Solid Waste & Recycling
Collection Fleet Optimization

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Solid Collections Stats

- 700+ Trucks
  - Automated Side Loaders
  - Front & Rear Loaders
- 1.3 Million Customers
  - 750,000 Curbside Residential Customers
  - 550,000 Private Service Customers
- 2.3 Million Containers - Three Types
  - Refuse - Black Containers
  - Yard Trimmings - Green Containers
  - Recycling - Blue Containers
Holistic approach

- Fleet
  - Real Time Use
  - Maintenance
  - Telematics
  - Driver
  - Routing
  - Navigation
Holistic approach

Real-Time Data Capture

- Route Data Collection
- Navigation
- Routing
- GPS Data
- GPS Processing
- Driver Performance
- Telematics
- Maintenance
- Inspection
Real-Time GIS: Zonar Systems

- Application
  - On-board GPS
  - Real-Time communications
  - Capture GPS Truck Events
  - Automated Inspection system
  - Zonar Tablet
  - Integrated Web Application “GTC”
    - Real time data
Real-Time GIS: Zonar Systems

- Components
  - Inspections
  - Telematics
  - Maintenance (Integrated with AssetWorks)
  - Truck Telematics
  - Driver Performance
  - Event Notifications
  - Truck Sub-System
    - Arm Lift, Scale (load cells), and RFID reader
Real-Time GIS: Zonar Systems

- GPS Data (Events)
  - Arm Lifts Reads
  - Scale reading
  - Container RFID Reads
  - Truck Telematics
  - Driver Performance
Real-Time GIS: ESRI - GeoEvent Processor

- Real time analysis
  - Arm Lift Analysis
  - Route Analysis
    - Percentage Complete
    - Arm Counts
    - Adherence
    - Scale Reads
  - Route Monitor - Time Windows
  - ESRI Dashboards
Solid Waste & Recycling Collection
Fleet Optimization

GeoEvent Processor - Dashboard Sample
Real-Time GIS: Navigation

- RouteSmart Navigator
  - Route Selection - Digital Route Map Books
  - Route Adherence - Stop Sequence
  - Route Simulation
- Integrated with RouteSmart
  - Route Planner Integration - Pending
- Route Data Collection
  - Damage Containers
  - Contaminated Containers
General Routing Process

Geo-Processing → RouteSmart

- AVL (GPS) Data or Route digitization
- Overlay Parcels
- Tabulated Data
- Baseline Data Route
Questions