

# AVA™ Enterprise Manager Suite with RFID Integration



## Overview

- Introduction
- AVA™ Enterprise Manager Functionality
- RFID (Passive / Low Energy Bluetooth)

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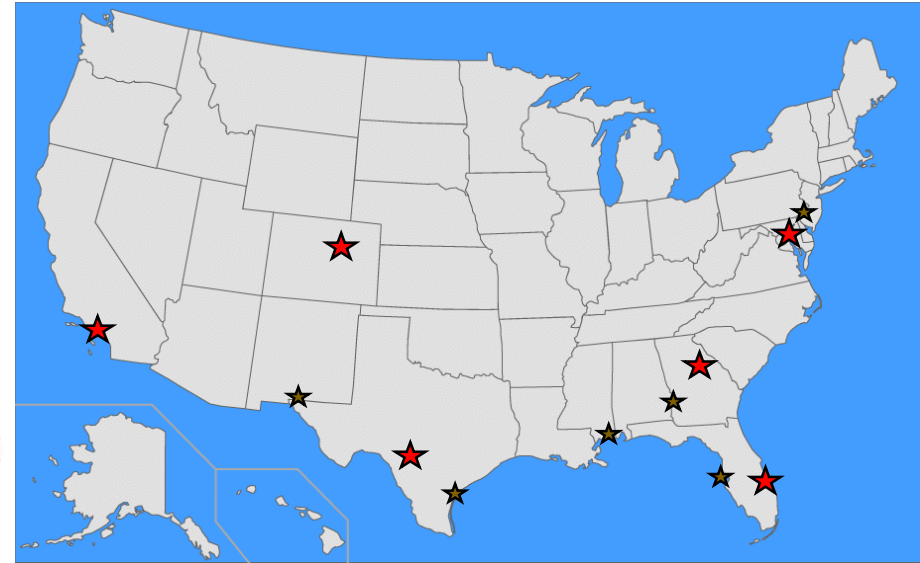
DUNS: 160913687

Cage: 1J3C7 – Small Business

GSA Contract: GS10F-0320P

# Introductions - AdvanTech

- Founded in 1996
- Small Business
- Headquarters in Annapolis, MD
- Regional office located across the Country
- Primary Focus Areas
  - Logistics
  - Asset Visibility
  - Automated Data Acquisition
  - Data Warehousing
  - Data Visualization



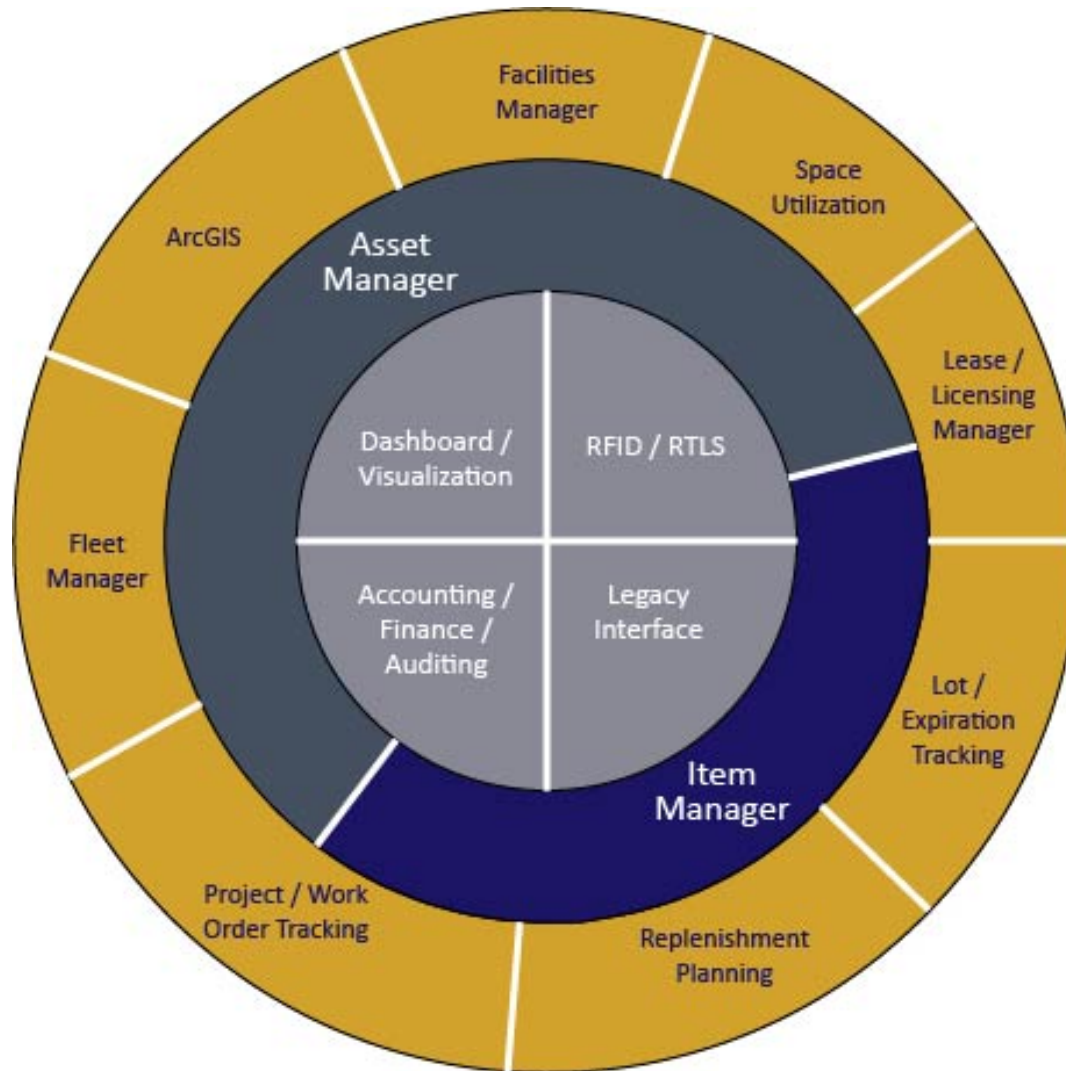
## Partnerships with:



## Primary Contracts:



# AVA™ Enterprise Manager Functional Components



# AVA™ Manager Suite

## Background:

AdvanTech, Inc. is proud to unveil our **AVA™ Manager Suite**. These applications are all based on three guiding principles of:

**A**ccuracy, **V**isibility and **A**ccountability.

These applications are browser-based, online, real-time using standard browsers and rely on a central encrypted relational database located in Annapolis or at your site.

Our systems are in operation throughout the U.S in multiple industries. Our goal is to assist our clients achieve substantial savings through implementation of advanced technology and best operational practices.

## AVA™ Asset Manager:

Defines facilities to the room level. Tracks assets (moveable and fixed) to the serial number level to individual rooms. Assigned ownership of each room within each facility. Establishes and tracks projects and work orders to document and monitor labor and non-labor costs. Automates the internal package delivery process by defining delivery routes and building manifests to deliver within the organization. Track employees, contractors and visitors who have access to assets. Performs physical inventory counting and reconciliation processes. Generates numerous operational and accounting reports.

## AVA™ Item Manager:

Fully-featured, multi-entity, procurement, requisitioning, receiving, remote inventory, cross leveling and perpetual inventory management system. Full audit trails with transaction history. Multiple stockrooms allowed with individual reorder parameters established. Asset visibility option to include inventory levels from prime suppliers. Serial and lot number tracking available.

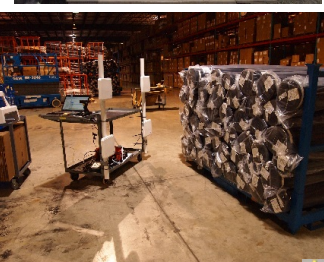
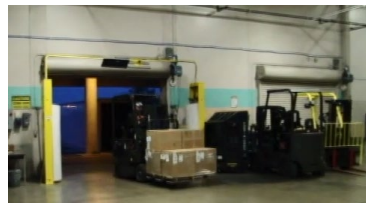
## AVA™ RFID Tag Manager:

Upgrades Asset and Item Manager Applications to utilize RFID tags. Various RFID tag standards are supported including EPC Gen2 and Low-Energy Bluetooth. Tags are used for access control, in supply chain management to track inventory movement, to track files, laundry, garments, equipment assets such as wheelchairs, and high-cost or high-loss items such as electronics or tools.

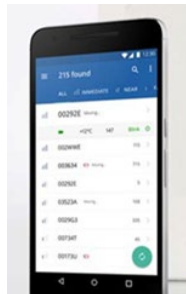


# Automated Data Capture Technologies

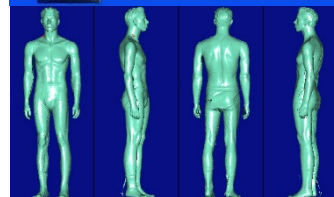
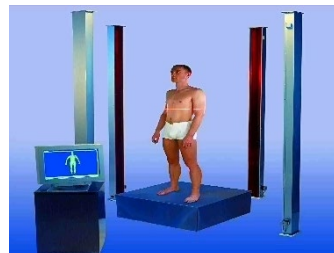
## RFID



## LEB / RTLS



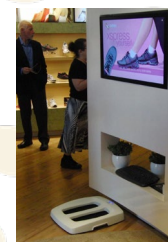
## Measuring Devices



Whole Body Scanning



Kinect



Foot Scanning



Hand Measuring

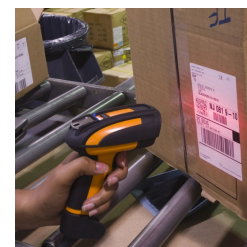
## Others



OCR



Voice Recognition



Bar Code

# AdvanTech's Fully Integrated Solution



## System Architecture and Network Design

### Software Functionality



# AVA™ Item Manager

## Standard Functions:

- Single Master Catalog
- Unlimited Individual Stockrooms
- Visibility Of Prime Vendor On Hand Balances
- Cross Leveling
- Replenishment Of Remote Department-based Stockrooms
- Automated Replenishment Level Calculations
- Automated Replenishment Orders
- Real Time Inventory Updates
- On Demand Inventory Status And Expediting Reports
- Multiple Inventory Valuation Formulas
- Receiving And Put Away
- General Ledger Interface For Posting Financial Transactions
- Comprehensive Physical Inventory, Cycle Count And Reconciliation
- Detailed, Read Only Transaction History
- Barcode Enabled
- Remote Departmental Requisitioning
- Performance Management Reporting
- Incorporated Non-stocked / Special Order Items

## Other Available Functions:

- RFID Integration
- Serial Number / Lot Number Tracking
- Asset Tracking And Real Time Location System (RTLS)
- Electronic Advanced Shipping Notice To Automate Receipt Verifications
- Package Tracking



# Interfaced Systems

Listed below are the Systems AdvanTech AVA Systems have interfaced with



# AVA™ Asset Manager – Equipment Tracking

## Facilities / Building

Facility Type

## Floors

## Rooms

Room Usage

Square Footage

RFID / Barcode Assigned

## Systems

## Asset / Item Master

Manufacturer

Model Number

Purchased From

Purchase Cost

## Serial Number

RFID / Barcode Assigned

PO Number

Date Acquired

Data into Service

- Room Inventory
- Transaction History
- Utilization History

# AVA™ Asset Manager – Questions???

## Facilities:

- What Facilities are included in my Organization?
- Who occupies my Facilities?
- What are the areas in Facilities used for?
- Blueprints and other document stored online linked to facility, floor and room.
- Fire Escape documentation.

## Assets / Equipment:

- What assets are in my Organization?
- Where are these assets within my Facilities?
- Who owns these assets?
- What assets are out of service and for how long?
- What assets have just arrived into my Organization?
- What assets have excessive repair and maintenance costs?
- When were the assets last counted and reconciled?
- Which assets are owned versus leased or on consignment?
- How do I dispose of obsolete and unusable assets?
- What are my current depreciation amounts?
- Replace vs Repair decisions

## Projects / Work Orders:

- What Projects and Work Orders are still open?
- What Projects and Work Order are being planned and/or approved?
- What are the budgets for these Project and Work Orders?
- Who is performing the work?
- Where is the work being performed (on/off site)?

## People:

- Roles of Staff within organization.
- Visitor and Contractors allowed into the Facilities.
- Certifications of Staff using or repairing Facilities or Assets.
- How can I limit access to specific areas by Staff and Visitors?

# AVA™ Asset Manager – Project Tracking

## Facilities / Building

Facility Type

### Floors

### Rooms

Room Usage

Square Footage

RFID / Barcode Assigned

### Systems

## Asset / Item Master

Manufacturer

Model Number

Purchased From

Purchase Cost

### Serial Number

RFID / Barcode Assigned

PO Number

Date Acquired

Data into Service

## Projects

Classification

Priority

Description

Status

## Work Orders

Category

Priority

Description

Status



# AVA™ Asset Manager – People Tracking

## Facilities / Building

Facility Type

## Floors

## Rooms

Room Usage

Square Footage

RFID / Barcode Assigned

## Systems



## People

Staff / Employees

Contractors

Visitors / Patients / Students

Department

RFID Tag ID



Facility Location (Building / Room)

Work Order Costing

Location Validation

# AVA™ Asset Manager – Delivery Tracking

## Facilities / Building

Facility Type

## Floors

## Rooms

Room Usage

Square Footage

RFID / Barcode Assigned

## Systems

## Asset / Item Master

Manufacturer

Model Number

Purchased From

Purchase Cost

## Serial Number

RFID / Barcode Assigned

PO Number

Date Acquired

Data into Service

- **Generate Delivery Bar Code Label**
- **Stage deliveries by Delivery Zone**
- **Generate Delivery Manifest for Delivery Zone**
- **Electronic Signature with time and date stamp**

# RFID Overview – Technologies Available

## Category

## Specifications

## Reading Range

### GPS

- Transmitter
- Satellite Reader
- Satellite Receiver



### Active RFID

- Reusable Transmitter with internal power source
- Multiple Fixed Readers
- Extension of LAN / WAN



### Low Energy Bluetooth

- Reusable Transmitter with internal power source
- Smaller Form Factor than Active RFID
- Smartphone Compatible



### Passive RFID

- Disposable Transmitter with external power source
- Fixed Reader with Multiple Antennas and/or Handheld Readers



# RFID Overview – Technologies Available

## GPS



Tractor Trailer



Shipping Container



ForkLifts

## Active RFID



Toll Pass



Metal Containers



Refrigeration Units



Moveable Assets

## Low Energy Bluetooth



Pallets w/ Boxes



Cartons / Boxes



Apparel



Firearms



Staff/  
Visitors



Document / Records /  
Books



# RFID Overview – Passive RFID Components



**RFID Printer / Encoder**



**Permanent Tags**



**Fixed Reader and Antennas**

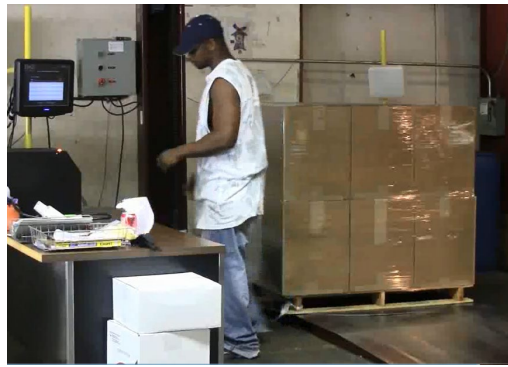


**RFID Tag/Label**



**Handheld Reader**

# RFID Overview – pRFID Reader Configurations



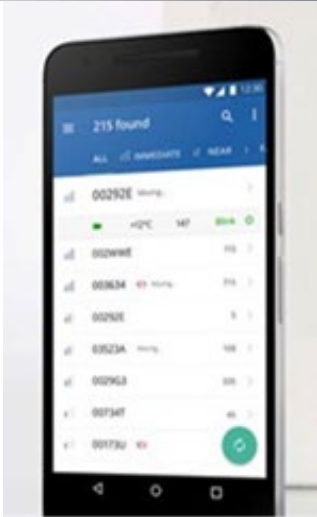


# Low Energy Bluetooth Solutions

AdvanTech, Inc.

## Low Energy Bluetooth Solutions

Our product is a solution that includes beacons, readers, apps, and software to track assets in warehouses, yards, offices, hospitals, etc.



Readers



Beacons / Tags



Deploys rapidly

• Analyzes data

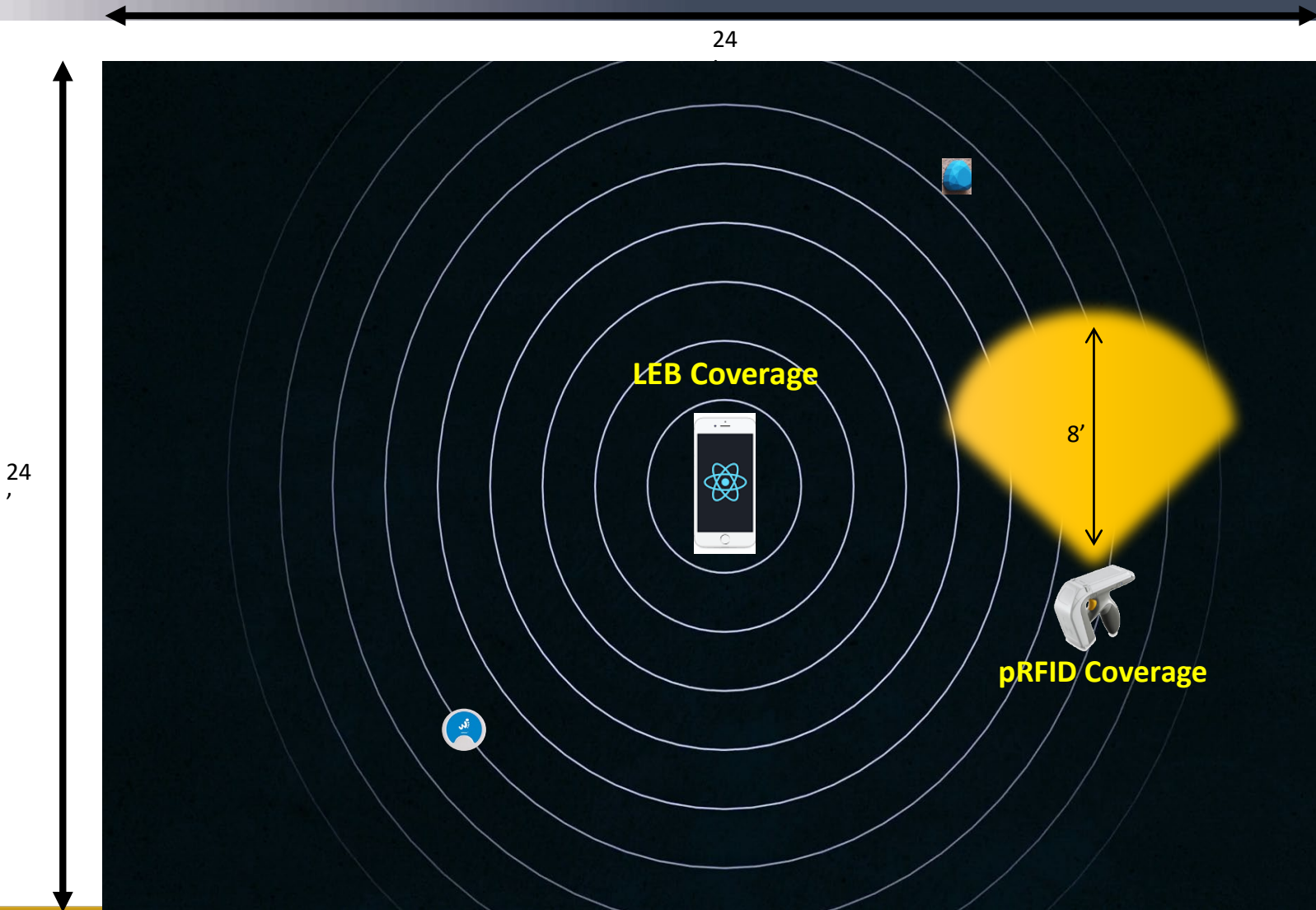
• Smart notifications

# Automated Data Capture Performance Matrix

Technology	Cost	Reading Distance	Read Direction	Triangulation	Facility/ Structural Limitations	Automated Reading	Network Required
Barcodes	Less than \$0.03 per tag/label	Under 18 inches	Line of Sight	No	Yes	Conveyor Required	Ethernet / WiFi
Passive RFID	Between \$0.10 and \$8.00	Under 32 Feet	Conical	No	Yes	With Fixed Readers	Ethernet / WiFi
LEB	Between \$15.00 and \$50.00	Up to 300 feet	Spherical	Yes	No	With Fixed Readers	Mesh
Active	Over \$65.00	Up to 500 feet	Spherical	Yes	Exterior Locations Only	With Fixed Readers	Mesh



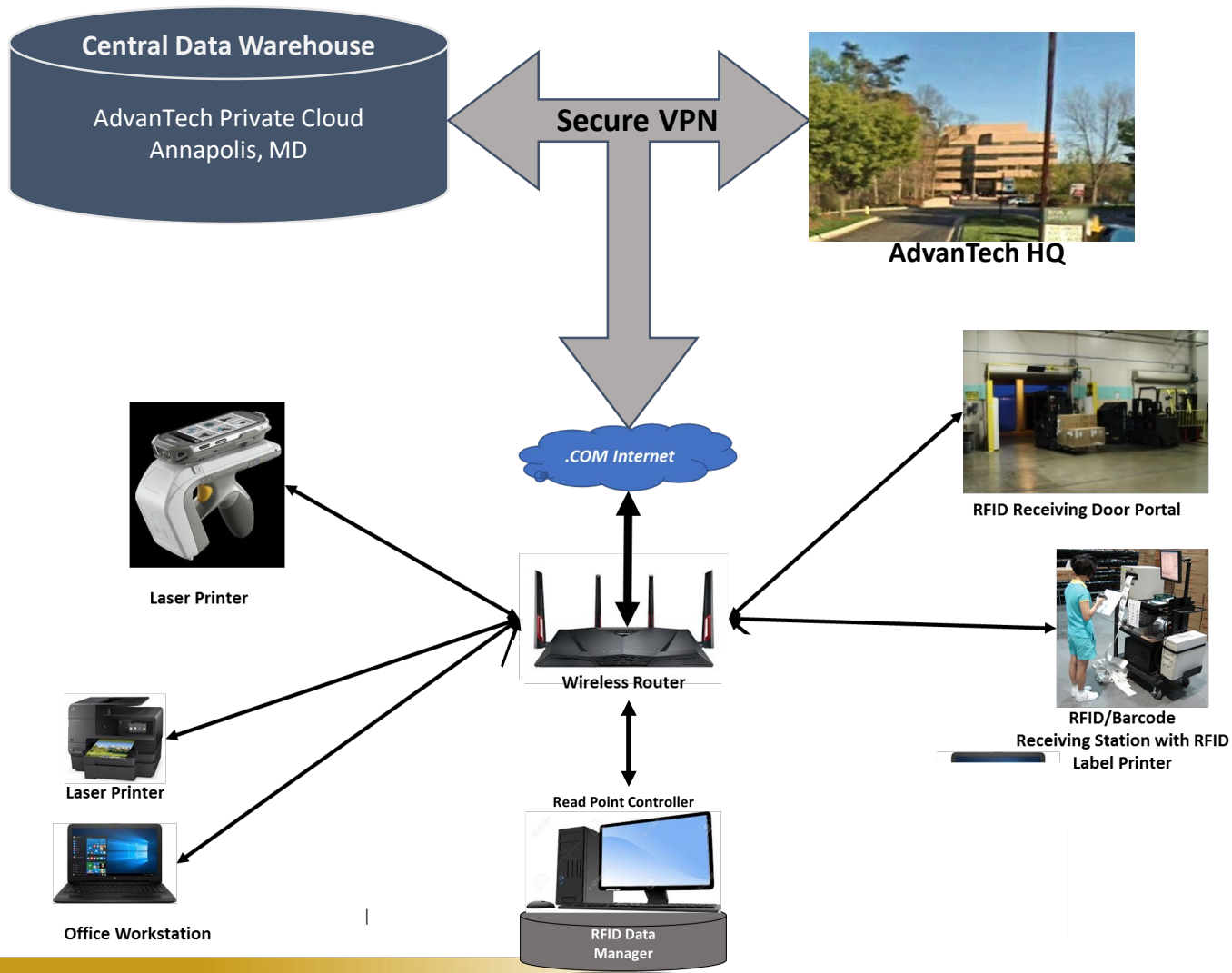
# RFID Tag Location (pRFID vs LEB)



# Hardware Cost Comparison (pRFID vs LEB)

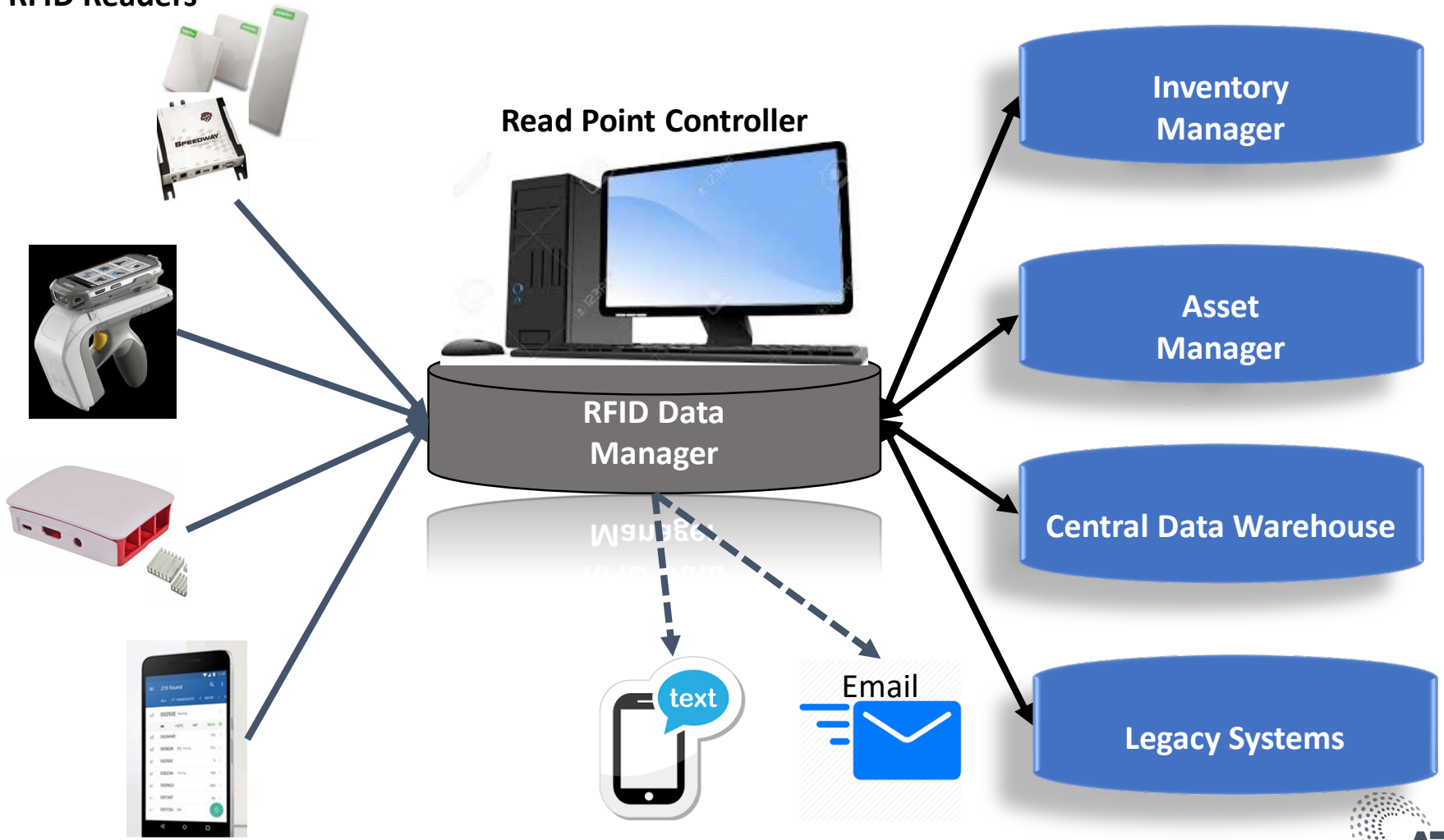
	Tags for Pieces of Equipment (300)	RFID Printer / Encoder (1)	Fixed RFID Readers for 10 areas (20)	Handheld RFID Readers (2)
<b>Passive RFID</b>  <b>\$46,880</b>	\$500	\$2,780	\$40,000	\$3,600
<b>Low Energy Bluetooth</b>  <b>\$17,000</b>  <b>(\$29,880)</b>	\$5,000  Higher Tag Cost Larger Read Range	\$0.00  Printer not Required	\$12,000  Lower Reader Cost No visible Antennas	\$0.00  Smart Phone Application

# RFID Overview – RFID Architecture



# RFID Overview – RFID Architecture

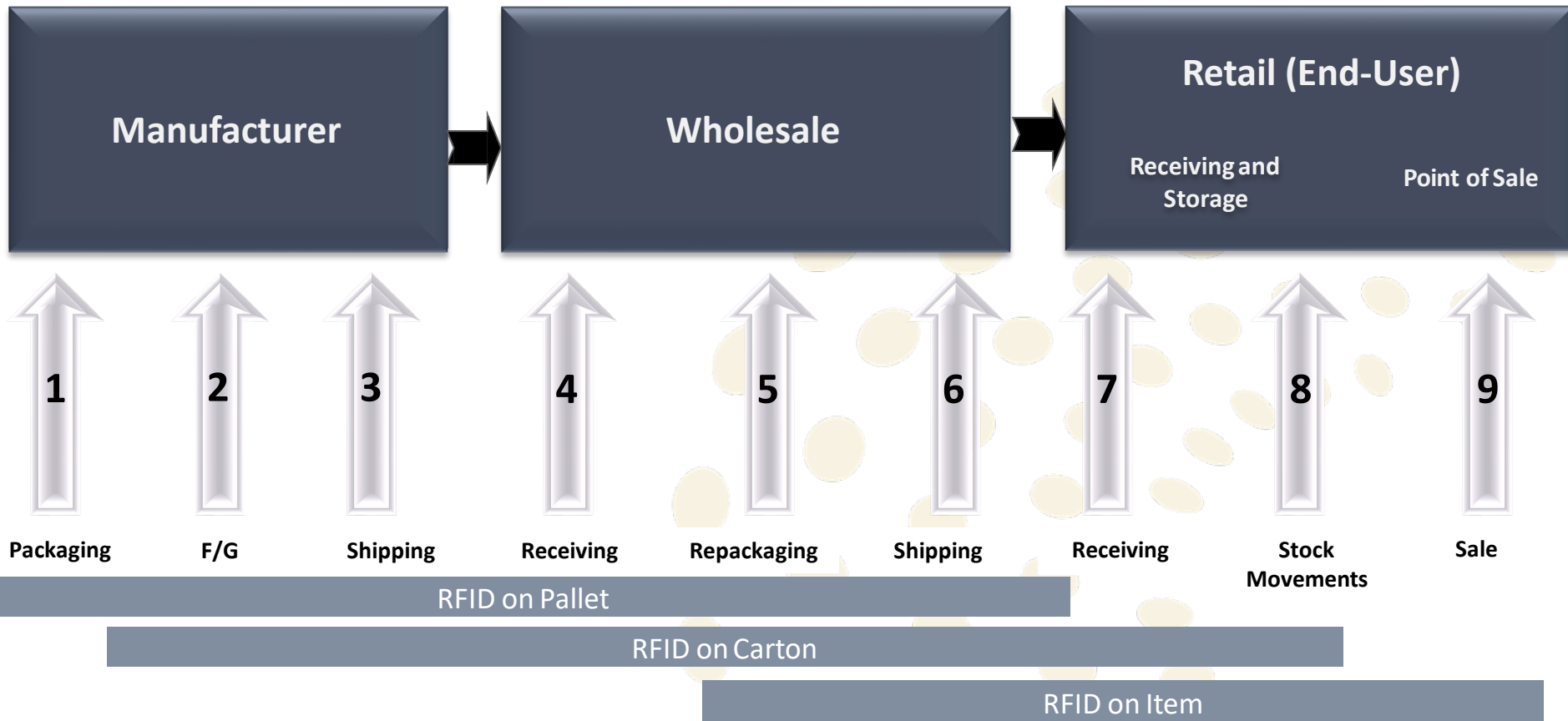
## RFID Readers



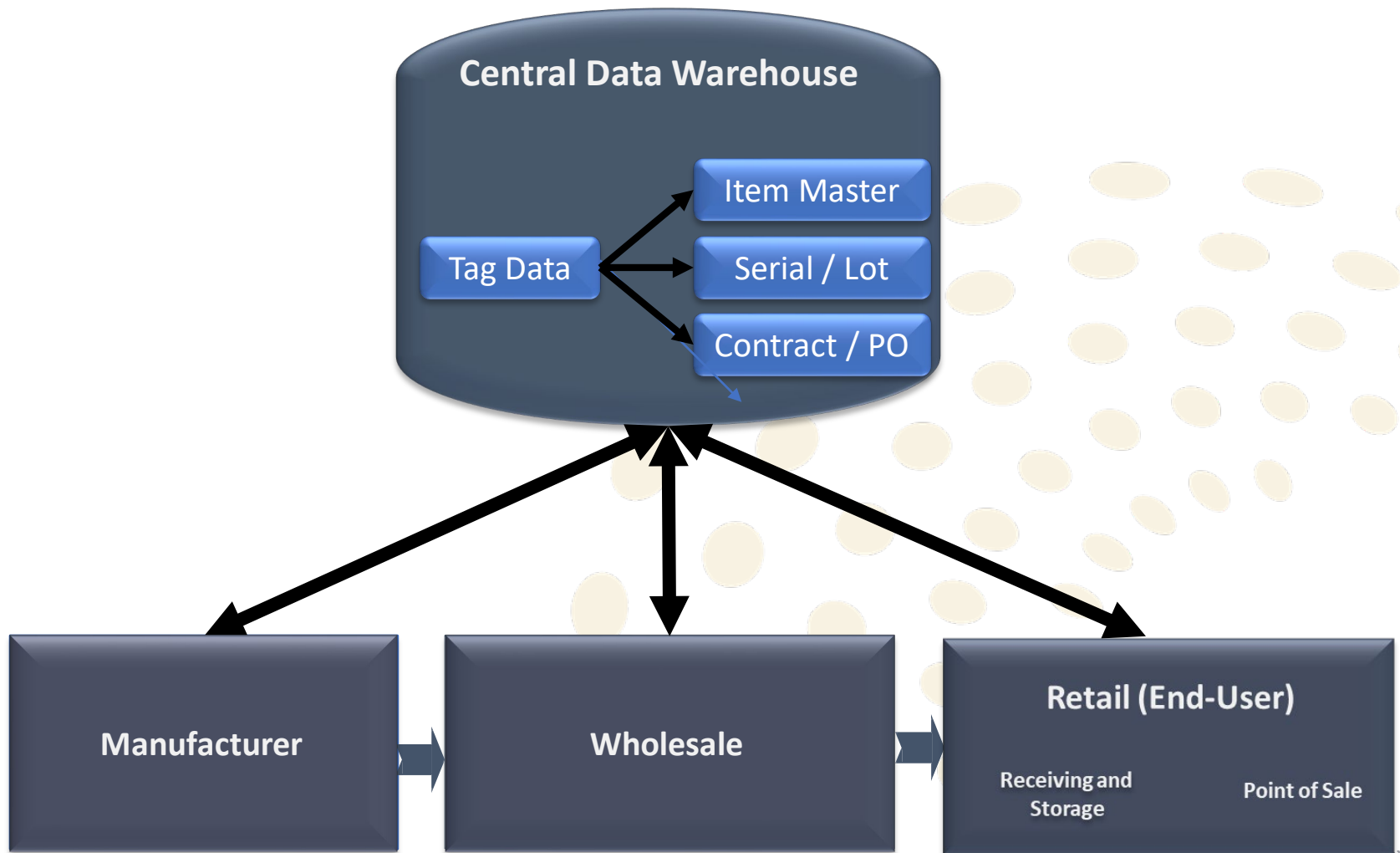


# End to End Supply Chain Integration Process

## Points of RFID Integration



# RFID Overview – Shared Integration



# Documented Operational Improvements

<b>Operational Activity</b>	<b>Documented Results</b>
Production Control	Reduced Quality Checks by 20 hours per week
Receiving	Reduced Receiving Time to 20 Minutes from 3 hours
Point of Sale	Processed Platoon of 50 Recruits in 1 hour down from 2.5 hours
Physical Inventory Counting	Reduced Counting Time to 6 hours from 2 days
Physical Inventory Variance	Variances reduced to 0.18% from 5%-8%



**Thank you for your Interest**