



RFID Technology:

**A Foundation to Improve Service and
Participation in the Recycling Industry**

**A Presentation for the MRN/SWANA
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Presentation topics

- Overview of RFID Technology
- RFID in Recycling and Refuse
- What does RFID Data Provide
- Incentive Based Recycling Programs
- Review of Existing RFID programs

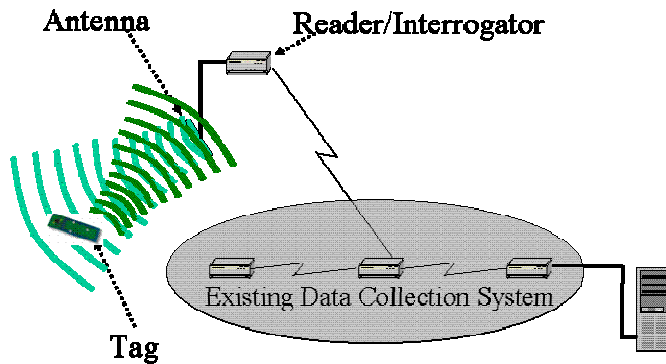


*"Innovation distinguishes between
a leader and a follower."*

- Steve Jobs (Chairman, CEO, and co-founder of Apple)



How RFID Technology Works





RFID Tag Classifications

- ⊕ Active vs. Passive
- ⊕ Frequency Range
 - ▣ Low Frequency (LF)
 - ▣ High Frequency (HF)
 - ▣ Ultra High Frequency (UHF)

Application dictates type of RFID tag...



RFID Tag Applications

- ⊕ Material Handling – pallets, bins, crates, totes, dollies
- ⊕ Tracking everything from missiles to cattle to perishables to medical supplies
- ⊕ Used in toll booth applications
- ⊕ Used in security for retail applications

And many more.....



RFID in Recycling and Refuse



- ✦ Collection data tracking → Pay As You Throw and Incentive Based Recycling Programs
- ✦ Asset management programs



What does RFID data bring?

- Recycling and Refuse Participation
- In Transit Visibility
- Route Optimization
- Vehicle Maintenance and Control
- Resource Optimization
- Inventory Asset Optimization
- Work Order Management
- Dispatch Operations



RFID data at point of collection:

- Account status
- Distinguishing trash from recycling
- Creating an invoice for services provided, not services scheduled
- Providing fixed location of containers
- Time stamping for service verification
- Automated data – no human error



Incentive Based Recycling Programs

- RFID provides the foundation - the information - the participation data
- Community based incentive programs
- Individual weight-based programs
- Participation **INCREASES** → Recycling Tonnage **INCREASES** → Diversion **INCREASES**



Review of RFID Programs

- ④ Howard County, MD
- ④ Frederick County, MD
- ④ City of North Miami
- ④ Flood Brothers – Chicago, IL
- ④ Countless programs with RFID enabled carts with plans to launch collection data tracking for IBR or PAYT programs



“The number one benefit of information technology is that it empowers people to do what they want to do. It lets people be creative. It lets people be productive. It lets people learn things they didn't think they could learn before, and so in a sense it is all about potential.”

- Steve Balmer (CEO of Microsoft)



*Questions
and
Comments*