



## USPS Package Sorters of Today

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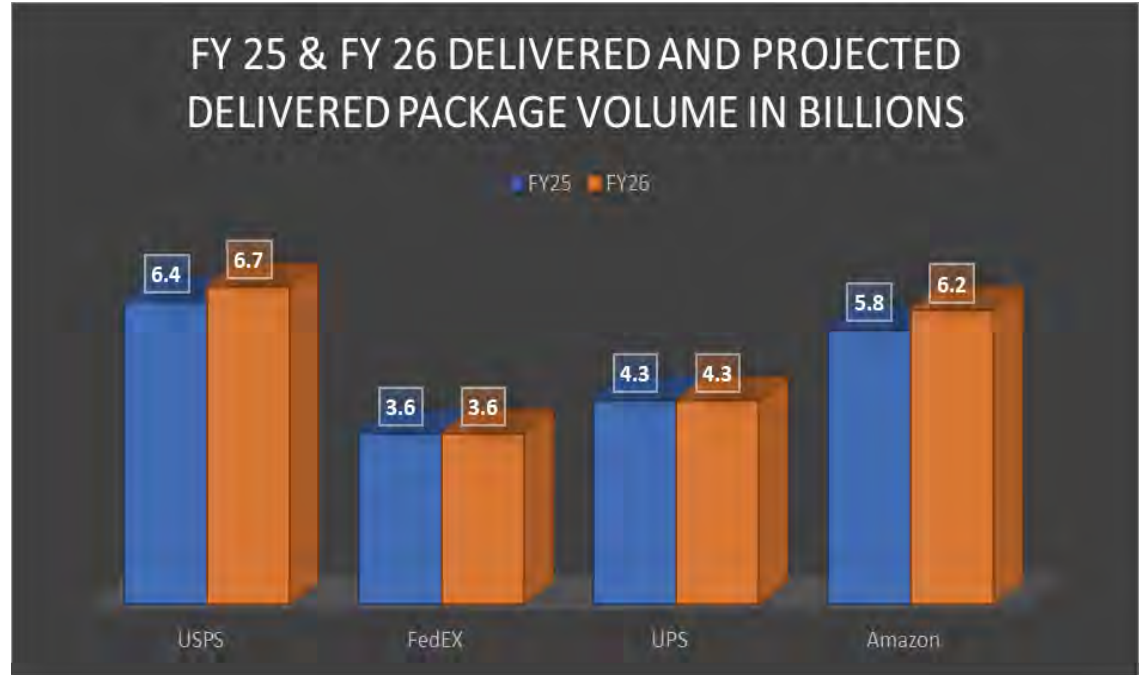


**Brad McCullough**

Senior Director, Technology Development & Applications

# Introduction

- USPS is known for delivering letters and flats
- We strive to be the leader in delivering packages
- Plenty of business to capture
- So, what is USPS doing to compete!!!
- Let's look at some of the amazing things USPS Engineering Systems is working on related to package sorters



Courtesy Shibani Gambir

# No Cohesive Package Sorter Strategy before 2021 Network Modernization



Courtesy Tuan Le



NDC Network of package conveyors was not sufficient for the increasing package volume.



Supplemented with legacy APBS machines in the processing centers initially deployed in the late 1980s – limited to smaller packages 12" x 15.5" x 12" and 20 pounds.



Delayed investments until volume exceeded capacity, negatively impacting service.

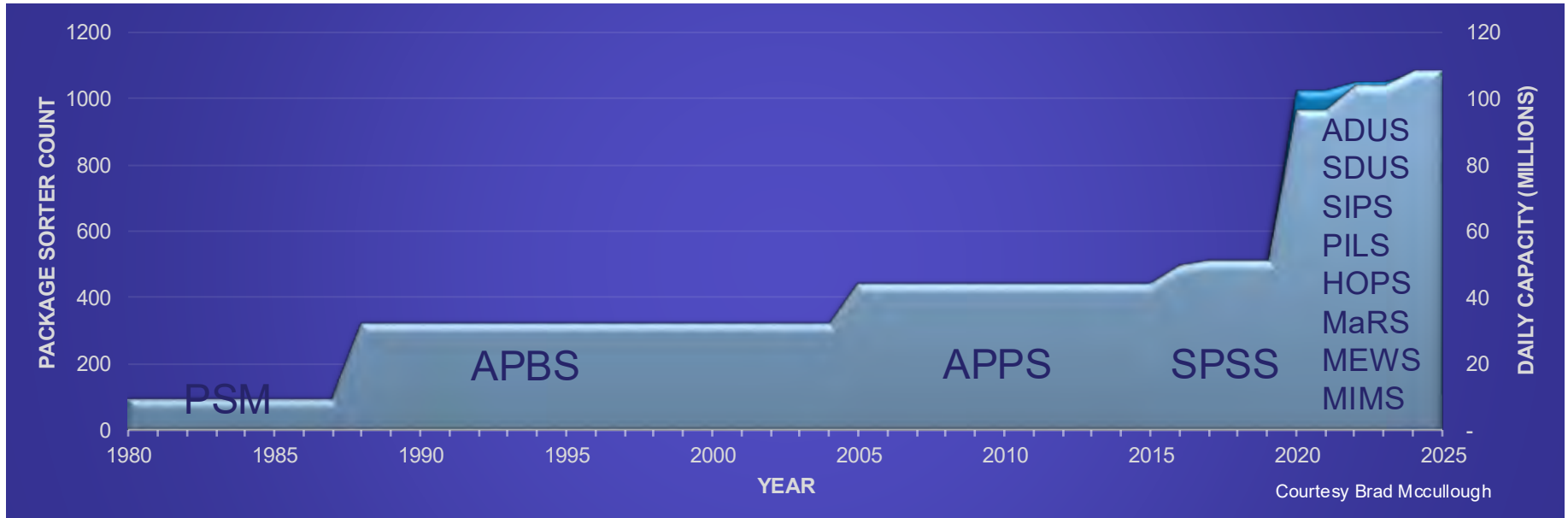


No comprehensive plan for handling larger packages up to 15" x 18" x 22" and 25 pounds (260% larger cube).

# Package Capacity Before & After Network Modernization



- Network modernization efforts began in 2021
- Package processing capacity has increased dramatically since 2021



# Network Modernization

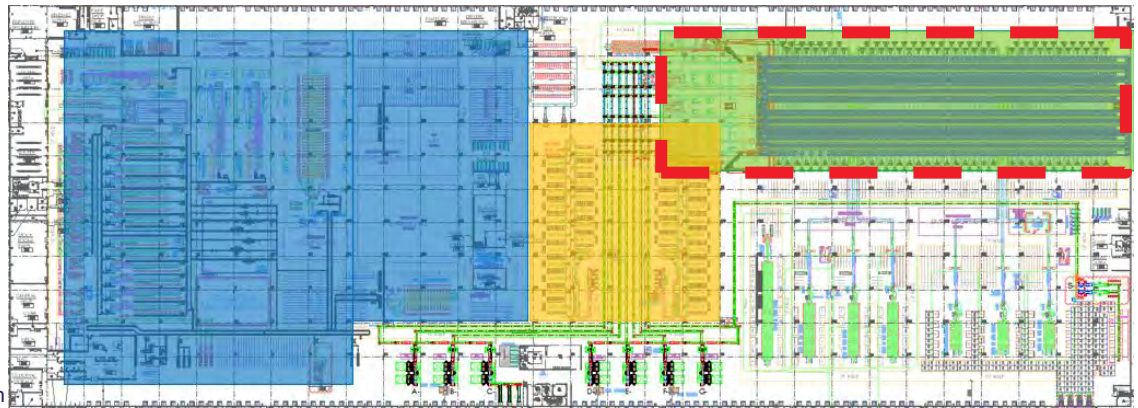
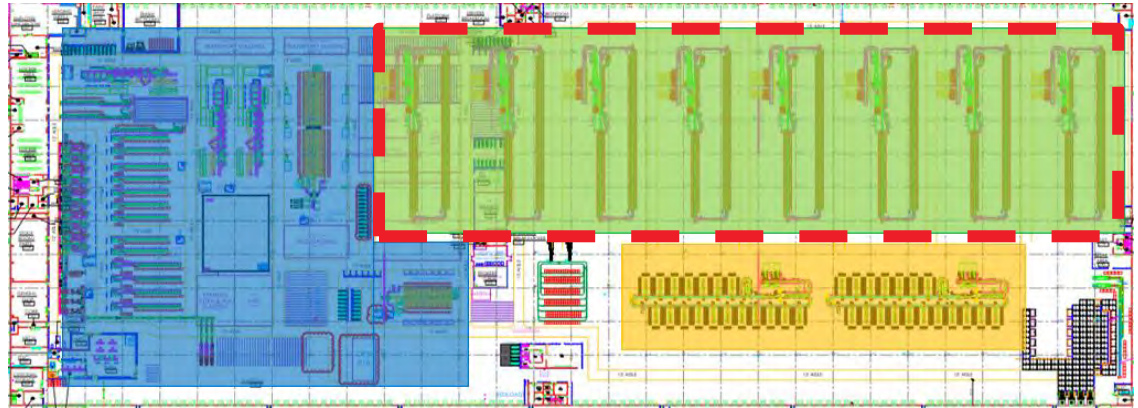


- Regional Transfer Hubs
- Origin Consolidation
- Higher volume to less separations



# Matrix Sorter Evolution

- Legacy design:
  - 8x Individual Sorters
    - 336,000 sq. ft.
    - 64,000 pieces per hour
- New way of thinking:
  - Matrix Sorter
    - 161,000 sq. ft.
    - 64,000 pieces per hour



Courtesy Jordan Musselman

# Developed & Deployed a Matrix Sorter Solution in 12 months



Went from a concept sketch to operation in 12 months.



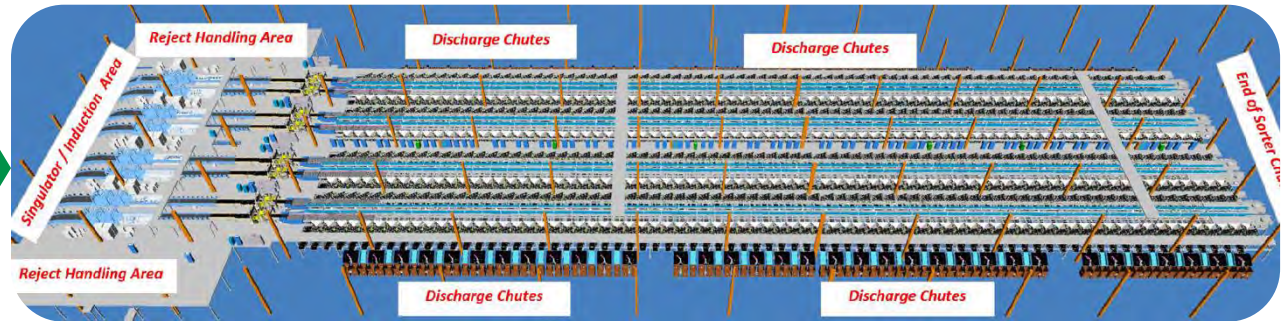
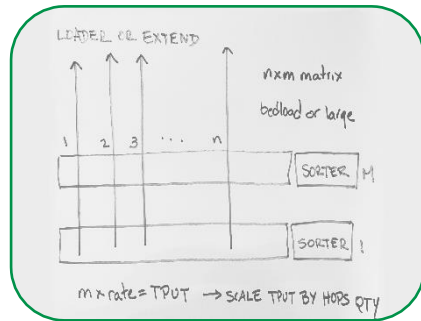
Aggregates the sorted product into a single container.



Combines proven components from known suppliers to produce very high throughput, largely parallel system.



Sorts into containers located adjacent to the outbound dock.

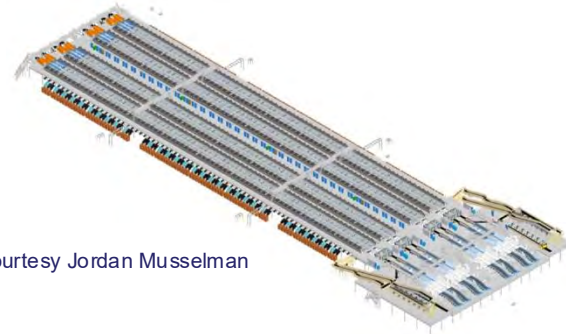
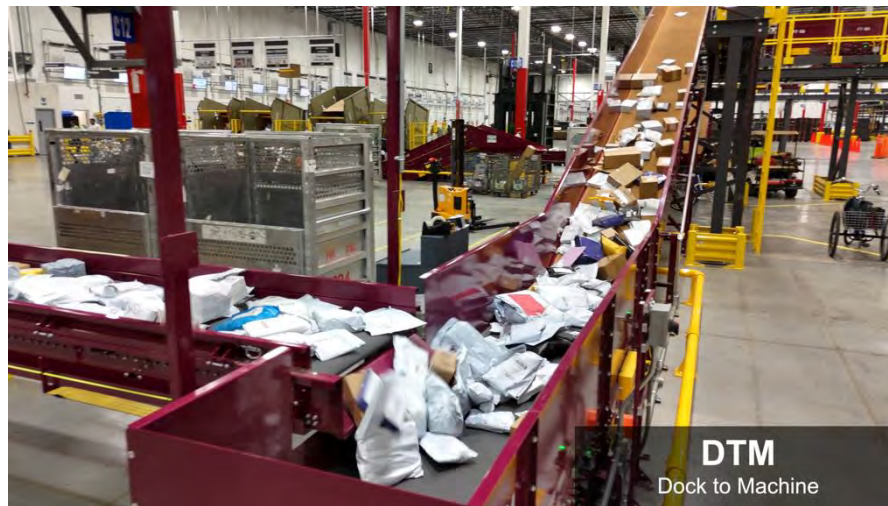


Courtesy Scott Bombaugh

# Matrix Regional Sorter (MaRS) - the First Matrix Sorter for USPS



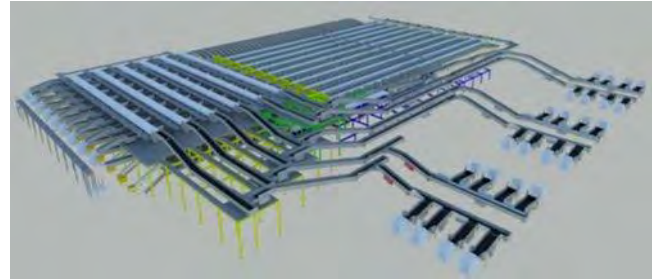
- Four systems now fully operational
  - Atlanta
  - Chicago
  - Indianapolis
  - New Jersey
- Designed for 1M packages daily
- Serves Originating and Regional Transfer Hub requirements
- Runs at less than 1% system rejects
- Has maximum capacity of 50,000 pieces per hour



Courtesy Jordan Musselman

# We didn't build One. We built Four different types - MEWS

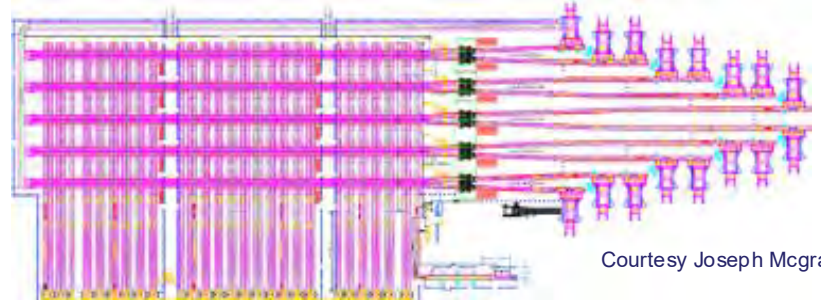
- Matrix East West Sorter (MEWS) in Phoenix, AZ
- Designed for 1M packages daily
- Serves Regional Transfer Hub requirements for Arizona and Southern California Regions
- Runs at less than 1% system rejects
- Has maximum capacity of 50,000 pieces per hour



Courtesy Stefano Turbati

# We didn't build One. We built Four different types - MIMS

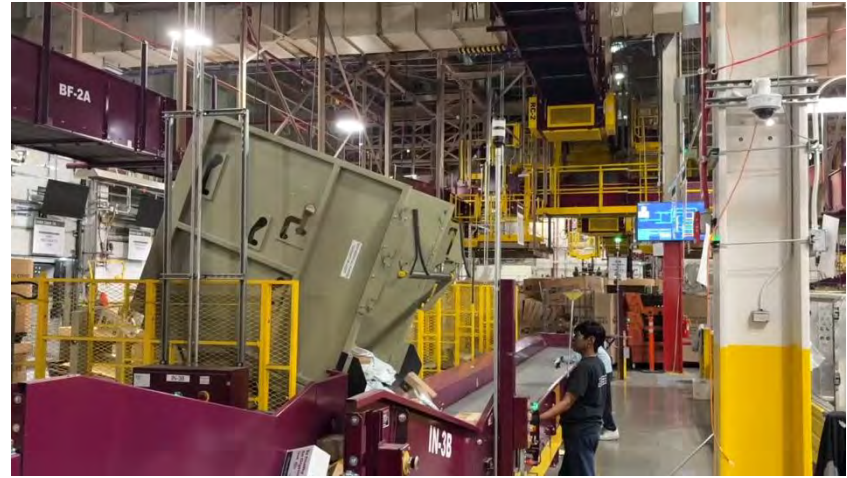
- Multi Induct Matrix Sorter (MIMS) in Dallas, TX
- Designed for 1.1M packages daily
- Serves Regional Transfer Hub Requirements for Texas and Louisiana Region
- Runs at less than 1% system rejects
- Has maximum capacity of 50,000 pieces per hour



Courtesy Joseph McGrath

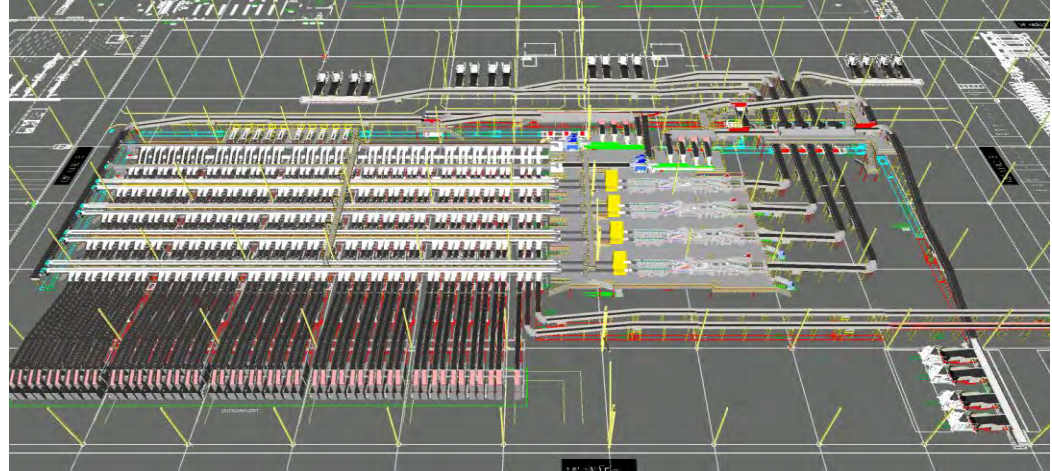
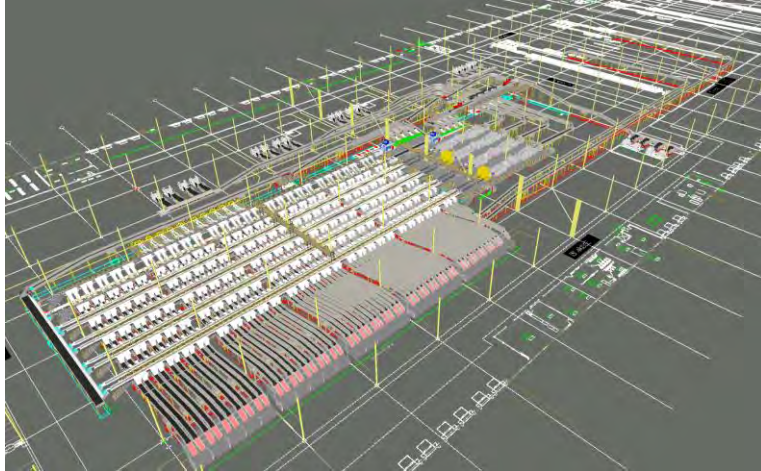
# We didn't build One. We built Four different types - EPSM

- Enhanced Parcel Sorting Machine (EPSM)
- Designed for 1M packages daily
- Serves Originating and Regional Transfer Hub requirements in the Greensboro/Raleigh Region
- Leverages upgraded enhanced and existing NDC package sorting machines



Courtesy Carl Smith

# Additional Matrix Sorter Development

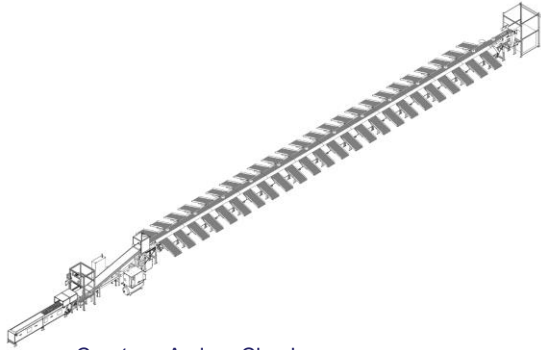


Courtesy Stefano Turbati

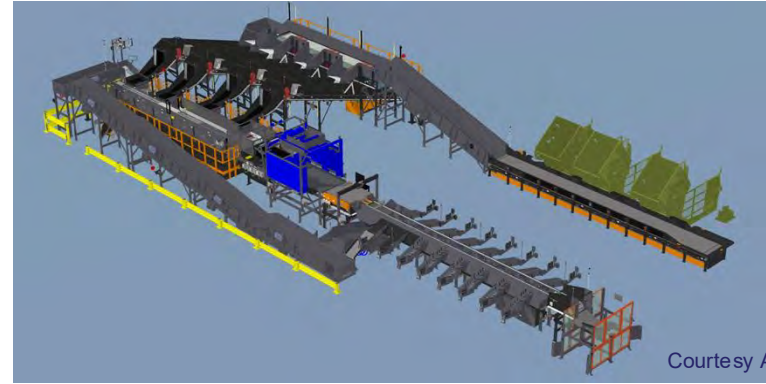
## Memphis MEWS

- Reengineered from existing standalone machines to create a Matrix Sorter

# Linear Sorter Evolution



Courtesy Andrey Chuchuva



Courtesy Andrey Chuchuva



# Delivery Unit Sorters

- Automated Delivery Unit Sorter (ADUS)
  - Automated solution for large sized delivery units
  - 4500 pieces per hour
- Small Delivery Unit Sorter (SDUS)
  - Automation for smaller delivery units
- Single Induction Package Sorter (SIPS)
  - Slightly modified version of SDUS
  - Plant operations



Courtesy Tuan Le

# Parallel Induction Linear Sorter (PILS)

- Building on the success of the ADUS/SDUS/SIPS
- Greatly increased capacity to over 7,000 pieces per hour
- Additional technology
  - 6-sided scanning
  - Output bin full monitoring



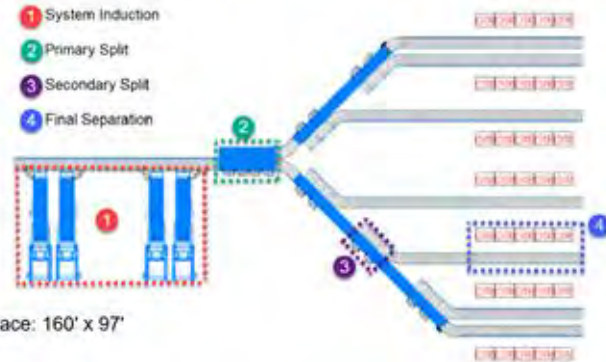
Courtesy Andrey Chuchuva

# Non Machinable Solutions

- Cascading Conveyor Sorter (CCS)
- One sorter for non-standard products ranging from coconuts to carpet rolls



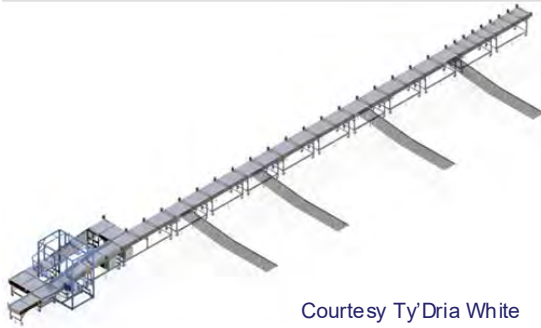
Courtesy Michael Nagy



Floor space: 160' x 97'

# Non Machinable Solutions

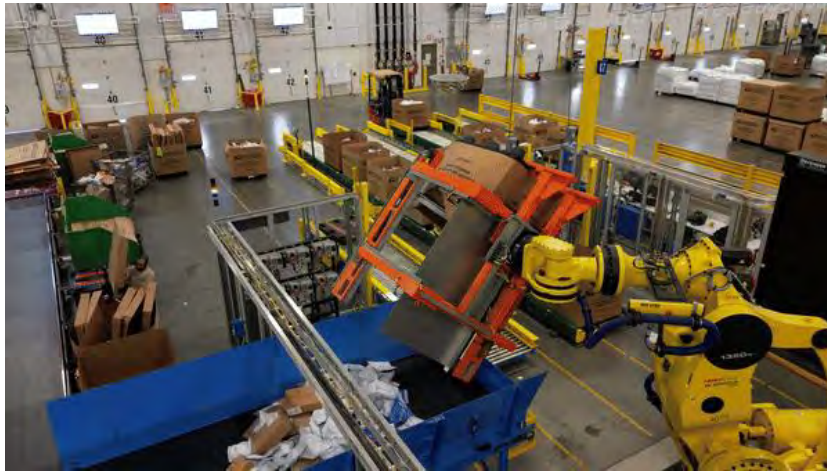
- Compact Universal Sorter
- One machine handles:
  - Letter trays
  - Flats tubs
  - Bundles
  - Small packages
  - Non-machinable packages



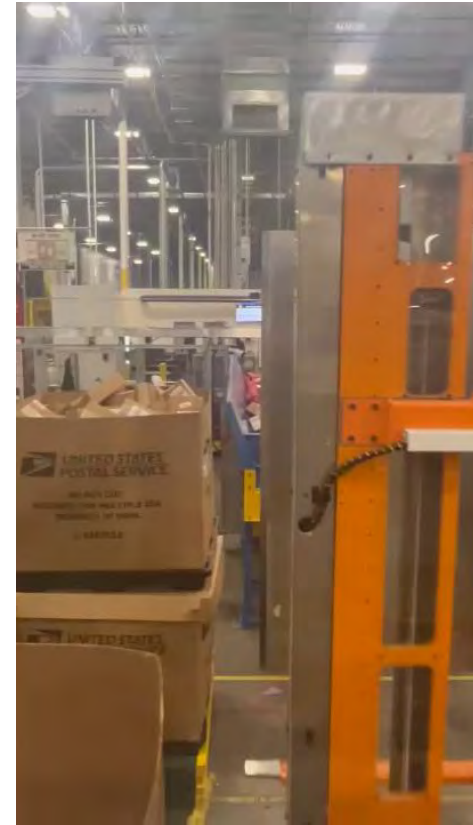
Courtesy Ty'Dria White

# Leveraging Robotics

- High-Capacity Machines create a need for automation at Induction
- USPS is investing in robotics to help induct at a high capacity
- Rapid Pallet Tilting Robots (RPTR) deployed at the Charlotte RPDC



Courtesy Austin Bouchard



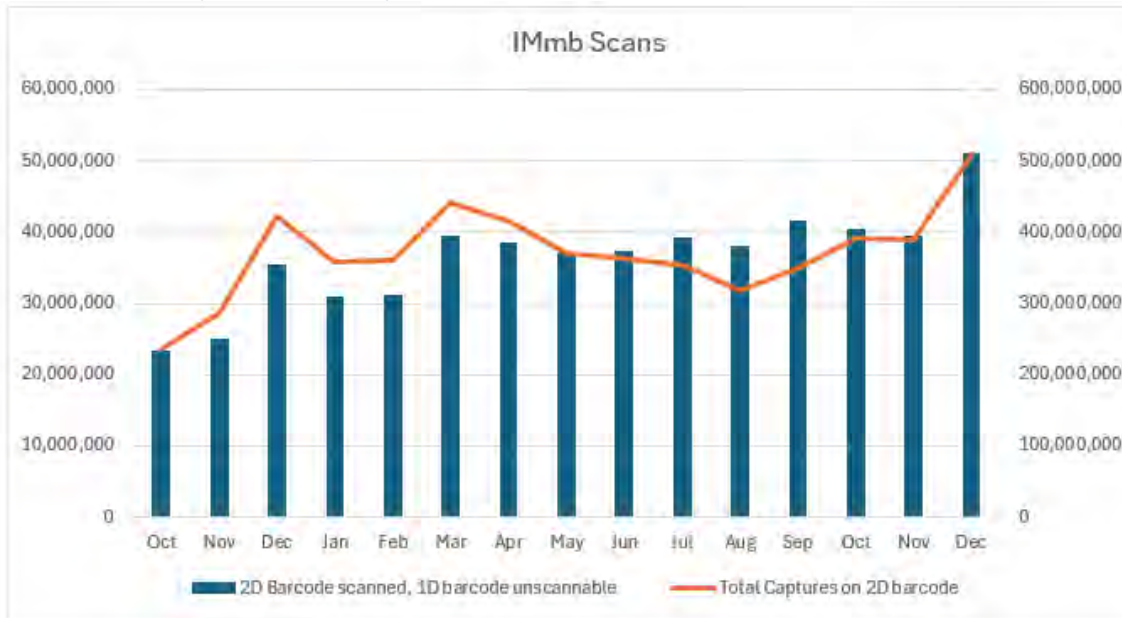
# Advancements in Scanning Technology

- 2D barcode (IMmb) has increased processing throughput:
  - Saves work hours
  - Reduces manual handling and rework
  - Improves visibility



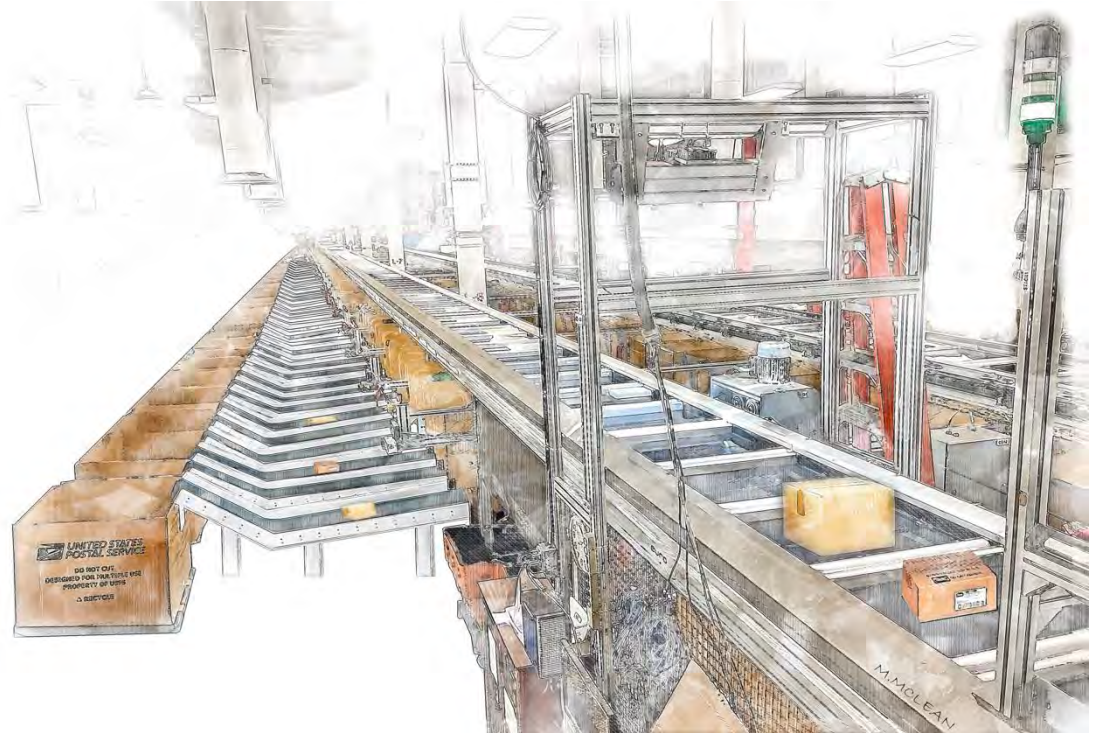
Courtesy Zachary Payton

FY-FQ	Total 2D Scanned	Total 2D Only Scanned	2D Only %
FY25-Q1	942,956,014	83,885,960	9%
FY25-Q2	1,160,590,561	101,670,365	9%
FY25-Q3	1,149,351,121	112,914,704	10%
FY25-Q4	1,019,882,347	118,912,247	12%
FY26-Q1	1,288,086,132	130,970,925	10%



# Summary

- USPS has added an additional 644 package sorting systems since the start of Network Modernization in 2021
- That's a staggering 115% increase in systems deployed
- USPS will continue to add capacity and upgrade our fleet
- WE are ready for business



Courtesy Michael Mclean

# Questions?



Courtesy Michael Mclean