

Click-To-Delivery: Integrated eCommerce & Logistics

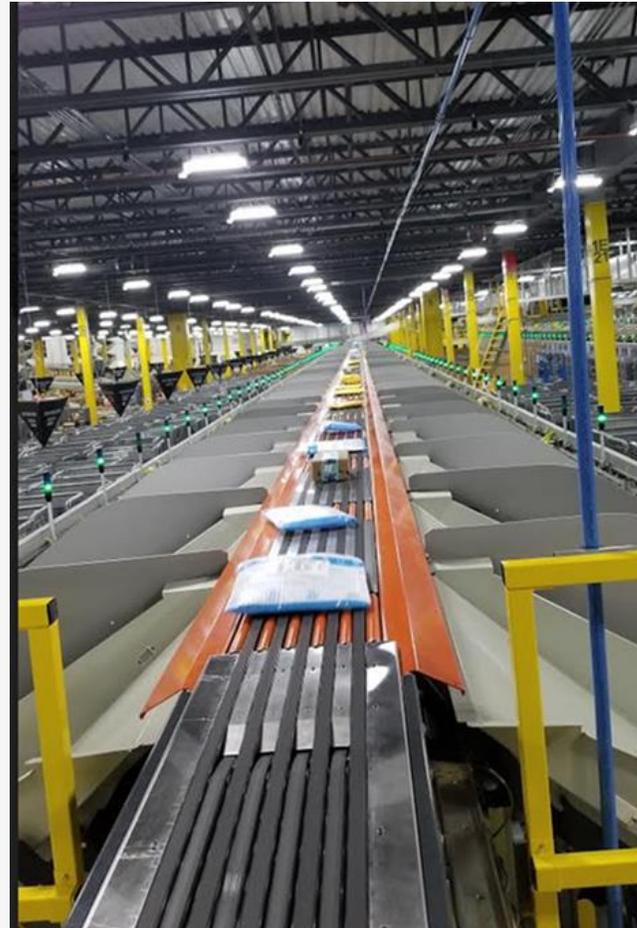
By AClusterLLC USA
- Partnering with Fluence

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About Us: Acluster LLC

We are conveniently located in the Baltimore suburb in Maryland, USA only 30 minutes away from Washington DC. Since inception in 2007, A cluster LLC has provided technical solution for the Robotics, Logistic and Material Handling industry in the USA. As an expert solution integrator and innovative designer, the company has worked with many partnerships to solve cutting edge industrial automation challenges. Partnering with Postls USA and Fluence USA it has designed many solution which is deployed globally in USPS, DHL, UPS, UK Mail, Russia Post, Canada Post, Sick AG, Amazon etc.... Our expertise includes Robotics integration, eCommerce fulfillment center design, mathematical modeling, concept simulation, business "use cases" modeling, machine vision, machine learning, postal automation, factory automation, auto-ID, camera-based motion tracking and inspection systems for the industry. We are a system integrator committed to provide a complete and proven turnkey technology solution for the project, leveraging many years of experience in the process automation and engineering innovation.



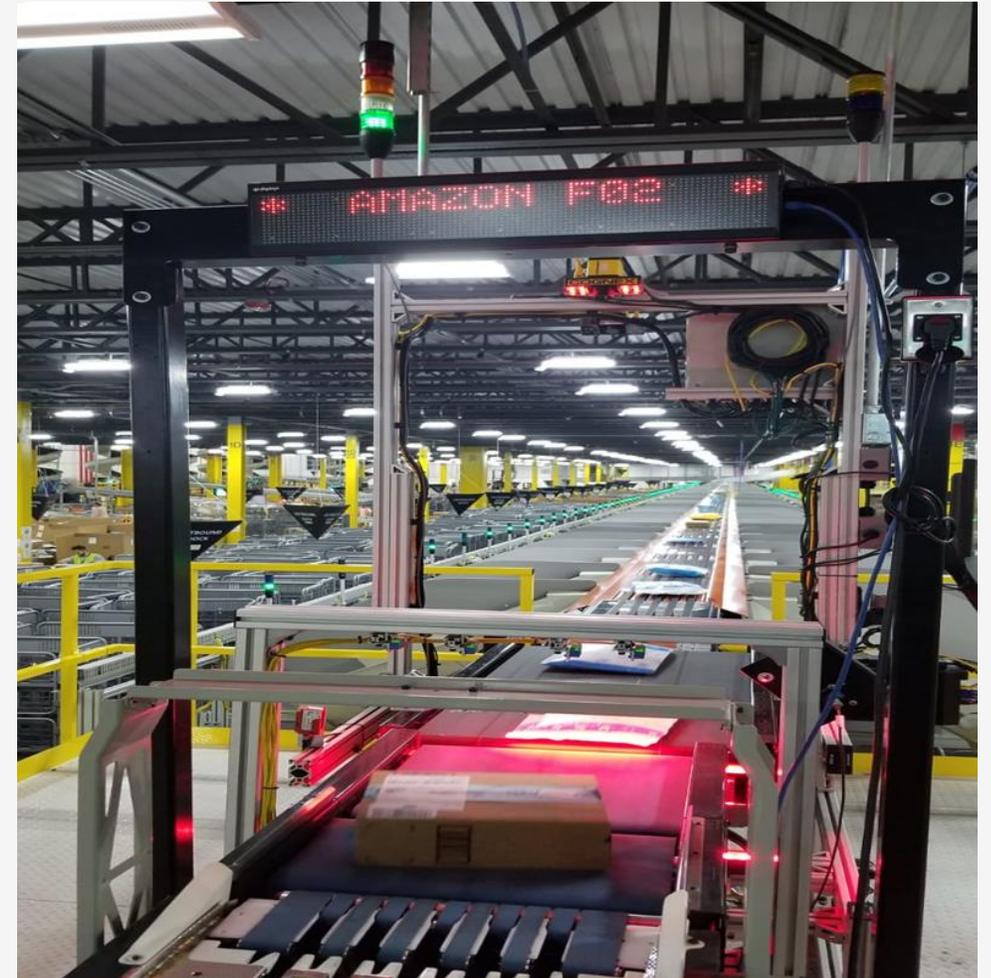
Our solution for Amazon fulfillment center in CA

Mission for Acluster LLC in East Asia

Our initiative is to incorporate our proven state of art technology to integrate Logistic with eCommerce solutions under one single platform. Be a leader in the logistics, distributions, click to Delivery solutions.

□ Areas of interest:

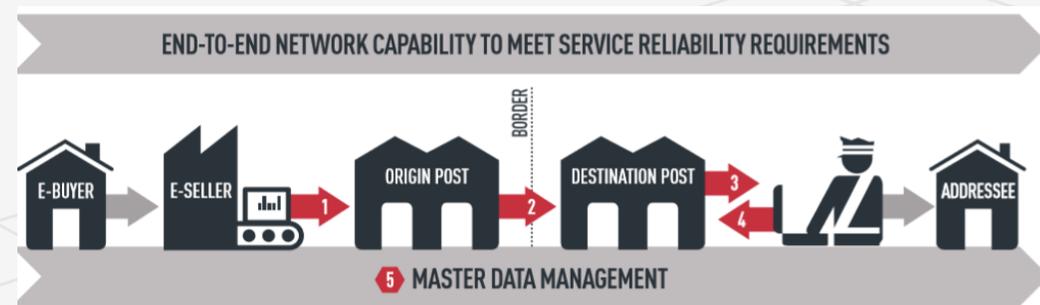
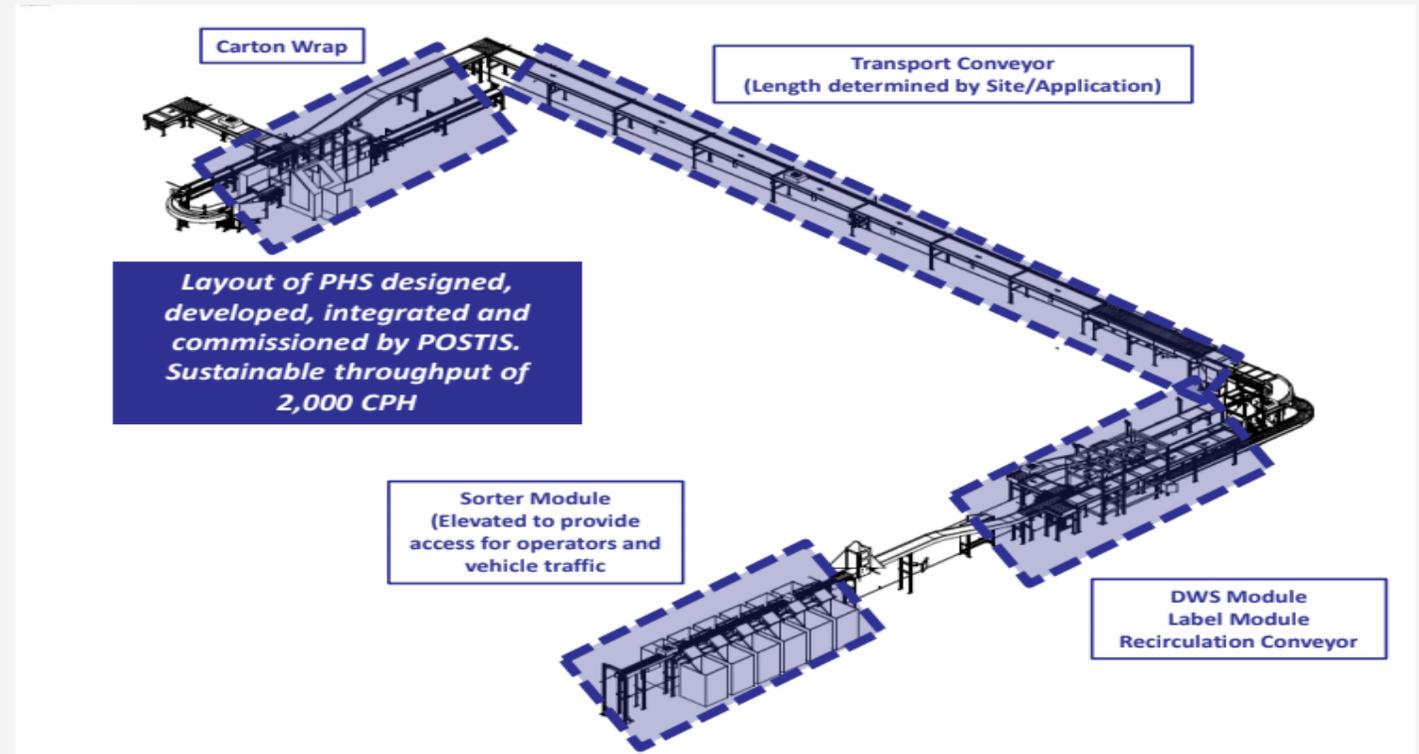
- Identify the areas in existing logistic, distribution facility to improve efficiency.
- Introduce efficient logistic design with high throughput and automatic goods handling system.
- Maximize the utilization of warehouse with minimum number of resources, automate sorting of the goods and establish single click to delivery system.
- Reduce the number and sizes of warehouses around the country and reduce the transportation vehicles by most efficient distribution system which will improve the operating cost for delivery of goods.
- Provide Warehouse management system
- Integrate front end webapps and back end to the Click-To-Delivery Platform
- Integrate POS system Click-To-Delivery Platform
- On demand Pick and Pack
- Increase profit margin of the company by freeing up the cash which can be invested for business investment
- Create new employment and supply chain



Acluster LLC provides customized solutions as required !

Click-To-Delivery: For small to mid size eCommerce business

- ❑ Click to delivery processing solutions
 - Crate daily work orders
 - Create packing list
 - Auto create custom box for the items in the warehouse during the packing process
 - Auto fill packing materials for safe packing
 - Compare and find best price courier
 - Apply necessary shipping labels
 - Measure weight, dimensions and BCR
 - Create shipping manifest
 - Sort to the carrier
 - Palletization
- ❑ Send tracking info to customer
- ❑ Create necessary custom documents (ITMATT)



Click-To-Delivery: Automatic packaging and boxing based on the order size

- ❑ Click to delivery processing solutions
 - We integrate Automatic Cartoon wrapping Machine
 - Make shipping box based on the customer product size before shipping

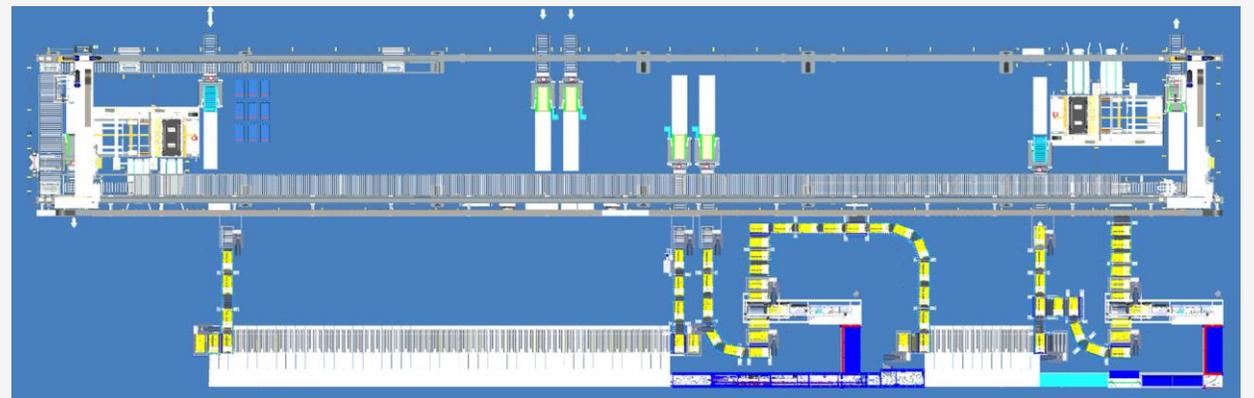
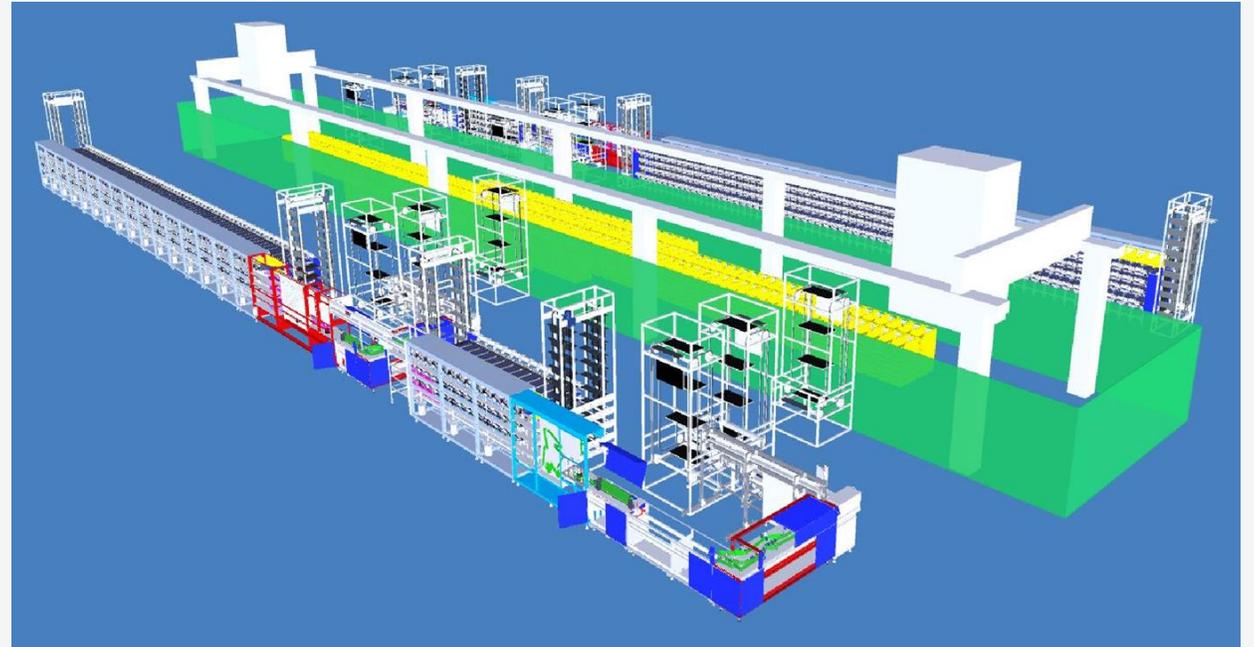
System Video: https://drive.google.com/file/d/1O-Bx-7r_40uomEe7qgQVqvzy0wYd5HIE/view?usp=sharing



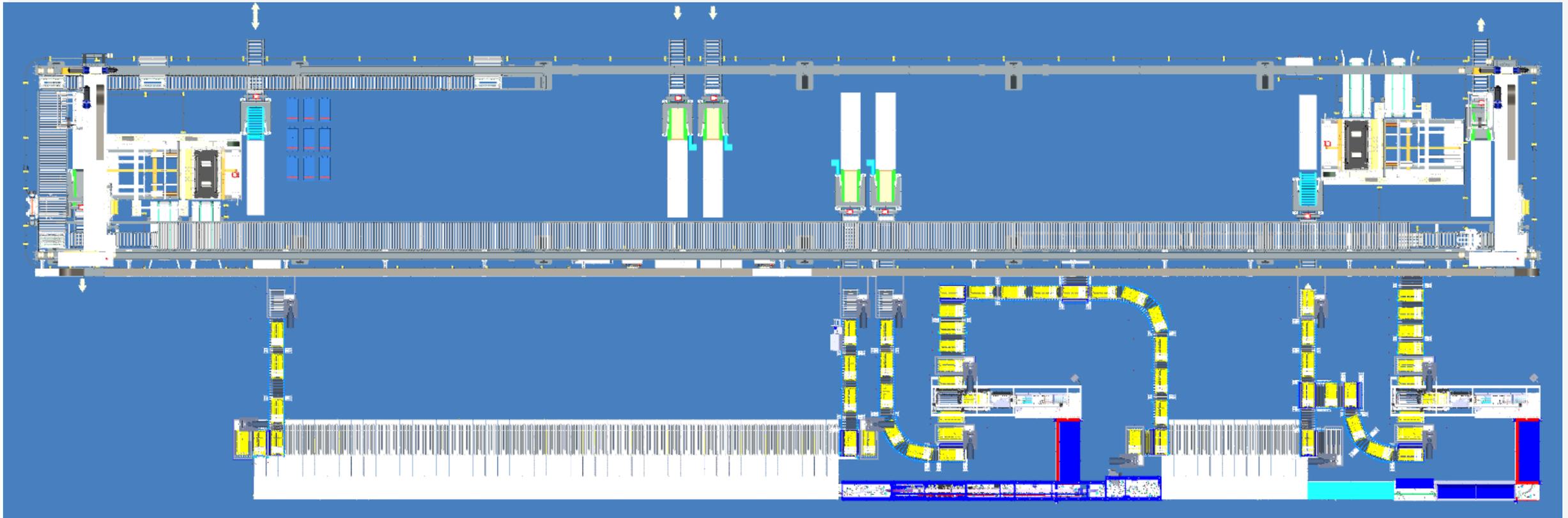
Click-To-Delivery: eCommerce Hub with automatic storage and retrieval

Offer state of art Click to Delivery solutions to our clients, making them the leader in eCommerce service in South East Asia. This will open opportunities to deliver goods and services across our borders to the neighboring countries by right partnerships with the global giants and the friendly nations

- ❑ High capacity eCommerce hub integrated to Automatic Storage Retrieval System
 - Store customer products in our secured state of art warehouse
 - ✓ Discounted price for small businesses
 - ✓ A negotiated price for storage for large business based on their transactions
 - Click to Delivery services
 - ✓ Our Cloud portal integrated to our eCommerce platform take orders from individual or through clients interface
 - ✓ Retrieve stored goods from the customer inventory and process for delivery including packaging if necessary
 - ✓ Ship to their customers leveraging high capacity Mix Mail Sorting technology
 - ✓ Update our clients and their customers on the shipping and tracking
 - ✓ Replenish notification to our clients
 - ✓ Automatic storage of clients goods when received



Click-To-Delivery: SARS Gantry-Robot



A possible system Top View which I designed for a USPS project

Click-To-Delivery: SARS Gantry-Robot

- ❑ Storage and Retrieval Gantry
Robotic solution
 - Needed for Fast storage retrieval system
 - Completely Autonomous system
 - Handle anything and everything
 - No Baby sitting needed!



Handle Crates, Pallets, Trays, Cases with world fastest storing and retrieving capacity

Click-To Delivery platform: Integrate POS

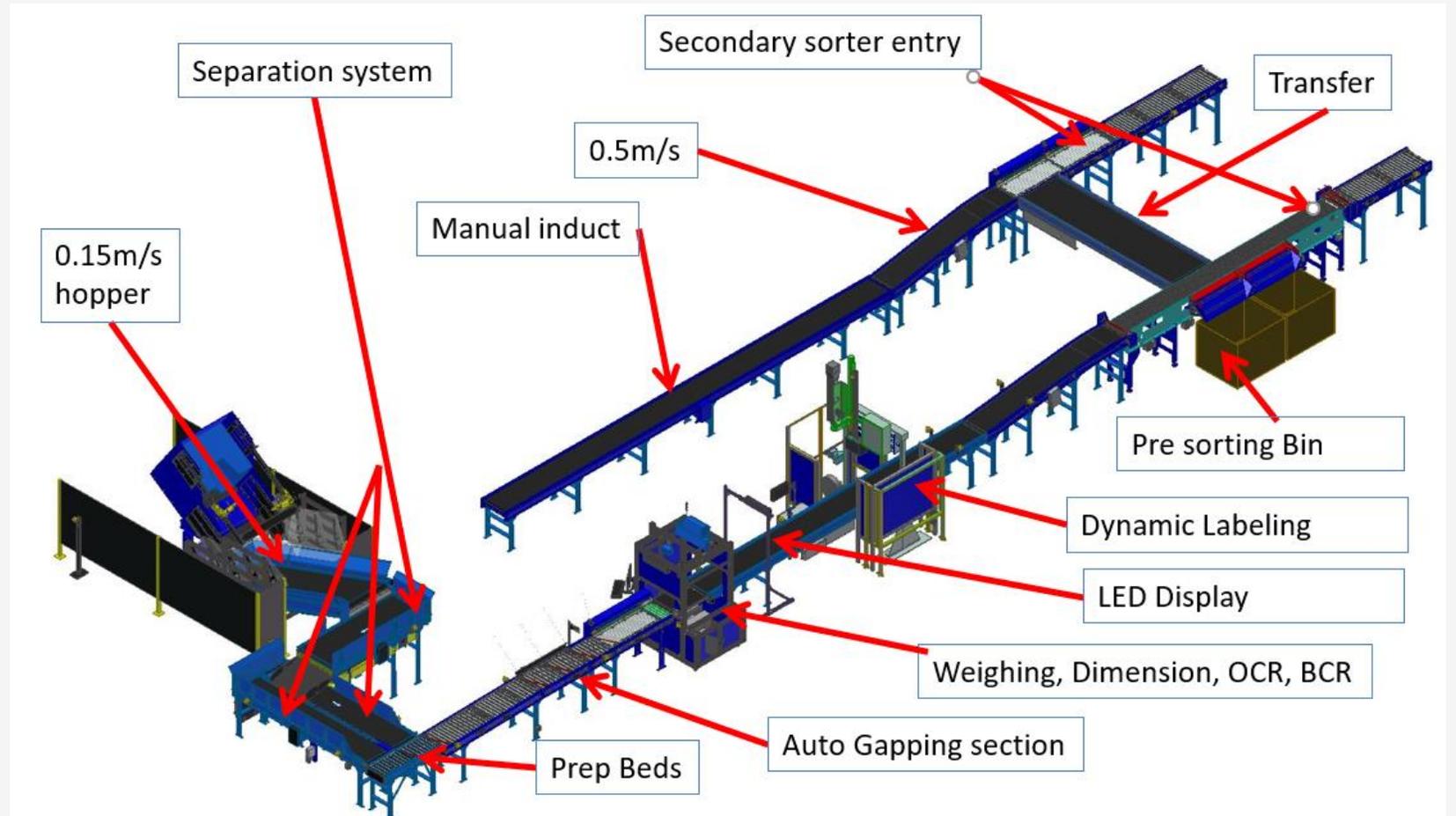
Time to integrate POS across the platform including the retail store, Bills and internet shopping

- ❑ Generate revenue through existing POS system
 - Integrate with Click to Delivery
 - Integrate with retailer
 - Integrate Business inventory system, Payroll and Accounting with the POS for the small business
 - That will increase its popularity
 - Will able to order the inventory
 - Will able to sell product which is not on the self but on the eCommerce Hub



Click-To-Delivery: Typical Sorter Layout

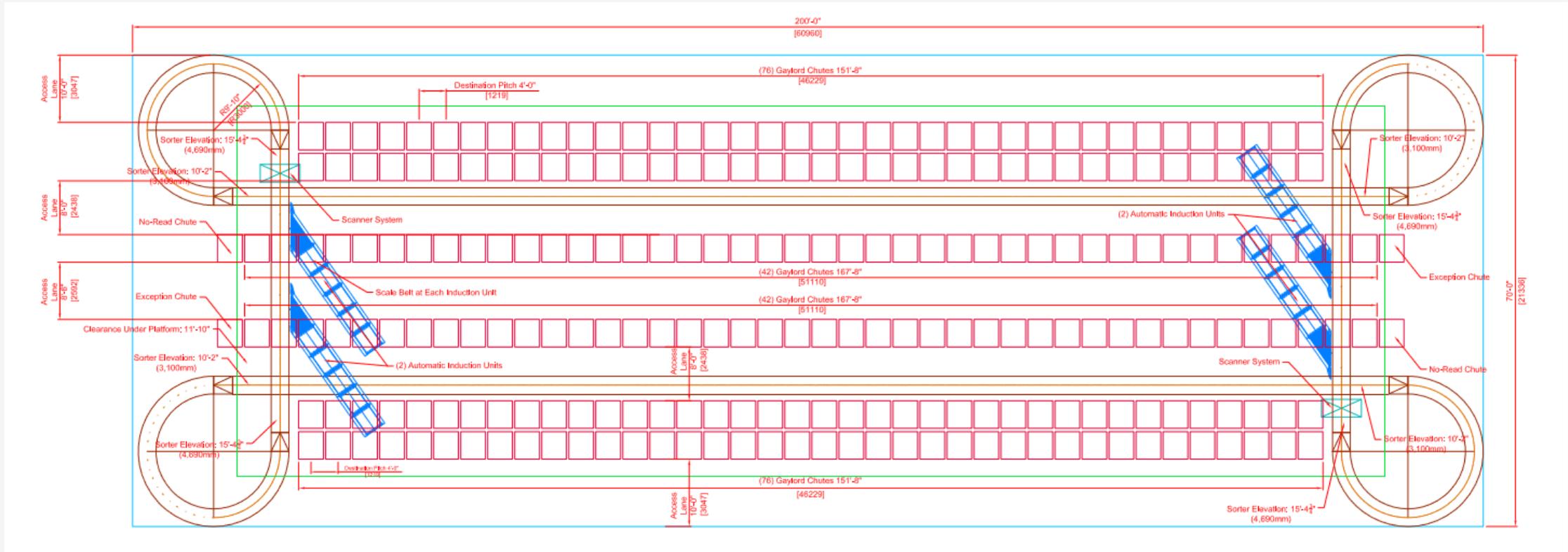
- ❑ Dumping Station
 - Manual or Automated
 - As needed by customer
- ❑ Separation System
 - Singulate the bulk mail
 - As needed by customer
- ❑ Prep and Gapping
 - Separate mail automatically
 - Gap it to optimize throughput
- ❑ Dynamic DWS
 - Weigh
 - Dimension , BCR, OCR
- ❑ Display
 - Display warning and info
- ❑ Label Applicator
 - Apply variable length label
- ❑ Pre-sorter
 - As needed by customer
 - Presort mission critical mail
- ❑ Lanes to secondary sorter
 - Product can go to multiple sorter or multiple induct
 - As needed by customer



Typical System Layout

Click-To-Delivery: Large sorting system

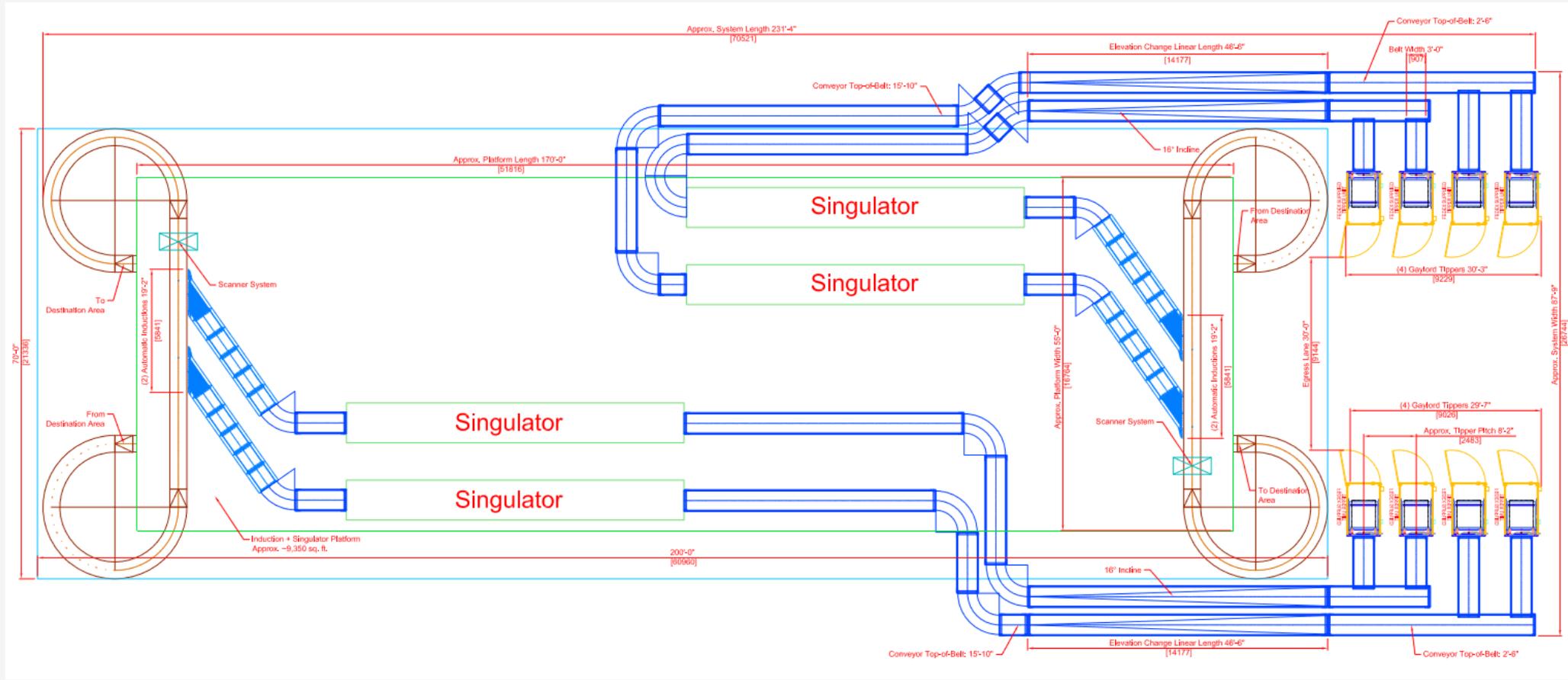
❑ Sorter Layout example



Top view of the upper level of a possible configurate 2 (This is a preliminary drawing for estimate only)

Click-To-Delivery: Large sorting system

Sorter Layout example



Top view of the Lower level of a possible configurate 2 (This is a preliminary drawing for estimate only)

Click-To-Delivery: Automatic Labeling application

- ❑ Raptor for Click to delivery processing solutions
 - High speed labeling solutions
 - Print and Apply
 - On Demand variable length labels on the fly
 - Used in QBC USA, USPS, DHL etc

Video:

<https://drive.google.com/file/d/1zgbyGUQNH1RbYtD7I7k635Y7DNCiRqrR/view?usp=sharing>



Click-To-Delivery: Receiving the Inventory

- ❑ Clients Inventory arrival
 - Can arrive in Postal approved Tray through loading dock of the Hub
 - Can arrive in Boxes through the loading dock of the super center
 - Will then be routed through the tunnel and conveyor system to the eCommerce Hub
 - Can arrive in Pallet
 - Can Arrive in crates like Coca Cola crates
- ❑ Need conveyor to handle the Tray
- ❑ Tray loading and unloading mechanism
- ❑ Pallet handling System
- ❑ Crate handling system
- ❑ Can come as loose items which will need to be packed through our automatic packaging system before shipping
- ❑ All items received are authenticated by the Human or AI based product verification and defects detection software



Clients inventory can arrive in Tray, Boxes!

Click-To-Delivery: Receiving the Inventory

- ❑ Clients Inventory arrival
 - Arrival Scan by an associate
 - Data is updated to the Inventory Management Software (IMS) and a location on the rack is assigned by the WareHouse Management Software (WMS)



Arival Scan



Opened and placed in a tray



Hub operator place on the Bin in her or his station



Robots take the shelf and place them in the wirehouse space of the HUB

Click-To-Delivery: Receiving inventory-Robot

□ Unmanned robotic space

- Reduction of loss of items since robot is the only allowed worker to work in this space
- Robot takeover the shelf from the Stocker Associate and place them in the warehouse space as directed by WMS
- Robots Navigation system needed
- Robots Charging station needed
 - Robot get charged while resting
 - Never go for a smoke break!
 - Does not Call Sick!
 - Impeccable work ethics



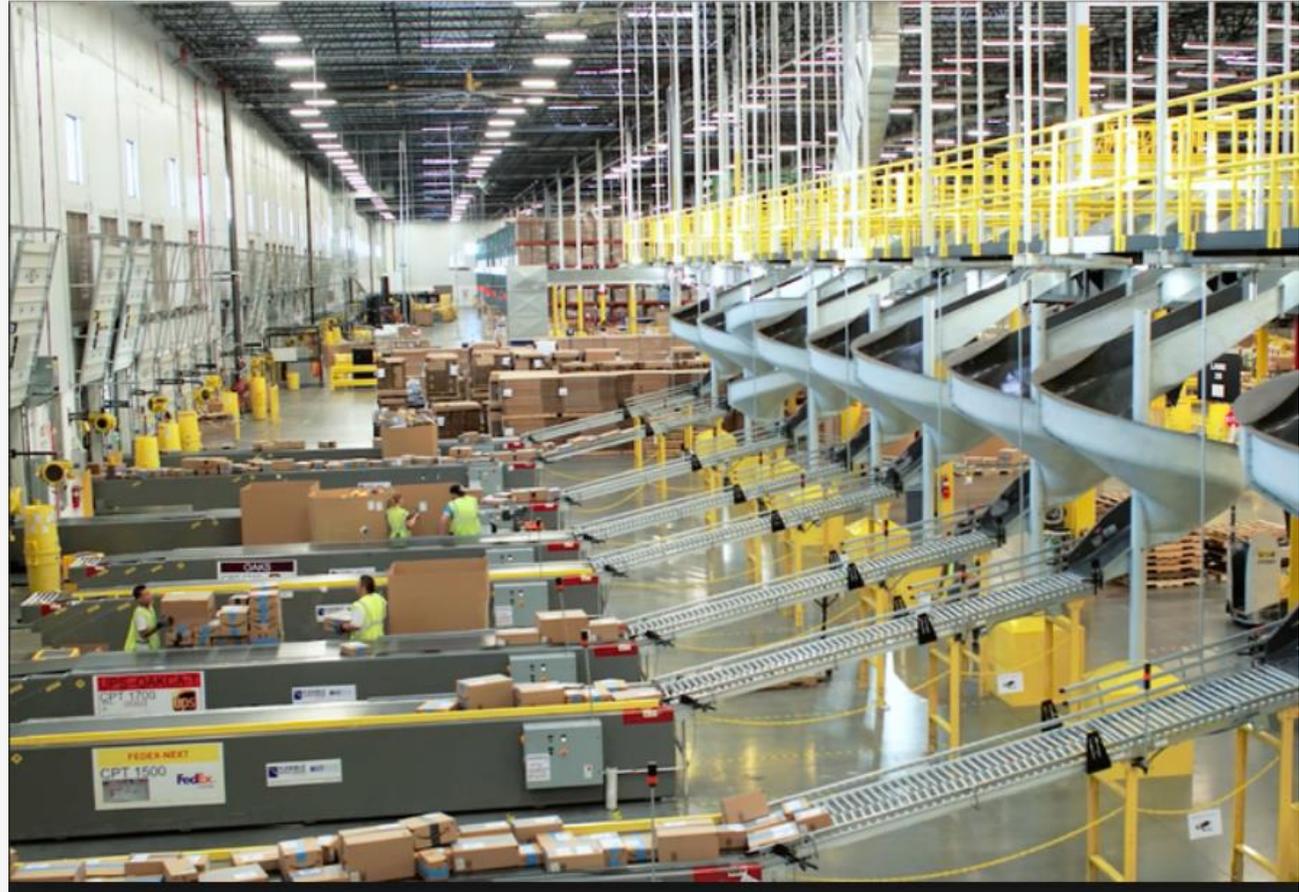
Dedicated space for Robots!



Clear separation between Robots and the Stocker/Picker

Click-To-Delivery: Dispatch Bay

- ❑ Multiple Dispatch bay
 - Directly connected to the truck
 - We design efficient ergonomic state of art dispatch bay
 - We automate seamless movement of millions of goods every day

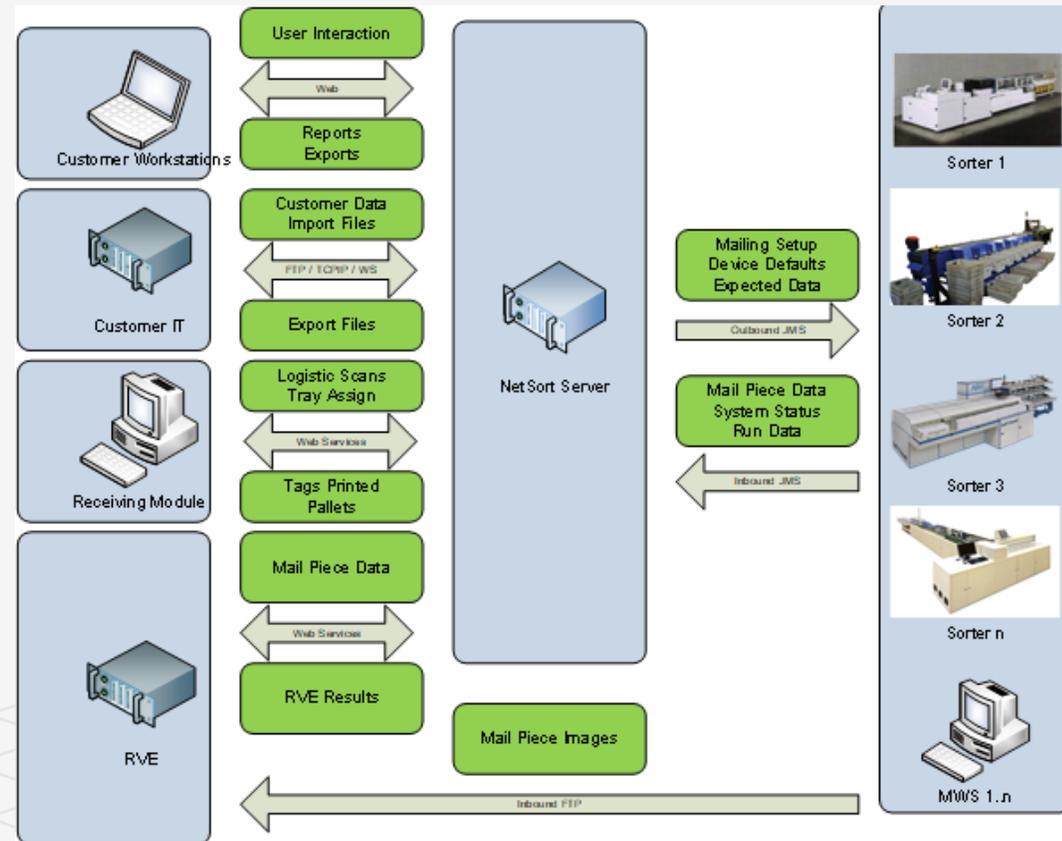


Time to Deliver the Promises!!

Click-To-Delivery: Distributed Software platform

A cloud based enterprise level software which ties all the machine controls, mail tracking system, eCommerce system, payment methods and security together...

- ❑ Enterprise level software
 - Designed for eCommerce
 - Parcel and Letter Mail applications
 - Supports current and future postal Services
 - Integrated OCR and BCR
 - Integrated VCS call
 - Database interface
 - MIS interface
 - USV Rack interface for machine controls
 - Interface to Sortplan management system
 - Sort plan generator
 - Interface to the PDA and cell phone APPS



Software, nop worries. Its just a bunch of text files....

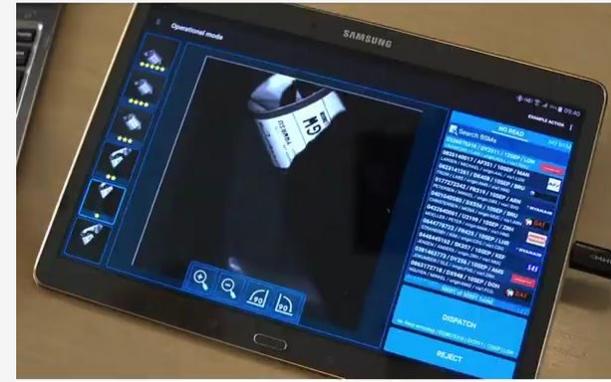
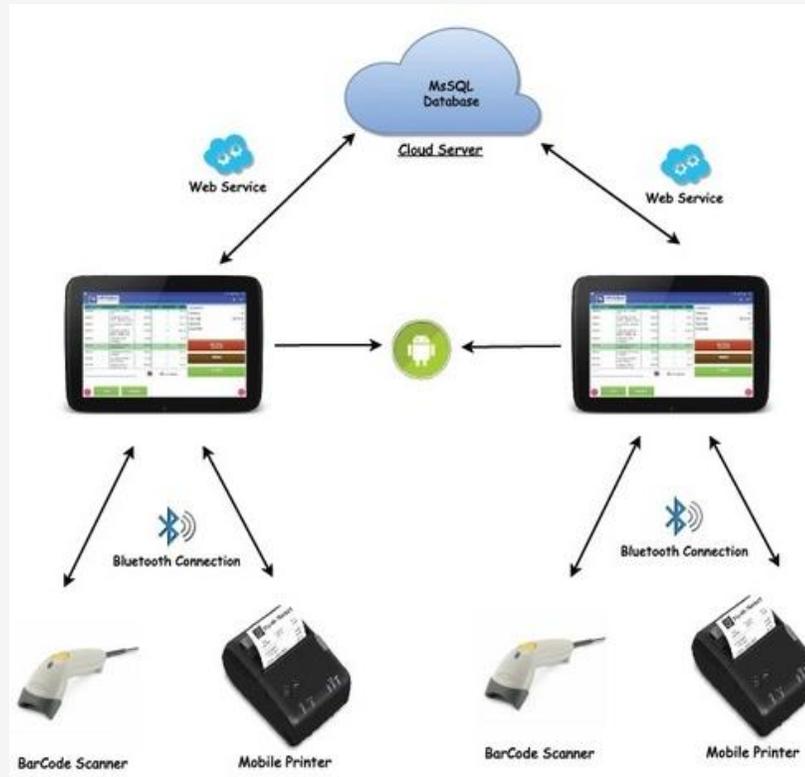
Click-To-Delivery: Distributed Software platform

❑ Receiving Station Options

- Computer Workstation
- Tablet Based

❑ Functions

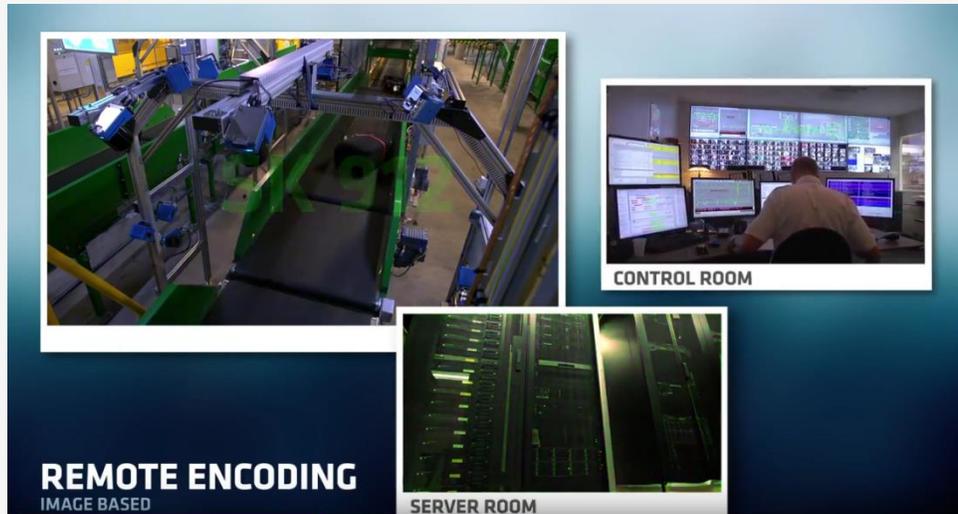
- Note quantity and condition
- Web Based Client access to the system
- Remote tracking
- Remote viewing
- Remote stats monitoring
- Carrier Scan



Seamlessly connect receiving scan to delivery scan and update all the devices across the platform

Click-To-Delivery: Remote Video Coding System and control room

- ❑ Unresolved images of the product by automation
 - Image from the Six-sided tunnel is sent to a remote operator to get a sorting destination as the product wait on the sorter
 - If a destination is assigned, then product will be sorted out to right Bin
 - If operator can't resolve, then the product will go the reject bin for human intervention



Control room

Unresolved images are forwarded to a remote encoder

More questions about this presentation?

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