

**RFID**  
JOURNAL  
**LIVE!**

**20** **YRS**  
2003 - 2022

**MAY 17 - 19, 2022**  
MANDALAY BAY | LAS VEGAS, NV

## **Why RFID is a 'Must-Have' Technology for Today's Retailer**

Senthil CP

RFID Lab – Auburn University



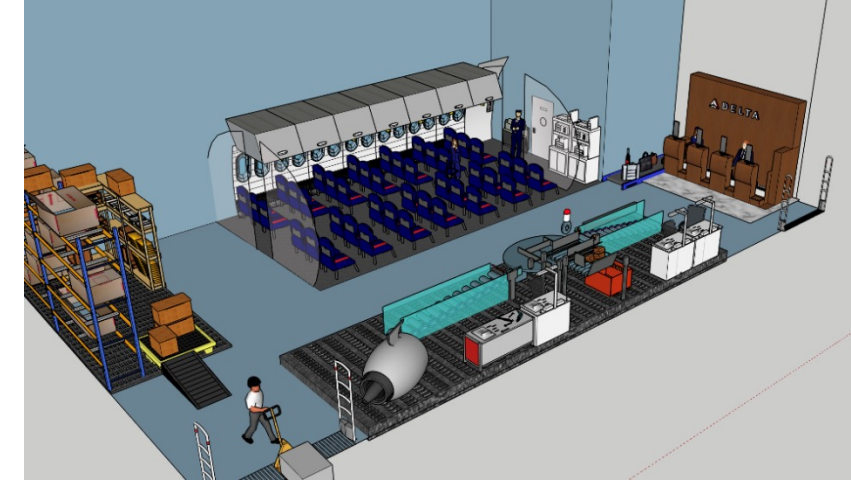
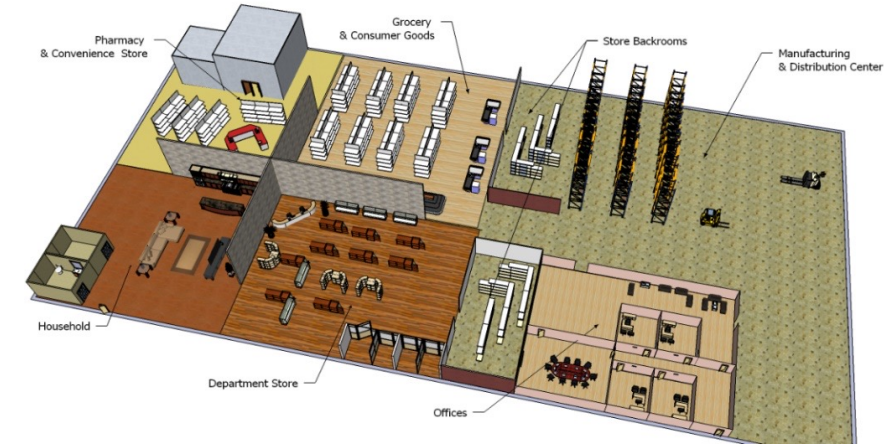
# RFID Lab @ Auburn University



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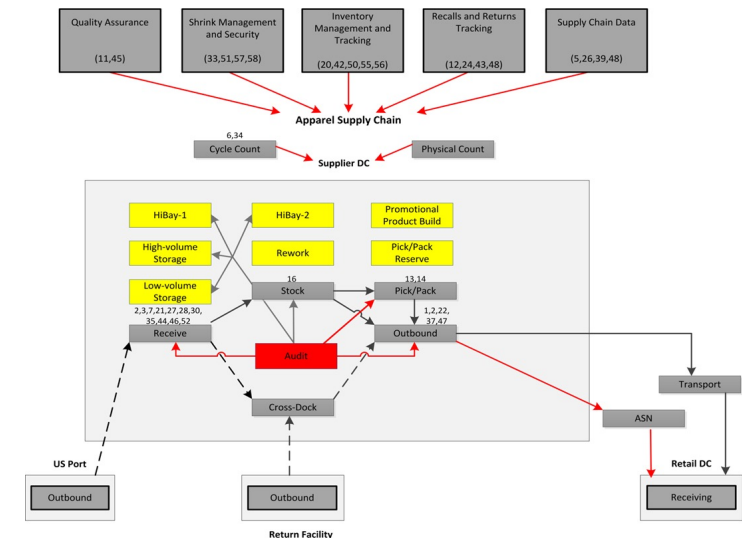
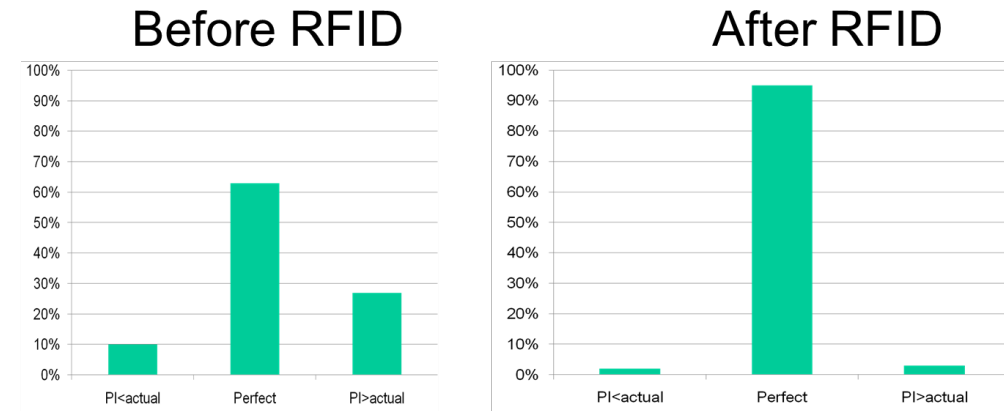
# RFID Lab @ Auburn University

- Focus on business case and value
- 16 years
- Retail, Aerospace, & Healthcare
- Education, Research, and Support to enable successful adoption of RFID



# Research

- Feasibility of RFID in Retail (2005)
- RFID for Out of Stock (2006)
- RFID for EAS (2008)
- RFID for Inventory Accuracy (2009-2010)
- Retail supply chain – Supplier Focus (2012)
- Sensor Fusion (2014)
- RFID Data Exchange (2019)
- Effect of RFID in BOPIS (2020)
- RFID and Customer Experience (2021)





# Education

- General Engagement and Support
- Platform for Industry Collaboration
- Industry Standards
- Trends and Adoption Levels
- Executive Education
- White Papers



# Support

- ARC Program
  - Tag Performance and Quality Certification
- ALC Program
  - Supplier Onboarding
  - Supplier Validation (Pre-Check)
  - Supply Chain Audits (Post-Check)
- Pilot/POC/Rollout Support
  - Define, Measure, and Validate KPIs





# ARC Program @ RFID Lab

ARC helps end users choose tags that meet  
**Performance + Quality** requirements

Retail

Aviation

Healthcare

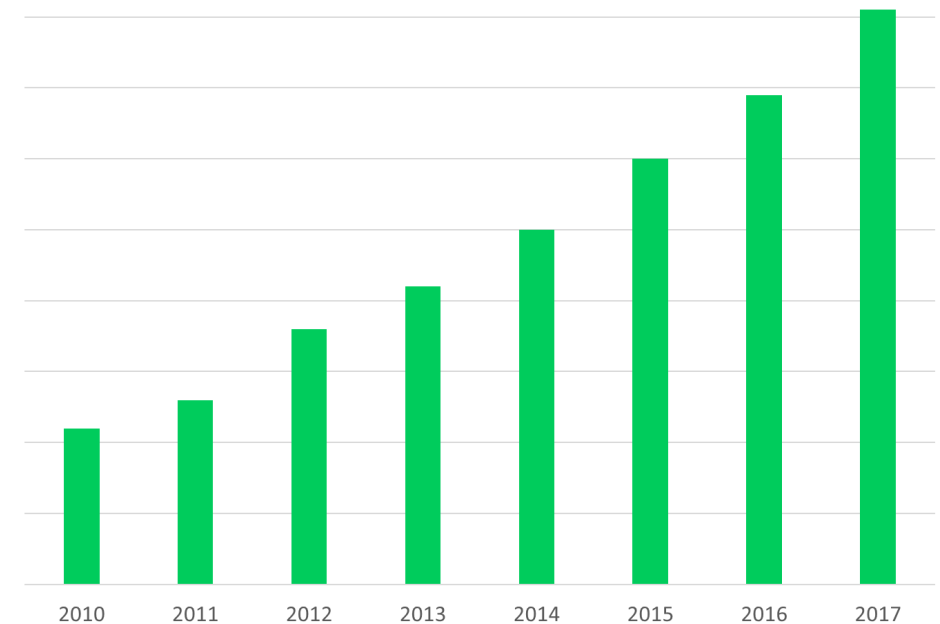
Food

Manufacturing

Transportation

Logistics

50+ major deployments  
12+ years, 700+ tag models  
20+ billion tags used every year  
Adopted as part of 4+ industry standards



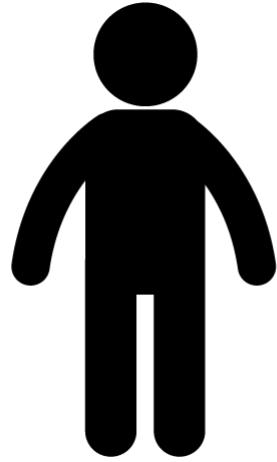


# RFID in Retail



**MAY 17 - 19, 2022**

# Retail 101



1. What do I need?
2. Where can I get it?
3. I want it

1. What do I have?
2. Where do I have it?
3. Find it



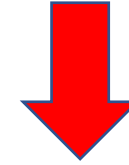
# Retail 101



1. **What do I have?**
2. Where do I have it?
3. Find it

## Inventory Accuracy

- 2010 – 65%
- 2020 – 50%



2010 – Case level replenishment

2020 – Unit level replenishment

2010 – Inventory adjustment once a year after physical count

2020 – No Inventory adjustment once a year after physical count

# Retail 101



1. What do I have?
2. **Where do I have it?**
3. Find it

## Inventory visibility in supply chain

- >90% of the inventory accuracy errors are due to inbound/administrative errors
- <10% of the inventory accuracy errors are due to outbound errors

Fixing the inventory accuracy at store is too late



# Retail 101



1. What do I have?
2. Where do I have it?
3. **Find it**

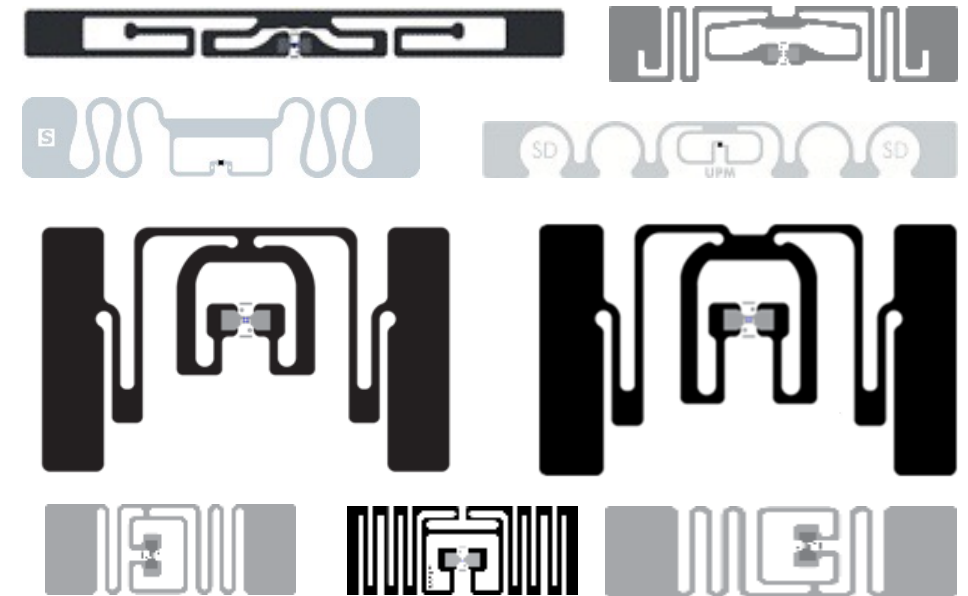
First store fill rate is currently <70%

Cost of store fulfillment is very high, not sustainable

Store employees don't trust inventory accuracy

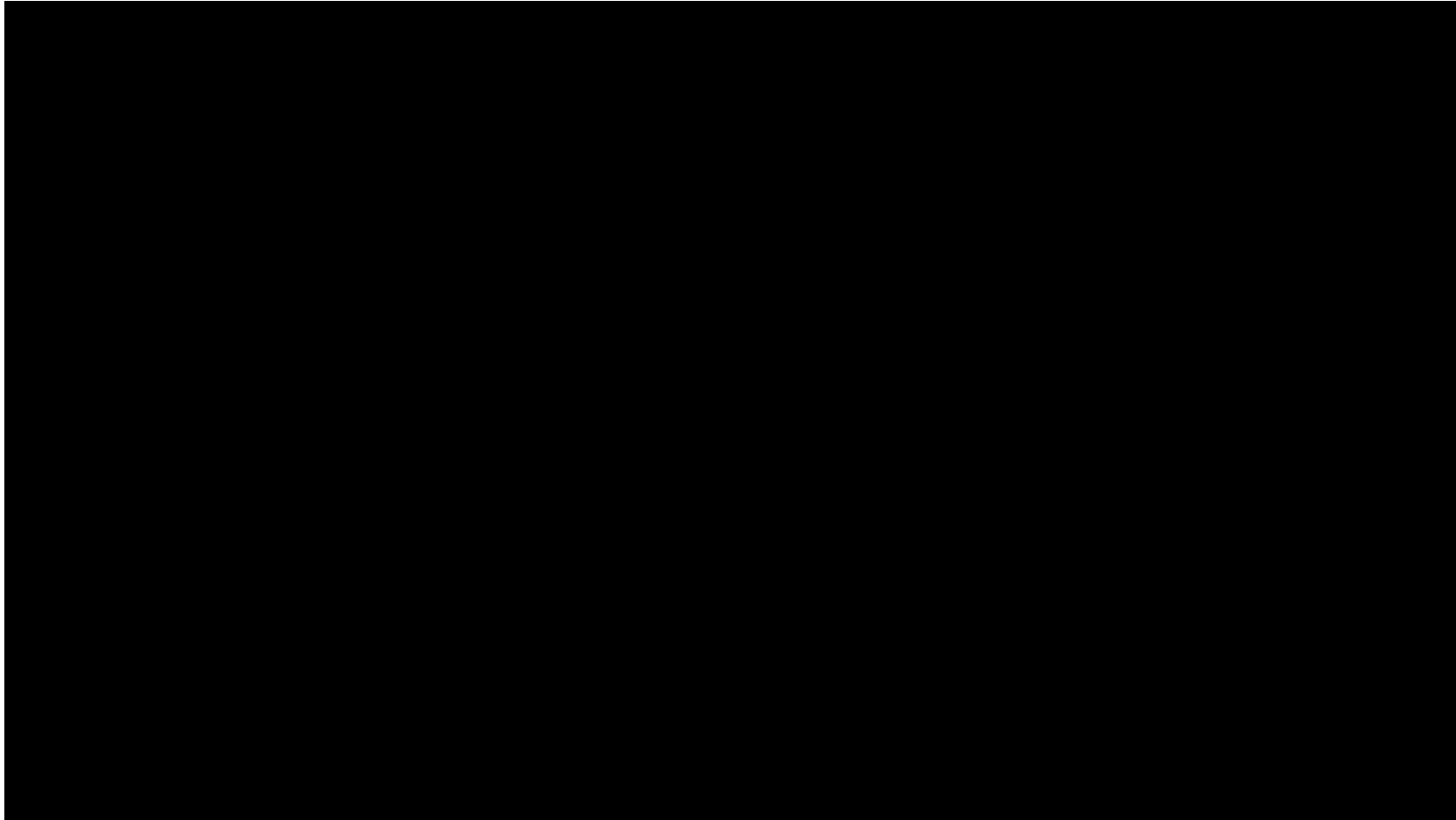
# What can RFID help with?

1. Identify – What do I have currently?
2. Track/Trace – Where is/was my item?
3. Locate – I need to find this item.



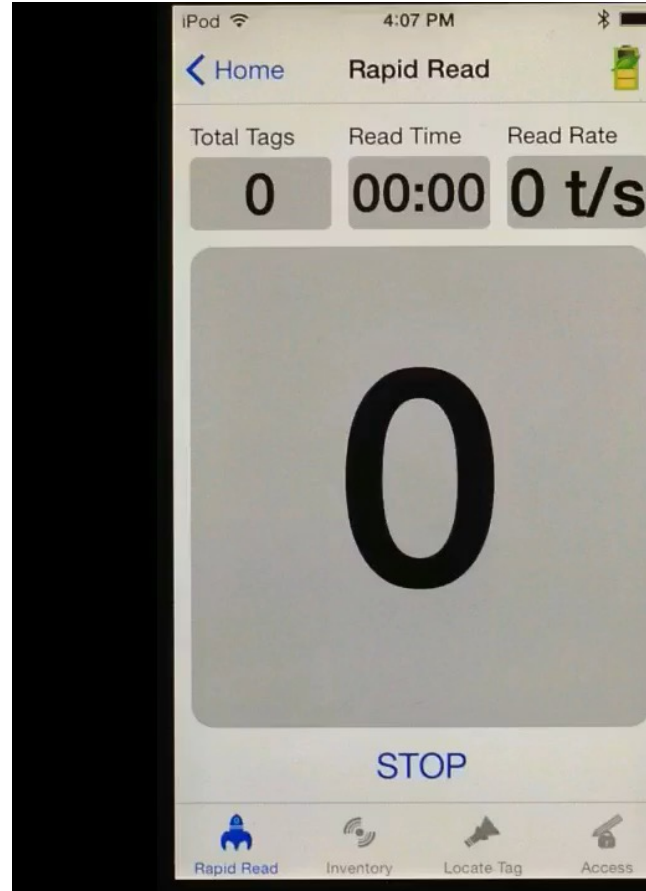


# Automated Identification - Barcode vs. RFID



# RFID – Identify

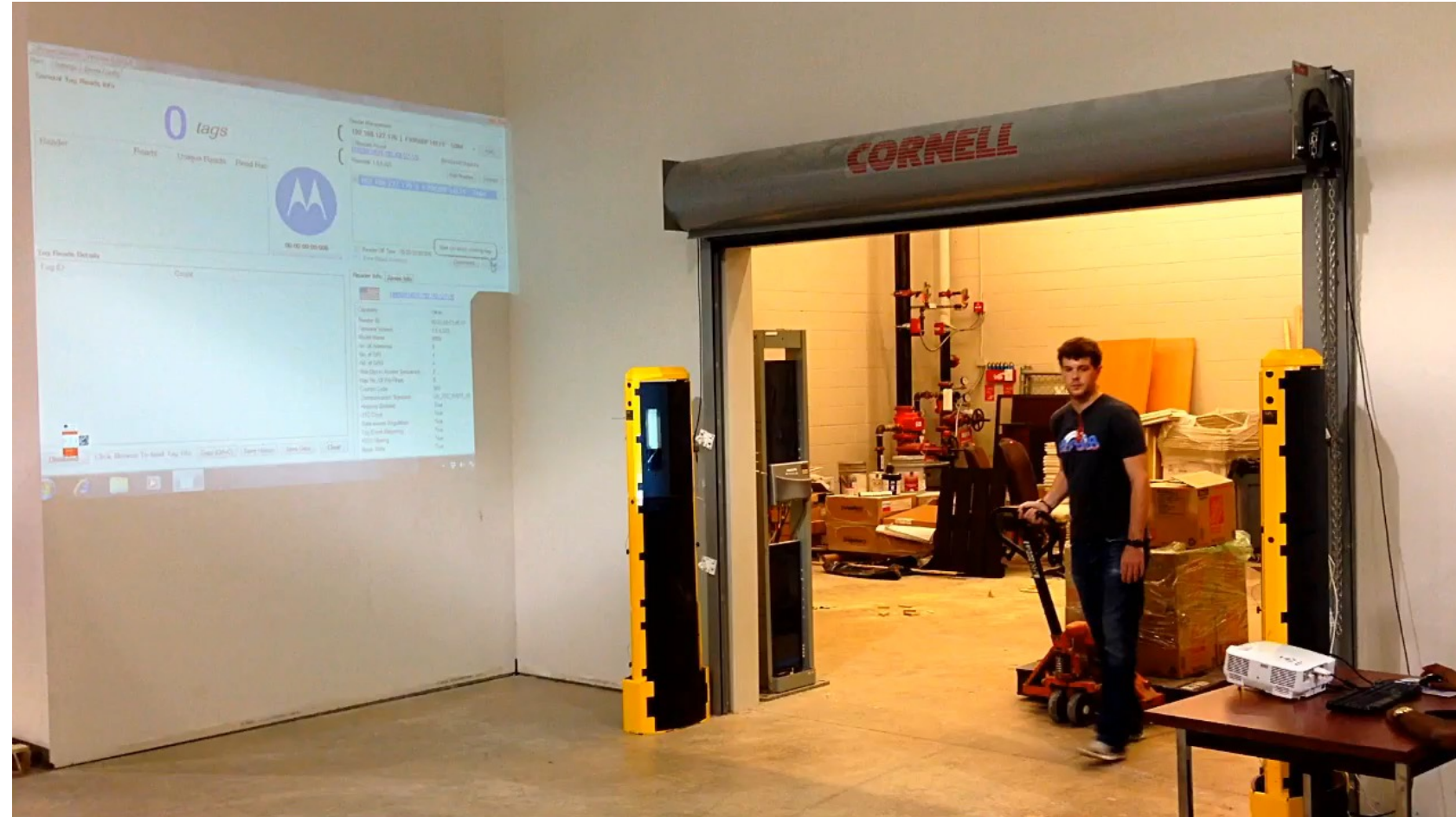
- No line of sight
- Efficient
- Fast
- Unique ID
- Accurate





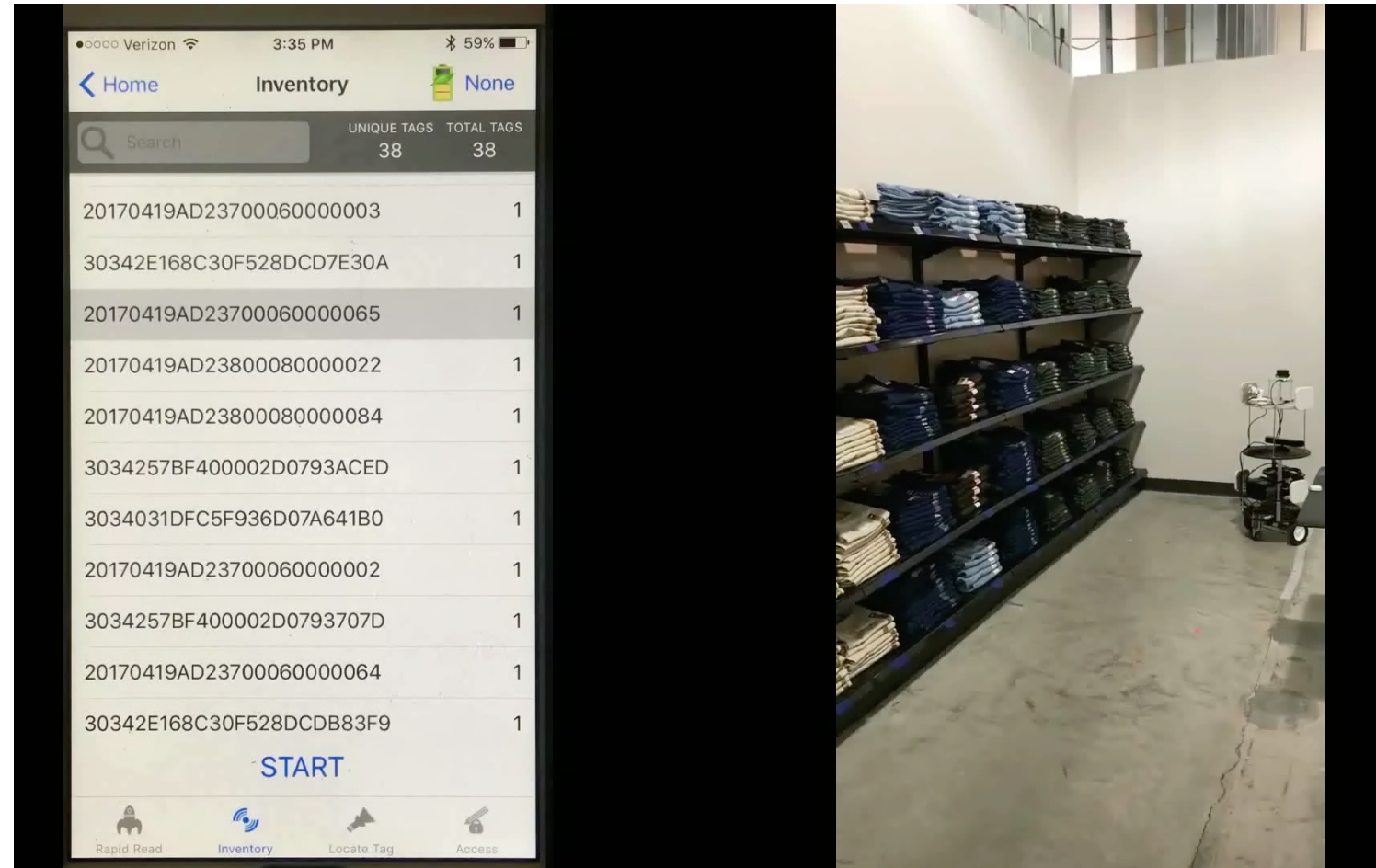
# RFID – Track/Trace

- No line of sight
- Efficient
- Fast
- Unique ID
- Accurate



# RFID – Locate

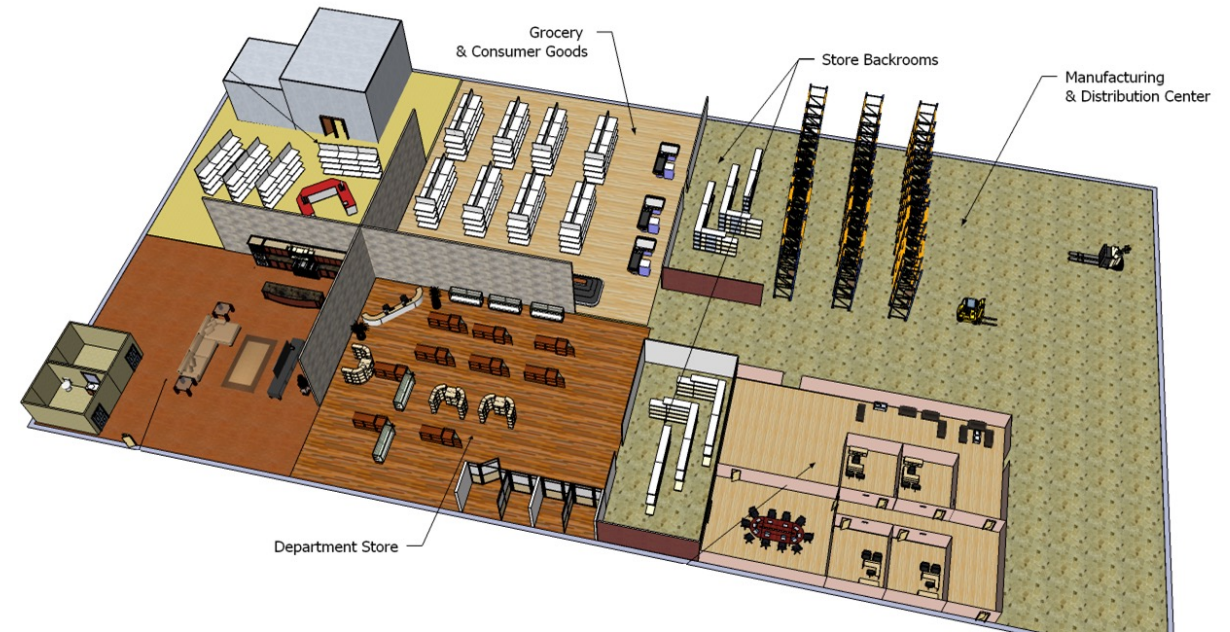
- Efficient
- Fast
- Accurate





# RFID in Retail – Primary Use cases

- Inventory Accuracy
- Out of Stock
- Product Location
- Inbound/Outbound Validation
- Loss Detection
- Claims Compliance
- Grey Market





# RFID in Retail – Product Categories

- Apparel
- Home
- Sporting Goods
- Consumer Electronics
- Toys
- Home Improvement
- Automotive
- ...





# THANK YOU





# Appendix

