

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

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

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

## Equipment Tracking Goes Mobile with RFID

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Software Engineer II

05/19/2022



# BAE Systems Overview



BAE SYSTEMS

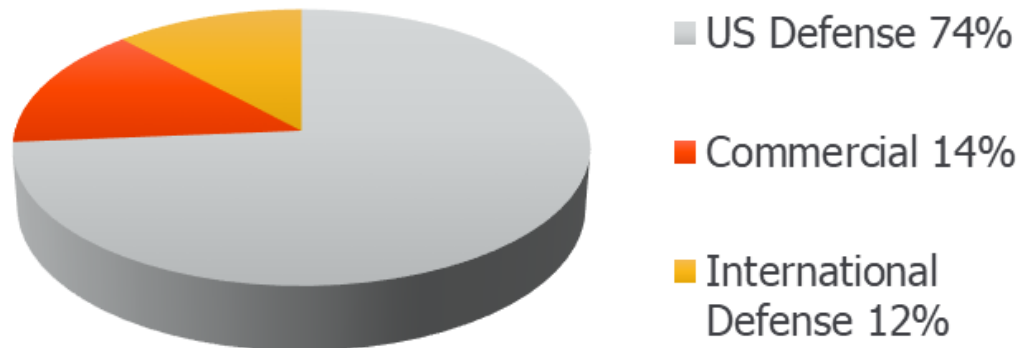
**RFID**  
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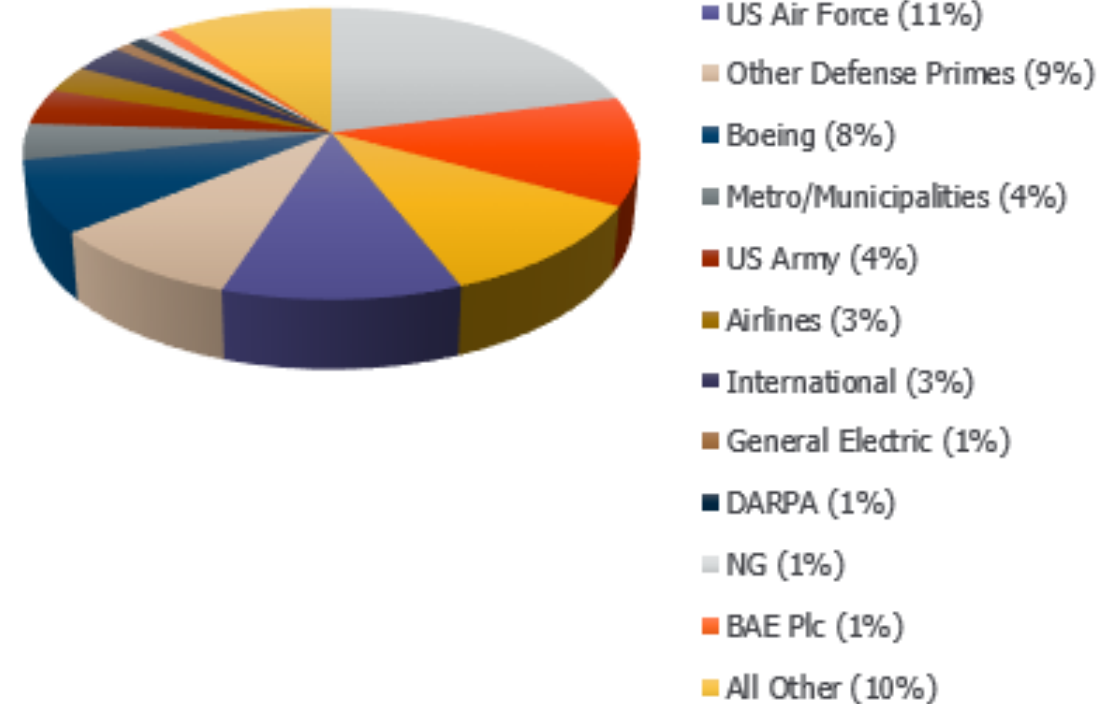
“Not Export Controlled ES-ESHQ-042022-0040”

# Sector Overview

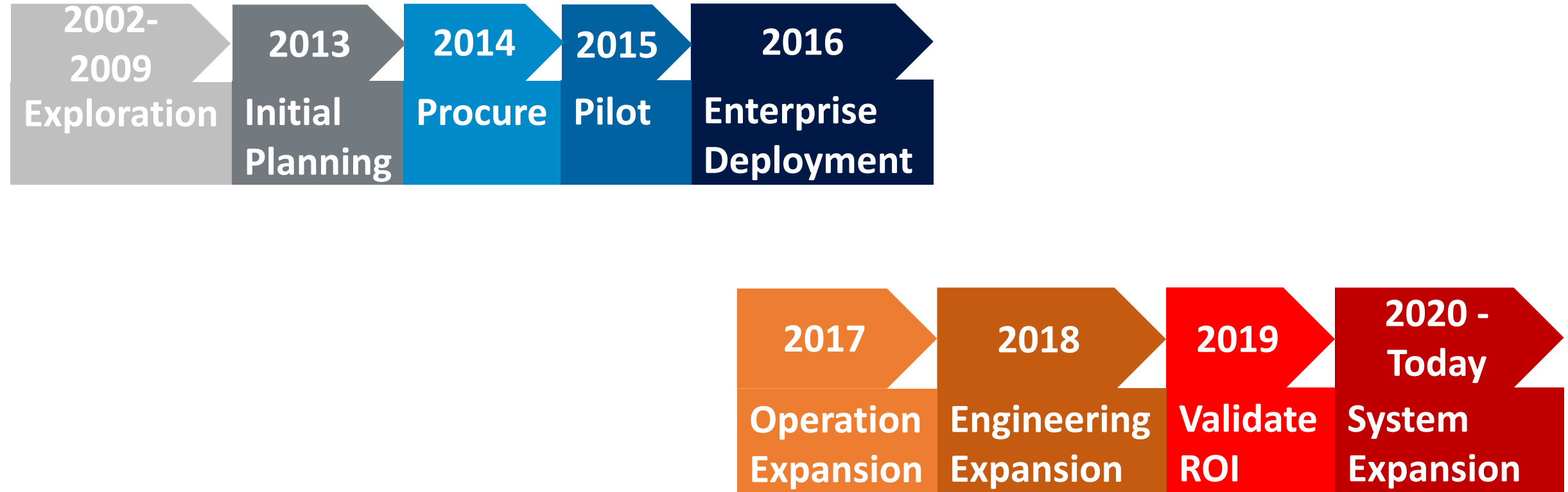
## 2020 Business Mix



## Our Customers



# RFID at BAE Systems





# Problem Statement

- Low Cost, Rapid, User-Friendly Solution that utilizes RFID to track equipment moving from one facility to another
- Equipment consisted of office, test, engineering, and manufacturing equipment
- Tracking data needs to be stored in an excel file for all stakeholders to view

# Stakeholders

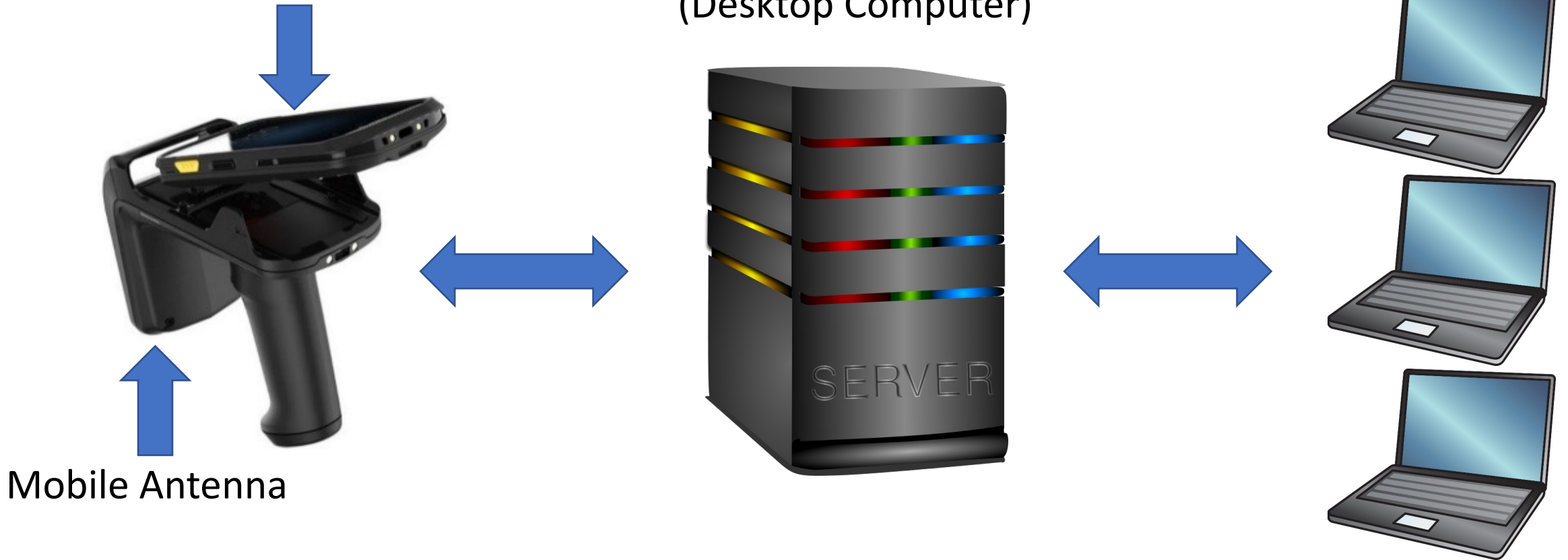
- Customer/End User - Operations Team in Austin, TX
  - Responsible for setting requirements, moving equipment, and utilizing solution
- Program Planner
  - Responsible for developing schedule, creating dashboard to track move progress, recording which RFID tags associate to equipment
- RFID Team – Nashua, NH
  - Responsible for developing solution, training end users, supporting and maintaining solution

# Existing Infrastructure

Handheld/Mobile Computer

RFID Team "Server"  
(Desktop Computer)

Company Shared Area





# Leveraging Infrastructure

## Existing

- Mobile Application Software Development Kit
- Scheduled Task on Server



## New

- New mobile application
- Update task to call new script that moves tracking data into excel sheet

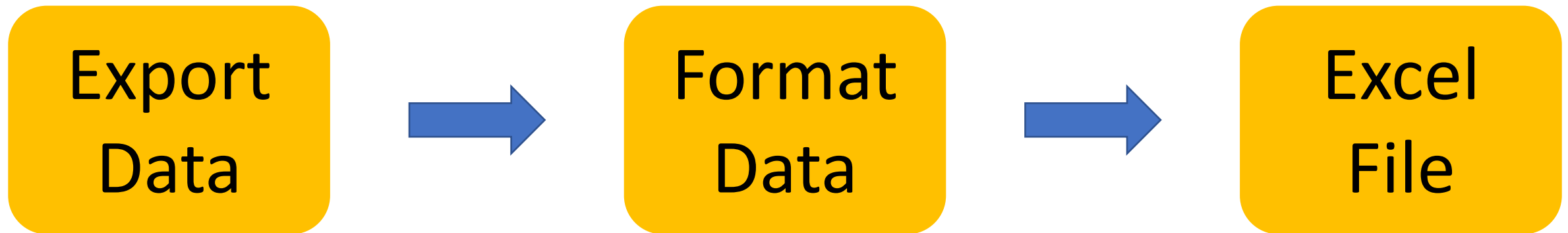
# Application

- Data exported - Username, Employee Number, RFID Tag, Status, Pick Up Location, Drop Off Location, Comment, Date



# Script

- Python script is called when data is placed on the server.
  - Moves data from server to shared excel file





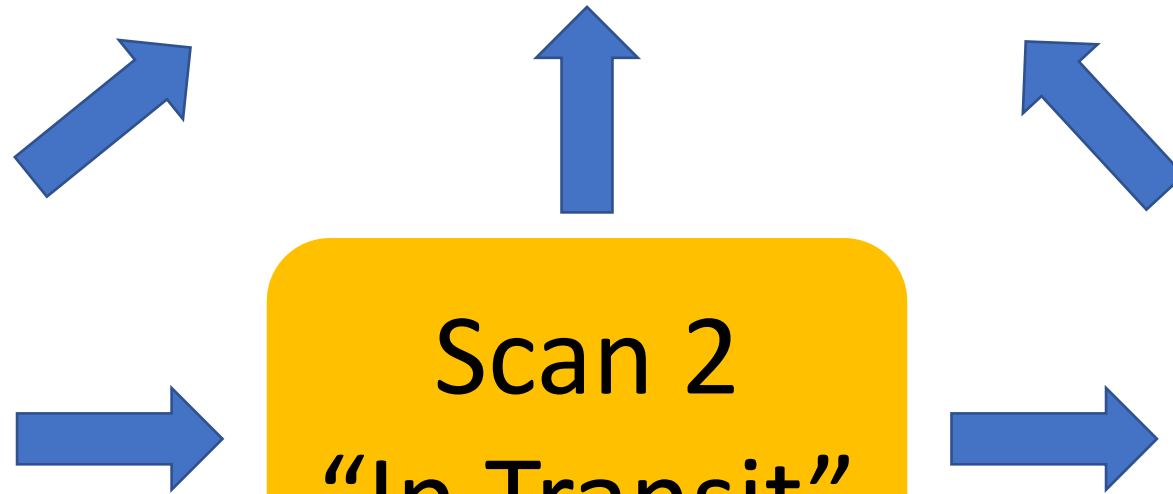
# Process

Update  
Excel File

Scan 1  
“Staged”

Scan 2  
“In Transit”

Scan 3  
“Delivered”

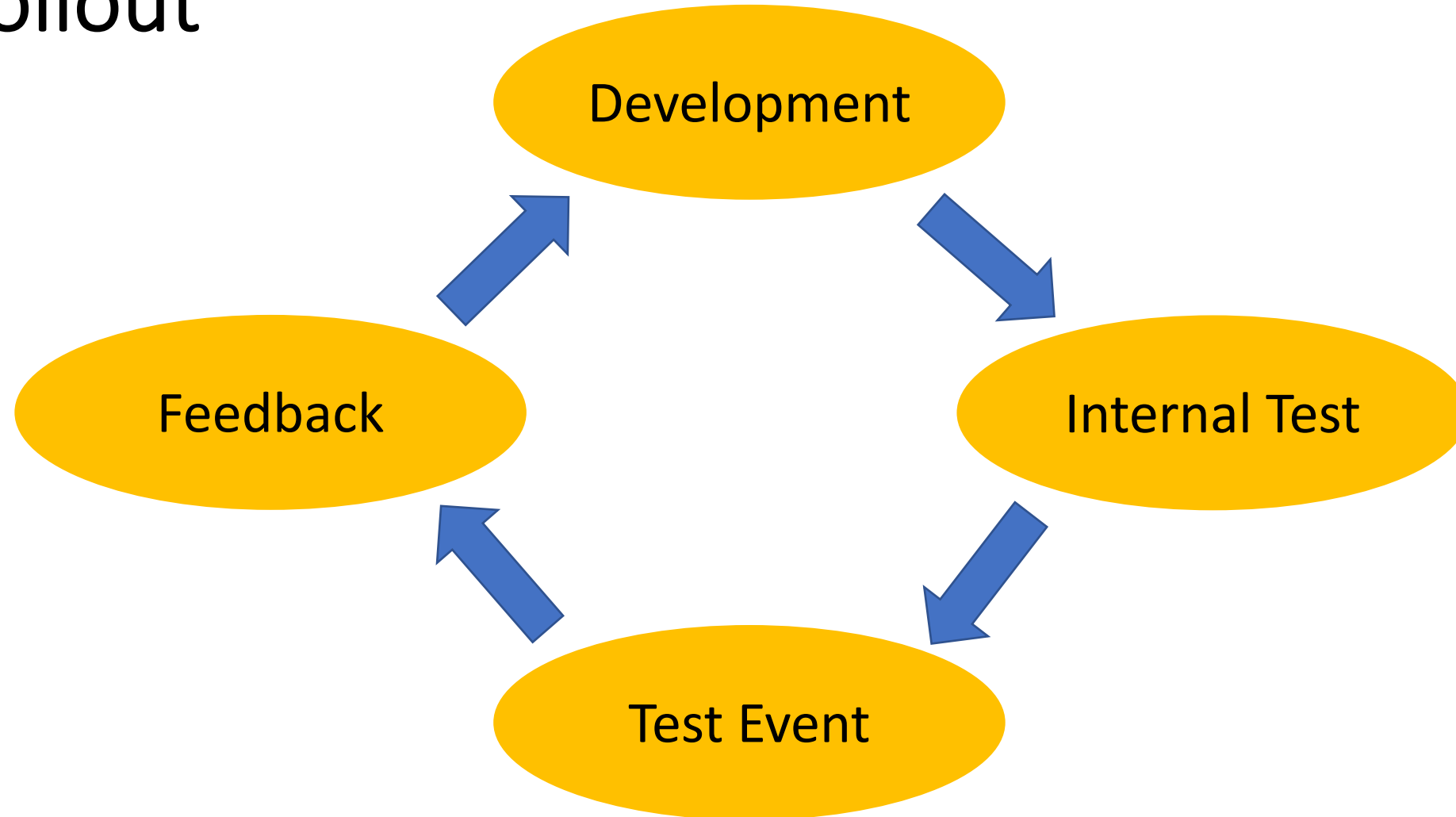


# RFID Equipment Used

- Passive RFID Tags
  - Readily available
  - Low cost per tag
- Mobile Antenna
  - Allows for on the go scanning
  - Connects to mobile computer
  - Configured to scan RFID Tags, Barcodes, and NFC Tags



# Rollout





# Development Timeline

- User Interface – 20 hours
- Python Script – 50 hours
  - Issues:
    - Getting automated task to run python script
    - Selecting correct python module to update excel
- Testing – 20 hours

# Next Steps

- User Interface/Script currently supports one location
- Solution can be updated in the future to track moves at different sites

# Summary

- Low Cost, Rapid, User-Friendly Solution that utilizes RFID to track equipment moving from one facility to another
- Equipment necessary is a mobile computer, mobile antenna, and a server
- A user interface was created to record data
- Python script was created to move data from server to shared excel file





Questions?

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# THANK YOU

