

Case Study | LIGHT INDUSTRIAL

Inventory Management with RFID for a Warehouse Operations Department



Problem

Manual inventory management was slow and prone to human error.

Inaccurate inventory data led to inefficient stock levels, causing stockouts or costly overstocking.

Solution

Implemented an RFID-based inventory management system:

- ✓ **RFID Tagging:** Attaching RFID tags to each item for unique identification.
- ✓ **RFID Readers:** Using handheld or fixed scanners to quickly capture item data.
- ✓ **Inventory Management Software:** Integrated with RFID readers to manage real-time inventory data.
- ✓ **Barcode Backup:** Using barcode scanners for items without RFID tags or as redundancy.

Results

- ✓ Dramatically improved inventory accuracy, minimizing stock discrepancies.
- ✓ Significantly reduced time spent on inventory counts, freeing up staff for other tasks.
- ✓ Optimized stock levels, reducing the risk of stockouts and overstocking.

Technology Stack

- ✓ **RFID Tags:** Choice of tags appropriate for the items being tracked.
- ✓ **RFID Readers:** Handheld or fixed, depending on the use case.
- ✓ **Inventory Management Software:** System capable of integrating RFID data.
- ✓ **Barcode Scanners:** For supplementary use.

Software Development

- ✓ **Middleware:** Robust middleware layer to process real-time RFID data streams.
- ✓ **Inventory Logic:** Integrating inventory control rules and calculations into the management software.
- ✓ **Dashboards:** Visualizations for real-time inventory tracking and analysis.

Before Metrics

Inventory accuracy: 85%

Time spent on cycle counts: 2 days per month

After Metrics

Inventory accuracy: 98%

Time spent on cycle counts: 4 hours per month