RFID

Warehouse Solutions

ZEBRA   **TEC-RFID**

WHAT IS RFID?

WAREHOUSE MANAGEMENT CHALLENGES

Warehouse management brings unique challenges. Stocktaking is a painstaking and inaccurate process that involves countless hours of manually scanning barcodes. Picking innaccuracies mean lost opportunities and chargeback penalties. In a warehouse with millions of items, locating a specific product can be a logistical nightmare and equipment losses are frequent.

What if there was a solution to all these problems? The solution is here: Radio Frequency Identification (RFID).

HOW RFID WORKS

RFID is a technology system that can identify an object using radio waves. The reader transmits a signal to unique tags, which respond with product data. Warehouses use Ultra High Frequency (UHF) RFID for tracking, which has the longest read range.

RFID Capabilities:

▸ Read hundreds of tags in seconds
▸ No need for line of sight
▸ Extreme durability
▸ Hold more data
▸ Read range up to 150 meters
▸ Tags can be rewritten

This enables great improvements in the speed and accuracy of tracking assets and inventory.

LF : 30 - 300 kHz - Access fobs, animal tracking

HF : 13.56 MHz - ID cards, NFC

UHF : 865-868 MHz - Inventory, asset tracking
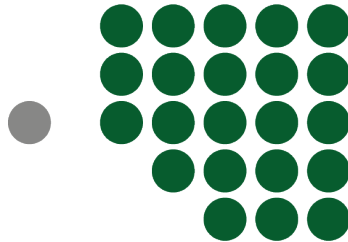
RADIO SPECTRUM

BENEFITS OF RFID

1. Time savings

READ TIMES

Barcoding : 209 items per hour

RFID : 4767 items per hour

A 10,000 item stocktake was cut from 53 hours to just 2 hours, a 96% time reduction.

2. Inventory accuracy

INVENTORY ACCURACY

RFID improves accuracy by eliminating missed barcodes and double-scanned barcodes.

BARCODING
65%

RFID
95%

3. Locating items

FIND ITEMS WITH A REAL TIME LOCATION SYSTEM

Attaching RFID tags to assets, pallets or products enables you to find items quickly and easily. A study on click-and-collect orders found a huge reduction in the time it took to retrieve orders.
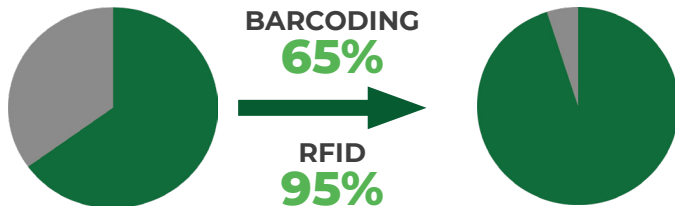
EXPECTATION
90 seconds

AVERAGE
4 minutes

WITH RFID
12 seconds

10 retailers with combined yearly sales of £80 Billion trialled RFID and...

100%

Reported positive ROI

ASSET MANAGEMENT

RFID Asset management allows you to count and locate items while checking their inspection status to save time, reduce losses and improve safety and compliance all at once.

BENEFITS

1. Gain real-time visibility of your assets
2. Save time over manual inventory
3. Locate any item with Zebra Real Time Location Software
4. Track the movement of items
5. Improve maintenance and safety through timely hardware checks and replacement
6. Improve compliance

CASE STUDIES

US GOVT. AGENCY
- 250,000 items tracked
- 100% inventory accuracy
- 80% reduction in time taking inventory
- ROI in 18 months

TECHNOLOGY COMPANY
- Manual inventory took 2 people 2 weeks to complete
- RFID inventory takes 2 people 4 hours to complete
- Accuracy went from 46% to 99.8%

INVENTORY MANAGEMENT

RFID inventory management provides up-to-date information on stock levels, giving you the insight you need to make smart business decisions.

BENEFITS

1. Reduce warehouse labour costs
2. Reduce cycle count time
3. Increase inventory accuracy to 95% or more
4. Reduce picking errors and prevent charge-back penalties
5. Reduce inventory carrying costs
6. Reduce out of stocks

CASE STUDIES

WALMART
- 96% reduction in cycle counting time
- Inventory accuracy improved by 26%
- Understocks decreased by 21%
- Overstocks decreased by 6%

MACY'S
- 200% surge in sales volume
- Inventory accuracy of 95-97%
- Decrease display shortages from 30% to 4-6%
- Fill orders 6.1% more than non-RFID

HANDHELD **READERS**

ZEBRA MC3330R READER

▸ Superior speed, comfort and ease of use

▸ Best in class read rate

▸ Android 7.0

▸ 1.5 m drop spec

▸ IP 54 sealing

▸ EPC Class 1 Gen 2; Gen 2V2

▸ Read range: 6 m

ZEBRA RFD8500 SLED

▸ Add UHF RFID reading capability to Zebra mobile devices

▸ Bluetooth 2.1

▸ Memory for 40,000 RFID tags

▸ 1.2 m drop spec

▸ IP 52 sealing

▸ EPC Class 1 Gen 2; Gen 2V2

▸ Read range: 6 m

ZEBRA MC3390R READER

▸ Superior asset and inventory management

▸ Best in class read rate and accuracy

▸ Android 7.0

▸ 1.5 m drop spec

▸ IP 54 sealing

▸ EPC Class 1 Gen 2; Gen 2V2

▸ Read range: 18.2 m

ZEBRA FX9600 READER

▶ Ideal for high volume reading

▶ Diecast aluminium housing

▶ Power over ethernet

▶ 4 or 8 monostatic antenna ports

▶ Max receive sensitivity of -86 dBm monostatic

▶ IP53 sealing

▶ EPC Class 1 Gen 2 V2

AN440 ANTENNA

▶ Perfect for stockroom shelves, warehouse doorways etc.

▶ High-volume and long read range

▶ Two antennas in one

▶ Gain of 6 dBiL

▶ Front to back ratio of 20 dB

▶ IP67 sealing

ZEBRA FX7500 READER

▶ Software based radio

▶ Power over ethernet

▶ 2 or 4 monostatic antenna ports

▶ Max receive sensitivity of -82 dBm monostatic

▶ EPC Class 1 Gen 2

IP SEALING RATINGS

OBJECTS

1 large surfaces
2 fingers or similar
3 tools, thick wires
4 most wires, screws
5 partial dust ingress
6 no dust ingress

LIQUIDS

1 dripping water
2 dripping tilted at 15°
3 spray at up to 60°
4 splashing water
5 6.3 mm water jets
6 12.5 mm water jets
7 immersion up to 1 m
8 immersion beyond 1 m

RFID **TAGS**

GENERAL LABELS

▸ Standard RFID readers

▸ Paper and synthetic materials

▸ Used on non-metallic surfaces, plastics and corrugate

▸ Used for distribution, shipping and receiving and warehouse operations

SPECIALTY LABELS

▸ Specialty situations, such as asset tagging

▸ Metal surfaces

▸ Liquid-filled containers

▸ Asset tracking of tools, fixtures, metal parts, returnable containers, chemical drums and more

ADVANCED LABELS

▸ Higher read performance

▸ Longer read ranges

▸ Retail

▸ Healthcare

▸ Manufacturing

EPC RFID TAG RATINGS

EPC CLASS 1 GEN 2

▸ 40-50 year data retention
▸ 100,000 write cycles
▸ 256 bit memory
▸ 96 bit EPC
▸ Some tags have 2,048 bits

EPC GEN 2 V2

▸ Anti-counterfeiting
▸ Added security
▸ Different access privileges
▸ Untraceability
▸ Loss prevention (you can check if a product has been sold)

RFID **PRINTERS**

ZEBRA ZT600 SERIES

- ▸ High volume, industrial durability
- ▸ User friendly
- ▸ Advanced RFID encoding
- ▸ Print width: 104/168 mm
- ▸ Print speed: 305-356 mm per second
- ▸ Print resolution: 203-600 dpi
- ▸ Ethernet interface with optional WiFi

ZEBRA ZQ520 PRINTER

- ▸ Mobile, rugged printer
- ▸ Encodes advanced inlays
- ▸ Long battery life (2452 mAh)
- ▸ Print width: 105 mm
- ▸ Print speed: 305 mm per second
- ▸ Print resolution: 203 dpi
- ▸ 2 m drop spec
- ▸ IP 54 sealing

ZEBRA ZT400 SERIES

- ▸ Advanced RFID features and connectivity
- ▸ Efficiently produce labels for item level tracking
- ▸ USB 2.0/WiFi/Bluetooth
- ▸ Print width: 104/173 mm
- ▸ Print speed: 305-356 mm per second
- ▸ Print resolution: 203-600 dpi

SOFTWARE AND SERVICES

BESPOKE SOFTWARE

▸ We design custom software for your unique business needs

▸ Already have software that you love? No problem, we can integrate RFID capability into your existing system

▸ Our experienced developers work with Windows CE, Android, desktop computers and more

STARTER KIT

▸ Discussion of your application

▸ MC3330R handheld reader or RFD8500 RFID sled

▸ Selection of tags

▸ Demo application

▸ Proof of concept trial

▸ Contact our team today

GET IT ON ANDROID

▸ Rugged handhelds are increasingly Android based

▸ Microsoft is ending support for Windows CE in 2020

▸ Without support, your software will get outdated and is vulnerable to security breaches

▸ We are experienced in migrating Windows Software to Android to keep your business running

TRY RFID TODAY!

LEADING COMPANIES ARE USING RFID. WILL YOU?

In the era of online shopping and omnichannel fulfillment, there is more pressure on warehouses to deliver quickly, accurately and economically. RFID has proven benefits and ROI.

Between 2015 and 2020, retailers, manufacturers, distribution and logistics providers plan to more than double their usage of RFID. Warehouses will benefit from RFID. Will it be yours?

ZEBRA

Since 1969, Zebra has been empowering businesses with enterprise technology.

Zebra is a proven market-leader in RFID, with more fixed, handheld and portal RFID systems installed than any other brand. Zebra is always innovating at the edge, with over 300 current RFID patents.

"I'M IN. WHAT'S NEXT?"

Businesses are sometimes hesitant to implement RFID because it can be complicated and you have to find hardware and software from different companies and piece together a solution.

We solve that by being the one place where you can get everything you need for RFID: readers, antennas, tags, software and more.

Visit tec-rfid.co.uk for more information, or contact our friendly and knowledgeable team to book a demo.

TEC-ID

At Tec-ID, we are experts in helping businesses implement mobile, barcoding and RFID solutions to streamline their operations.
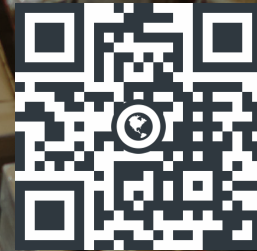
Our team has decades of experience working with top brands in retail, healthcare and logistics. We offer no-obligation quotations and demos: you only pay if we can solve your problem.

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Turbocharge your business with RFID Solutions.

tec-rfid.co.uk

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