Zebra RFID Strategy and Solutions

RFID Forum 2025

James Poulton
VP & GM, Enterprise Mobile Computing

We deliver industry-tailored, end-to-end solutions that intelligently connect people, assets and data to help our customers make business-critical decisions.

Solutions Backed by an Industry Leader

Trust us to guide your modernization journey

Global Partner Ecosystem
And Zebra's award-winning PartnerConnect Program

One Provider, One Solution
End-to-end, holistic retail solutions

Agile Innovator
Always ahead, hundreds of millions in R&D, 4,400+ patents

A Recognized Global Leader
60% of the retail market uses Zebra

$567M
R&D spend (10% of sales)

Zebra Awarded **"Top Retail Vendor in 2024"** by RIS Software Leader Board

55+ Years of Experience
Empowering the front line



What's Driving RFID Expansion

- Stable and robust **global standards**
- Consistent and **reliable performance**
- **Lower Cost** tags
- Retail mandates **expanded source tagging**
- **Intrinsic value** of common use cases
  - Retail inventory visibility / Loss Detection
  - Package / Parcel logistics tracking
  - Manufacturing shipment accuracy
  - Asset management



Enterprises Continue To Invest To Drive Cost Optimization and Operational Efficiency

Led By The Lower Costs And Easier System Implementation

2024 Workflow Update Top Use Cases

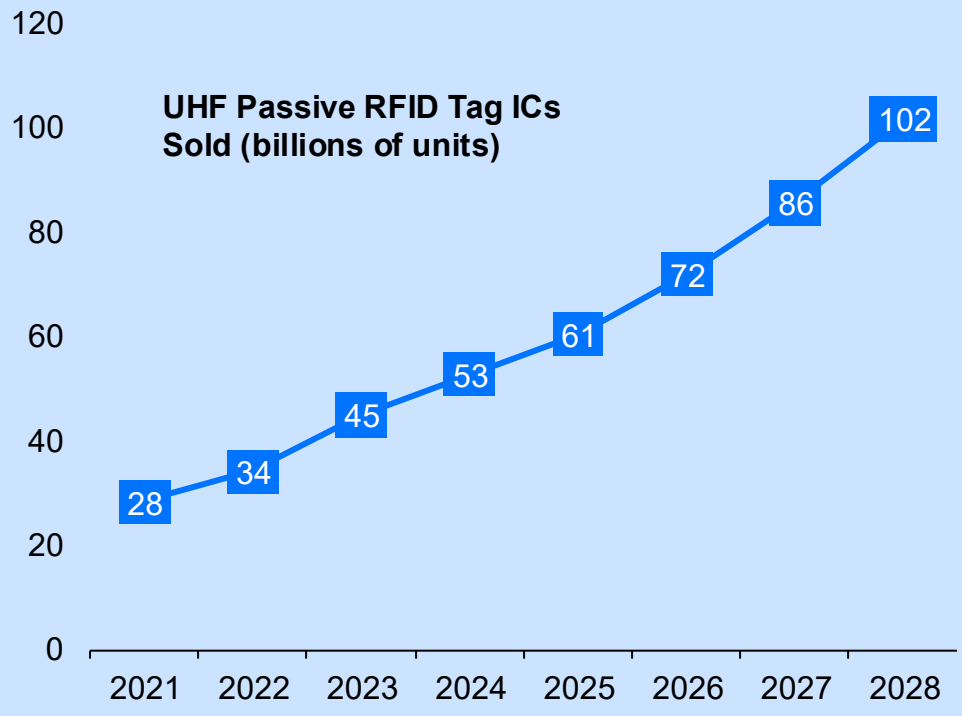
Retail / Other
– Product ID: 58%
– Product Exit: 18%
– Product Exit Apparel 20%

Manufacturing
– Site Asset Management: 33%
– Returnable Transport: 26%

T&L
– Supply Chain / Distr.: 61%

~53B UHF RFID tags sold in 2024

Clear growth path to ~100B within 3 years

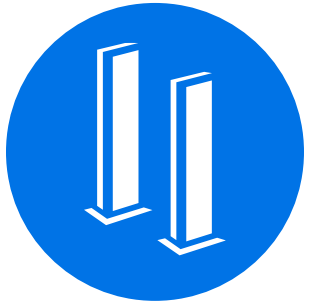


Source: VDC Research and Zebra Market Intelligence

Portfolio



Handheld RFID Readers



Integrated RFID Portals



RFID Printers



Fixed and Overhead RFID Readers



RFID Antennas



RFID Labels and Supplies

Nearfield to Fixed







Short Range Handheld "Near Field" < 5ft

Standard Range Handheld 1-35ft

Fixed Infrastructure (Control Points or Overhead Arrays) 5-50ft

Online Order Fulfillment
Last Meter Picking
Item Locationing
"Find-It"

Inventory
Cycle
Counting

Perpetual Inventory
Exit Detection

Short-Range Handhelds

Becoming Ubiquitous Across Zebra Portfolio

Connected Frontline Worker Portfolio

UHF RFID

ZEBRA

HANDHELDS

HC
Healthcare

HC20 / HC25
HC50 / HC55



PS
Personal Shopper

PS30



EM
Enterprise Mobile

EM45 RFID



TC
Touch Computer

TC2

TC22
TC27



TC53
TC58



TC5

TC53e,
TC53e RFID
TC58e



TC7

TC73
TC78



TC83



MC
Mobile Computer

MC3400
MC3450



MC9400
MC9450



TABLETS KIOSKS VC

ET
Enterprise Tablet

ET40-HC
ET45-HC



ET40, ET45



ET60, ET65



ET80 / ET85



KC
Kiosk Solutions

KC50, TD50



VC
Vehicle Computer

VC8300



WEARABLES

WS
Solutions

WS101-H



WS101



WS501



WS50
Scan, RFID Camera



WS50 Frontline



WT
Terminal

WT5400 /
WT6400



RS
Ring Scanners

RS2100



RS5000X



RS5100



RS6100



EM45 RFID – Enterprise Mobile

UHF RFID

ZEBRA

Smartphone Ergonomics
Business Durability
Enterprise IT Managed
Individually Assignable

- **For Users** who prefer the ergonomics of a consumer smartphone
- **For Operations** who provide assign smartphone-like devices to users with light barcode scanning needs
- **For IT** who need enterprise-grade deployment / management / longevity for Smartphone like devices



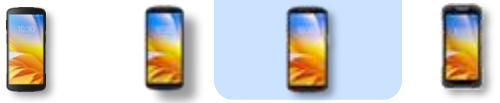
EM
Enterprise Mobile

EM45 RFID



TC
Touch Computer

TC2	TC5		TC7
TC22 TC27	TC53 TC58	TC53e, TC53e RFID TC58e	TC73 TC78



- Integrated short range RFID –
  - Zebra ”Find it” application
- Enabling Micro Locationing - 5 feet / 1.5 meters
- Zebra’s internally developed scanning framework via 50MP camera
- Zebra’s multi-barcode data capture application

TC53e RFID - Rugged Design



Read range: > 5 feet / 1.5 meters

Integrated, short-range UHF RFID provides support for new use cases:

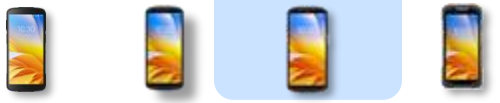
EM
Enterprise Mobile

EM45 RFID



TC
Touch Computer

TC2	TC5		TC7
TC22 TC27	TC53 TC58	TC53e, TC53e RFID TC58e	TC73 TC78



Retail
- Returns
- Item locating
- Line-busting and Mobile POS
- Ticket verification

MT&L
- Parts identification
- Electronic proof-of-delivery
- Baggage induction and tracking

Zebra DNA Android Support Ecosystem

Empowers workers and meets the needs of IT

Constant Visibility

More Uptime

Workflow Performance

Set Up

- Enterprise Mobility Development Toolkit (EMDK)
- StageNow
- Enterprise Browser
- Zebra Zero Touch
- DataWedge

Secure and Manage

- Device Diagnostic Tool
- GMS Restricted Mode
- LifeGuard for Android
- Device Guardian
- Mobility Extensions
- Identity Guardian
- OEM Config
- Enterprise Home Screen
- Wireless Insights
- Wireless Fusion

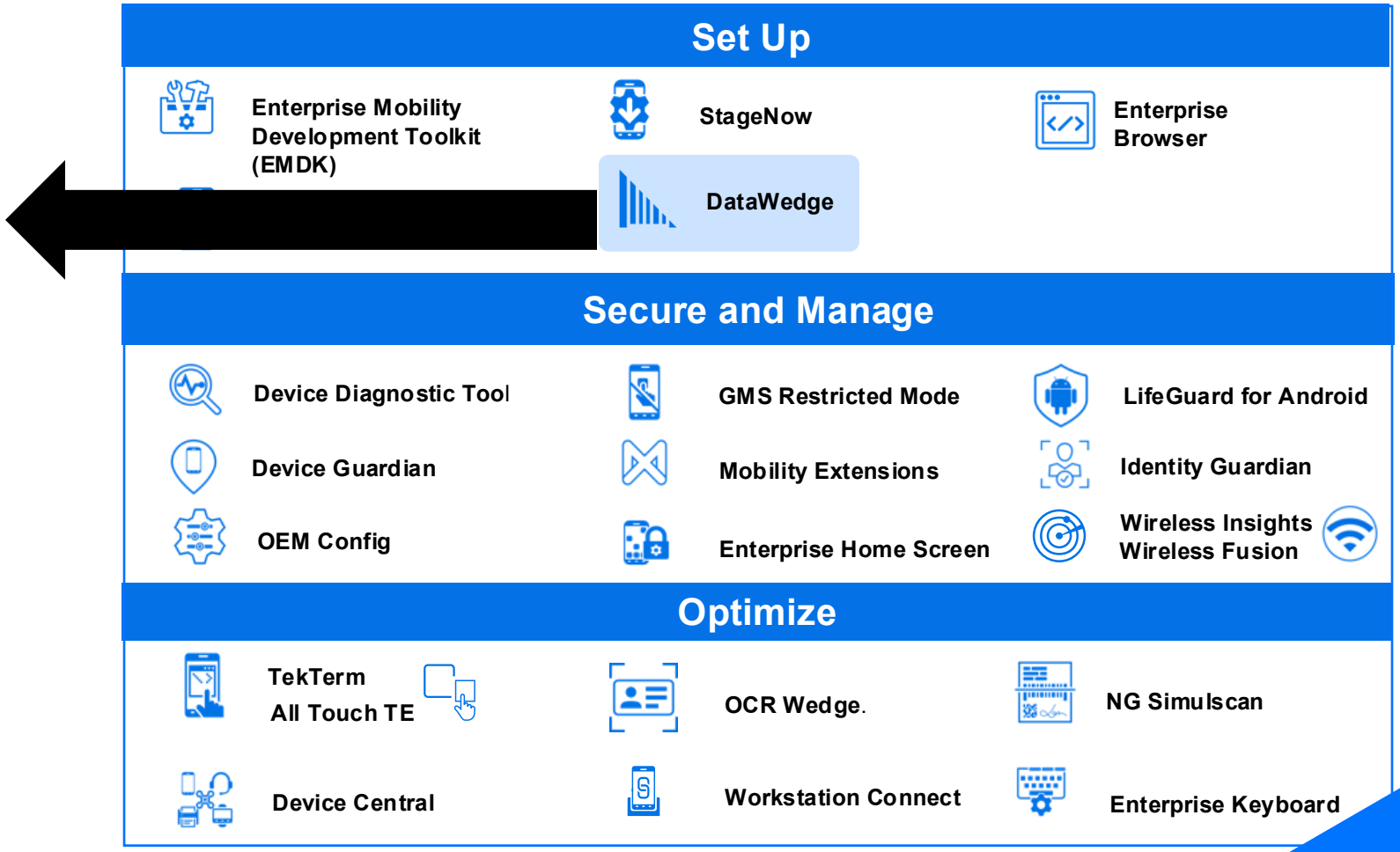
Optimize

- TekTerm
- All Touch TE
- OCR Wedge.
- NG Simulscan
- Device Central
- Workstation Connect
- Enterprise Keyboard

Zebra DataWedge

Easily Integrate Data Into Your Applications Without Time-consuming, Costly Programming

- **Data From Practically Any Device Source Captured Into Key Strokes**
- Integrated barcode scanner, camera, peripherals, magnetic stripe readers (MSR), RFID, Bluetooth ring scanners
- **UDI (UNIQUE DEVICE IDENTIFICATION) SUPPORT**: Easily identify UDI Barcodes to capture and parse.
- **MULTI-BARCODE IMAGE CAPTURE**
- **VOICE TO TEXT WEDGE, VOICE COMMANDS**



Short-Range Handhelds

Applications and Use Cases

RFID Use Cases



Retail

Boosts sales, reduces out of stocks and improves productivity

- Inventory Visibility & Counting
- Order Fulfillment
- Customer Engagement
- Asset Tracking
- Authentication / Provenance
- Loss Prevention
- Find / locate inventory



Healthcare

Increases efficiency, reduces costs and elevates patient care

- Specimen, Laboratory and Pharmacy Labeling
- DSCSA Compliance
- Records Management
- Asset Tracking
- Patient Identification



Manufacturing

Improves asset visibility, data quality and inventory management

- Work-In-Process
- Product Identification
- Shipment Accuracy
- Automated Receiving
- Asset Tracking
- Product Lifecycle



T&L

Enables smarter decisions with real-time tracking

- Distribution, Shipping and Receiving
- Warehouse Operations (Case, Pallet and Cross-Docking Applications)
- Last-mile Delivery Find / locate packages / deliveries
- Asset Tracking
- Baggage Tagging

Scan User Personas and Use Cases

WS501 RFID: Hands-free Area and Close Proximity RFID and Scan



- User Personas: Loaders, Unloaders, and Sorters
- Workers will initially use the Scan function then transition sites to the RFID function over time

User Persona	Use Case
Loader	• Pre-sorted packages automatically routed and sent down a chute • Loaders read the tag on each box before loading the package into a trailer for verification
Unloader	• Packages taken off a truck, placed on conveyor, tag read with WS501 RFID • Print a human readable label with Bluetooth printer • Label is placed on the box to route / sort packages further down the line
Sorter	• Conveyor packages picked up, reads the tags with a downward-facing near-field RFID antenna. • WS501 indicates which truck to load the package into. • Upward facing RFID antenna reads a tag on the wall of the truck to verify correct truck load

Short-Range RFID Use Cases





Luggage Search

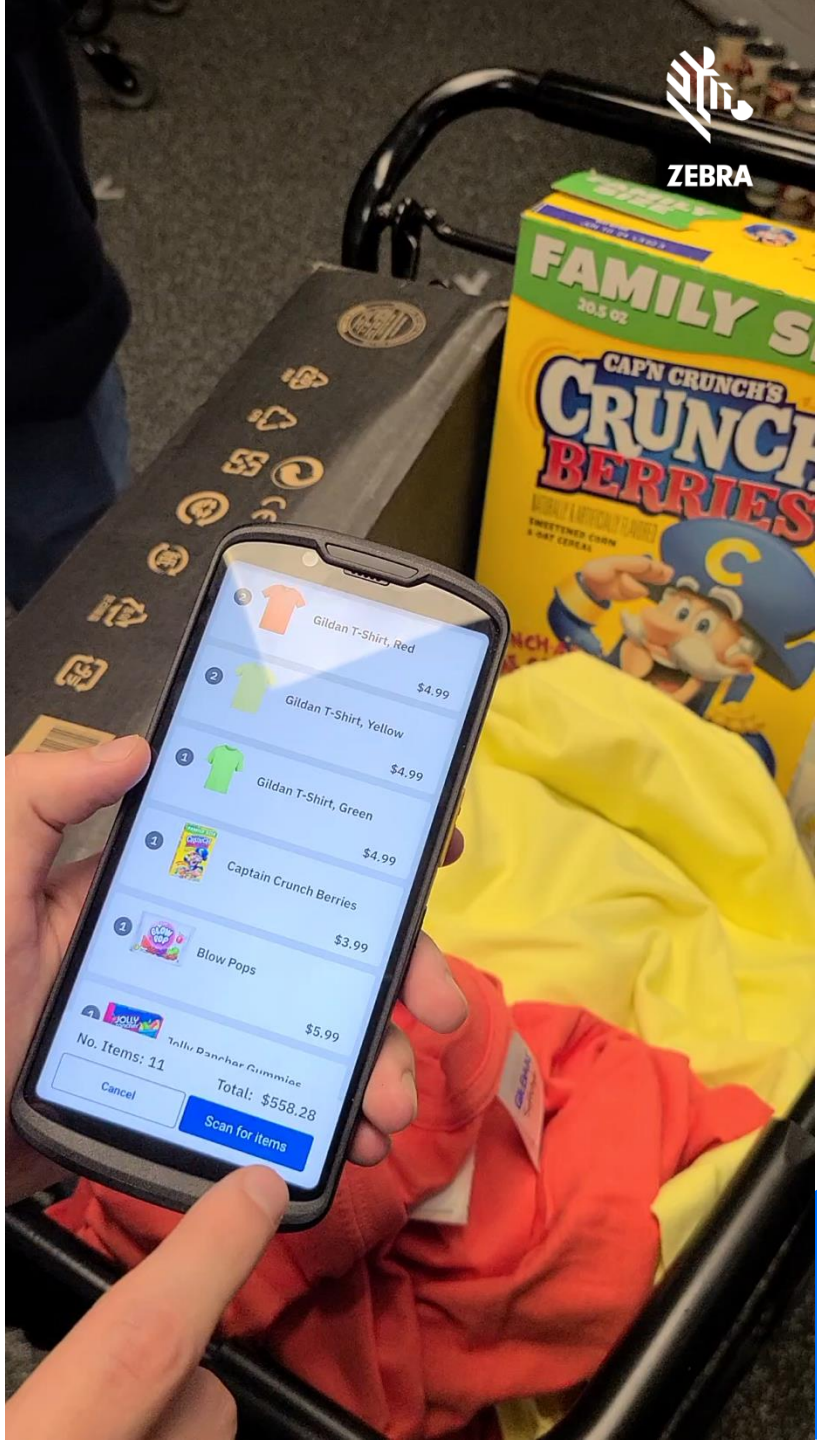


Hospitality

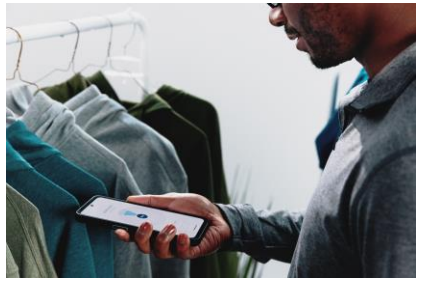
RFID POS

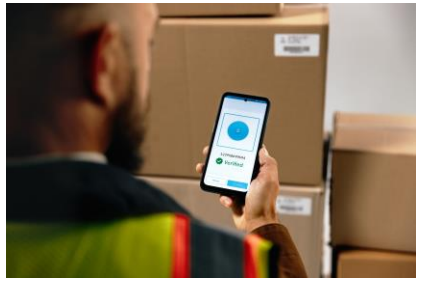


Retail
Exit Audit



Item Finding: Pick and Deliver



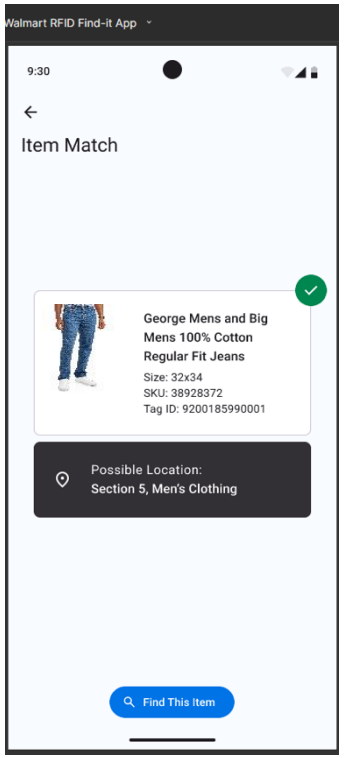


“Find It” Application with RFID Fixed Infrastructure

Reduces NIL Picks And Reduce Time For A Picker To Find An Item

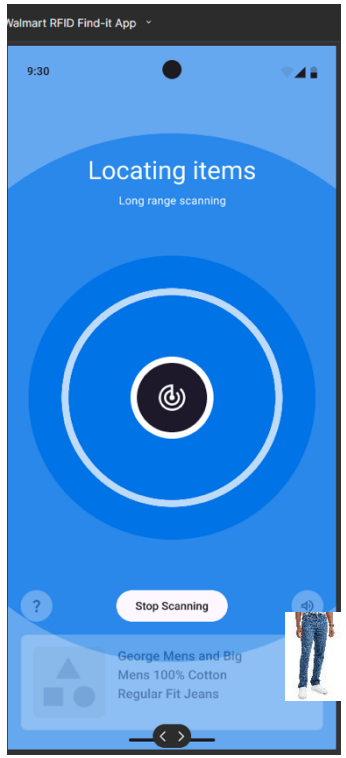
Locate

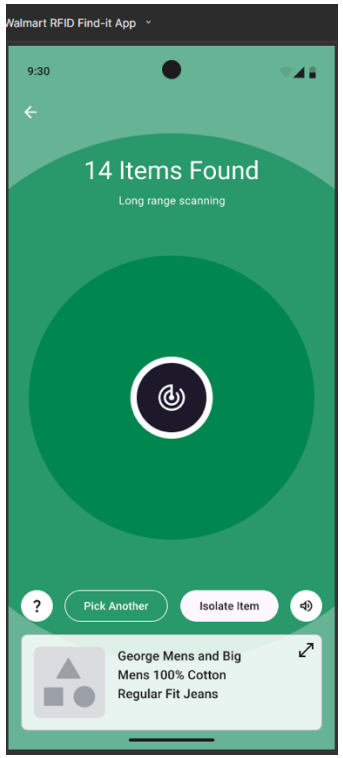
Fixed infrastructure gets picker into area



Confirm

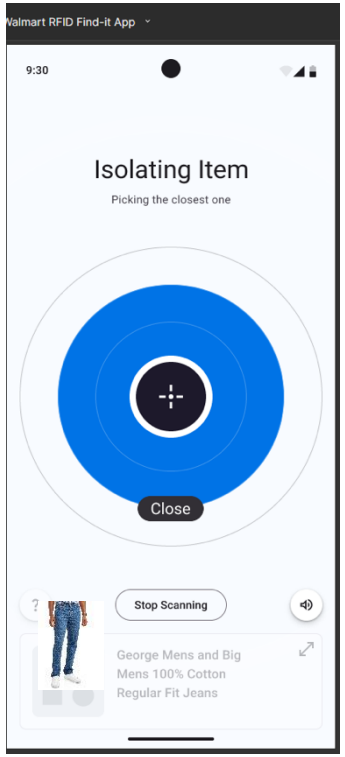
Confirm item is there and in which module (about 3 feet)

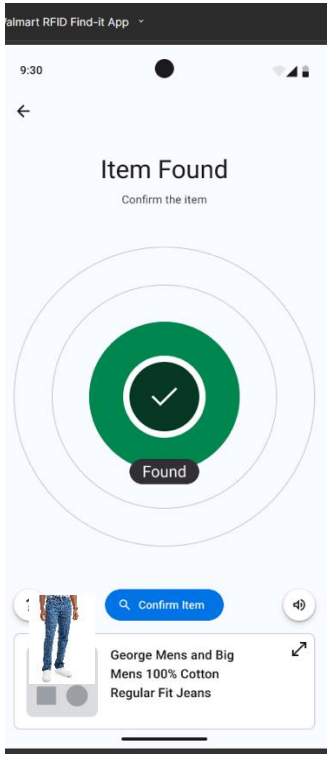




Isolate

When required assist picker in finding individual item



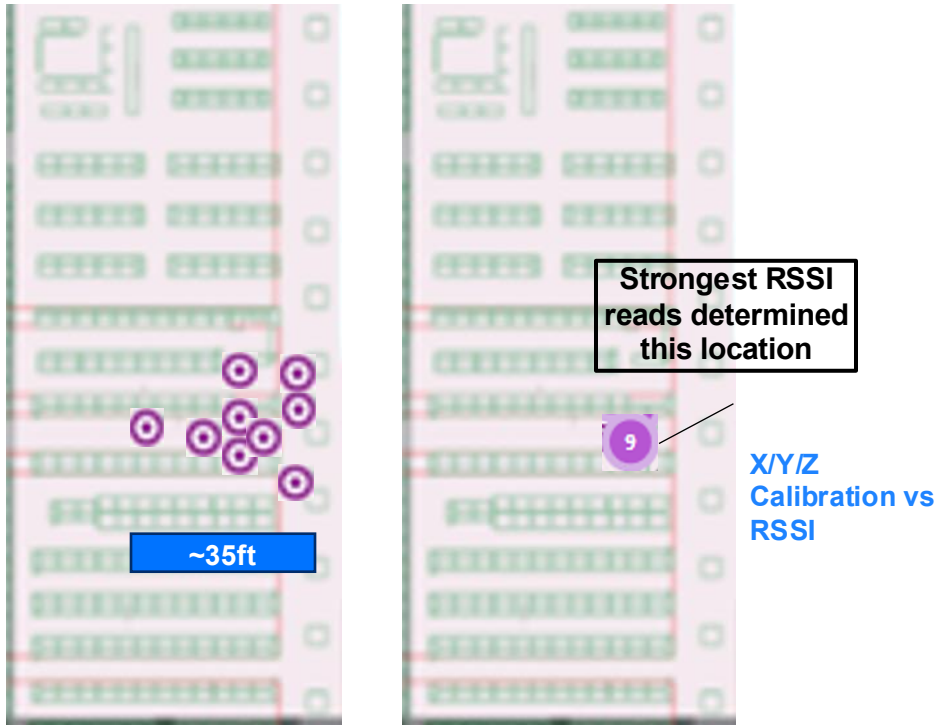


Multi-signal Locationing Solutions

“Macro” + “Micro” solutions

RSL Clustering “Macro” Location

- Prioritize strongest RSSI triangulation reads for clustered locationing



AI-Assisted “Micro” Location

Enable guidance to Find, Pick, Put or Re-stock/Replenish using:

- Barcodes (product and shelf)
- RFID Tags
- Vision-based capture
  - OCR
  - Item Recognition
- Location
- Found Item AR

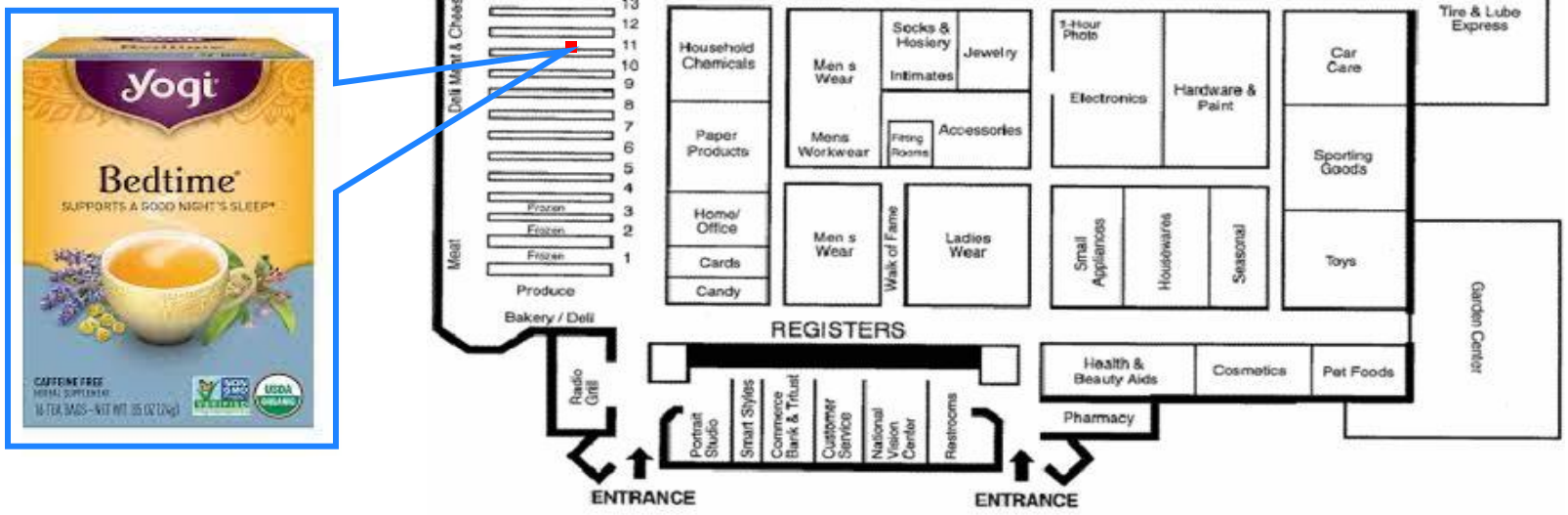


Multi-Sensor Data Collection Value

Real-o-Gram Locationing

- Ground-truth markers in-aisle & key locations (Dept)
- Continuous item location mapping in workflow collected from:
  - Barcode Scans, Tag Reads, OCR, Item Recognition, Beacons reads (SES)

Inefficient and slow process for determining out-of-stock items in real-time resulting in lower sales and dissatisfied shoppers.



Working with Zebra's Partners

Scale, add value and complement the Zebra portfolio

- Specialized and localized solutions
- Products and services, including advisory, consulting and implementation
- Partners are key to our success!



Thank You



ZEBRA and the stylized Zebra head are trademarks of Zebra Technologies Corp., registered in many jurisdictions worldwide. All other trademarks are the property of their respective owners. ©2025 Zebra Technologies Corp. and/or its affiliates. All rights reserved.