cards, and Zebra RFID printers. The system established a controlled digital chain of custody in which evidence could only be moved after being pre-assigned by an authorized supervisor. RFID access credentials identified personnel entering the evidence environment, while RFID portals and handheld RFID computers provided automated and mobile inventory verification.

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The Challenge

Evidence rooms require a high degree of accountability. Every item must be identifiable, properly categorized, securely stored, and available when required for investigation, prosecution, or other authorized purposes. The agency identified several risks associated with managing a large and continually changing evidence inventory:

- Evidence could potentially be misplaced within the facility.
- Items could be stored in the wrong location or category.
- Movement of evidence required strict authorization and accountability.
- Inventory verification could be labor-intensive.
- The agency needed a reliable way to identify personnel interacting with the evidence environment.
- Evidence information needed to remain secure and protected from unauthorized access.
- Personnel needed immediate visibility into the status and location of evidence.



The agency needed more than a barcode database. It required an integrated physical and digital control system capable of connecting the evidence item, its location, the employee handling it, and the authorization for its movement.

The Solution

IBC designed and implemented an RFID-enabled evidence room tracking system incorporating multiple technologies into a single evidence management environment. The solution included:

- **RFID Asset Evidence Labels**
- **Zebra RFID Printers**
- **RFID-enabled Mobile Computers**
- **IBC RFID Portal Doors**
- **Digital scales**
- **Encrypted evidence database**
- **RFID employee access cards**
- **Supervisor authorization and pre-assignment workflows**
- **Automated RFID inventory management**

Each evidence item could be assigned an RFID identity that connected the physical object to its digital record.

This created a digital relationship between the evidence item, its classification, its authorized location, its movement history, and the personnel involved in handling it.

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RFID Evidence Identification

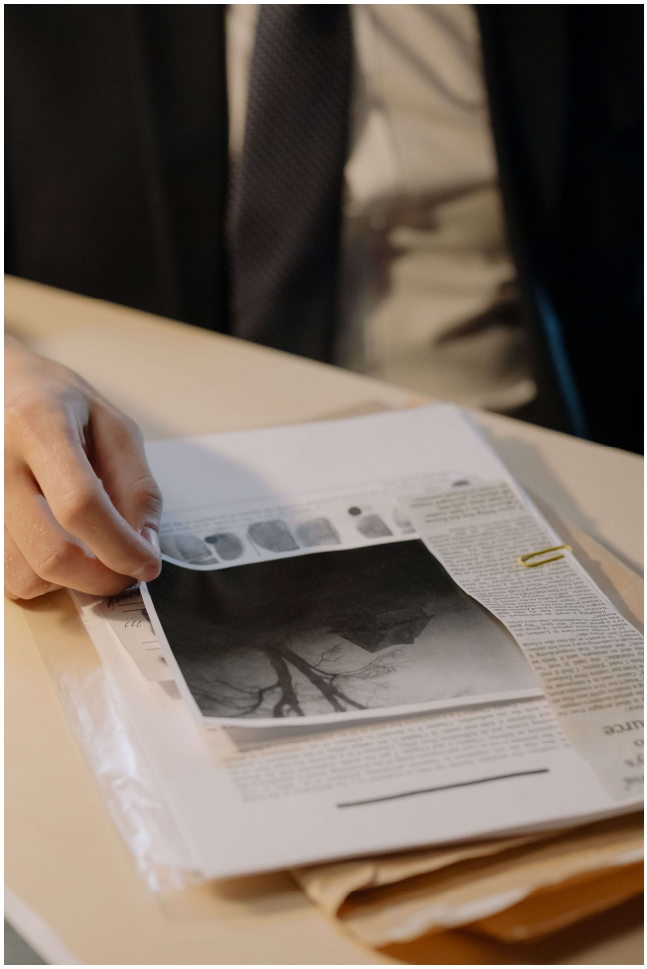
RFID Asset Evidence Labels, printed with Zebra RFID printers, assigned each evidence item a unique digital identity linked to its encrypted database record for identification, location, authorization, and status tracking.

Controlled Evidence Movement

Supervisor pre-authorization was required for all evidence movements, linking each item to its authorized employee, destination, and digital transaction record.

RFID Access Control

RFID employee access cards identified personnel entering the evidence room, connecting employee access and activity to the digital chain-of-custody records.



IBC RFID Portal Doors

IBC RFID Portal Doors automatically detected tagged evidence passing through controlled access points and validated movements **against authorized transactions to identify discrepancies or unauthorized transfers.**

Digital Scales and Evidence Verification

Digital scales captured evidence weight and associated it with the database record, providing an additional verification point alongside RFID identification.

Real-Time RFID Inventory

Handheld RFID mobile computers rapidly inventoried multiple evidence items, verifying their locations and identifying missing, misplaced, mis-categorized, or unexpected items.

Encrypted Evidence Database

A centralized, encrypted database maintained secure digital records of evidence identification, classification, location, authorization, personnel, and movement history.

Results & Benefits

IBC's RFID evidence management solution was designed to eliminate the traditional gaps associated with misplaced, mis-categorized, or improperly moved evidence.

By connecting **RFID-tagged evidence, employee credentials, authorized assignments, portal detection, mobile inventory, digital weight verification, and an encrypted database**, the agency gained a system designed to provide continuous visibility into its evidence inventory.

The result was a digital evidence environment designed to:

- Reduce misplaced or mis-categorized evidence
- Control unauthorized evidence movement
- Authenticate evidence in real time and Track evidence location
- Identify personnel associated with evidence activity
- Accelerate inventory verification
- Strengthen chain-of-custody accountability
- Provide a centralized and secure evidence record

Conclusion

Evidence management requires more than knowing that an item exists. Law enforcement agencies need to know what the item is, where it is, who has interacted with it, whether its movement was authorized, and whether the physical item matches its digital record. IBC addressed these requirements by integrating RFID identification, automated portal detection, mobile inventory technology, employee RFID credentials, digital scales, Zebra RFID printing, and encrypted database technology into a unified evidence management solution. The resulting system moved evidence management toward a real-time, digitally authenticated chain of custody, providing the agency with greater control and visibility over its evidence inventory.



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