



A Virtual Conference presented by AIM & RAIN  
9 - 10 December 2020





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## Platinum



## Gold



## Silver



SIMPLYRFID





A-1 PACKAGING  
SOLUTIONS, INC.

# 75,000 Truckloads Shipped Without a Single Error

## Using Forklift Mounted RFID & the System Directed Workforce

**“Going from Barcodes to LivePoint-SDW is like going from  
Typewriters to Computers...It is a Quantum Leap in Technology!”**



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# “We Must Accept Human Error as Inevitable and Design Around that Fact!”

Donald Berwick



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## Customer Results

- **Shipping** - *Went from shipping **70 to 138 Trucks/day** without any additional resources.*
- **Errors** – *Shipped over 75,000 Truckloads (and counting) with **ZERO Errors**. This is beyond 6 sigma.*
- **Training** - *“We can now train a driver in **Less than 2 Hours**, before it was 4-6 months”*
- **Inventory Accuracy** – **99.99% Accurate**



# Ken Schoening President & CEO

- Extensive Cost Reduction initiatives throughout manufacturing/supply chain
  - Managed \$350 Million Business Unit
  - 10 years in Distribution
  - 20 years in Manufacturing
  - 15+ years in Packaging
  - 12+ years in RFID
  - Married 2 Children Enjoys Hunting, Fishing, Football
  - MBA General Business, BS Marketing SIU-Carbondale



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# Customer Challenges

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1. FIFO
2. Cycle Counts
3. Shipping Errors
4. Productivity - Wasted Time Hunting for Items
5. Training New Hires
6. Safety



# How to Accomplish?

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- RTLS (Real Time Location Service)
  - Didn't Work so we looked at other options
- Forklift Based RFID
- Floor Tags Throughout
- Dock Portals





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# Current Floor Tags

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↑  
1/2"

- **Costly to Install**
- **Must remove Concrete and Epoxy**
- **Permanent – Can't move Lanes**
- **Hard to Replace**
- **Shutdown areas while Epoxy cures**



# New LivePoint Floor Tag

**So we developed a new Floor Tag**

- Clean Floor
- Peel and Stick like a Band-Aid

1"

LivePoint® Floor  
Tags  
Patent Pending

**0.5mm thick**



# Dock Door Portals/Systems

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- Costly
- NO Vision into Warehouse
- Single Purpose & Application
- Not Expandable into Facility



# Traditional Dock Door System



- **Costly**
- **\$6-12k/door**
- **Easily Damaged**
- **Cross Reads**

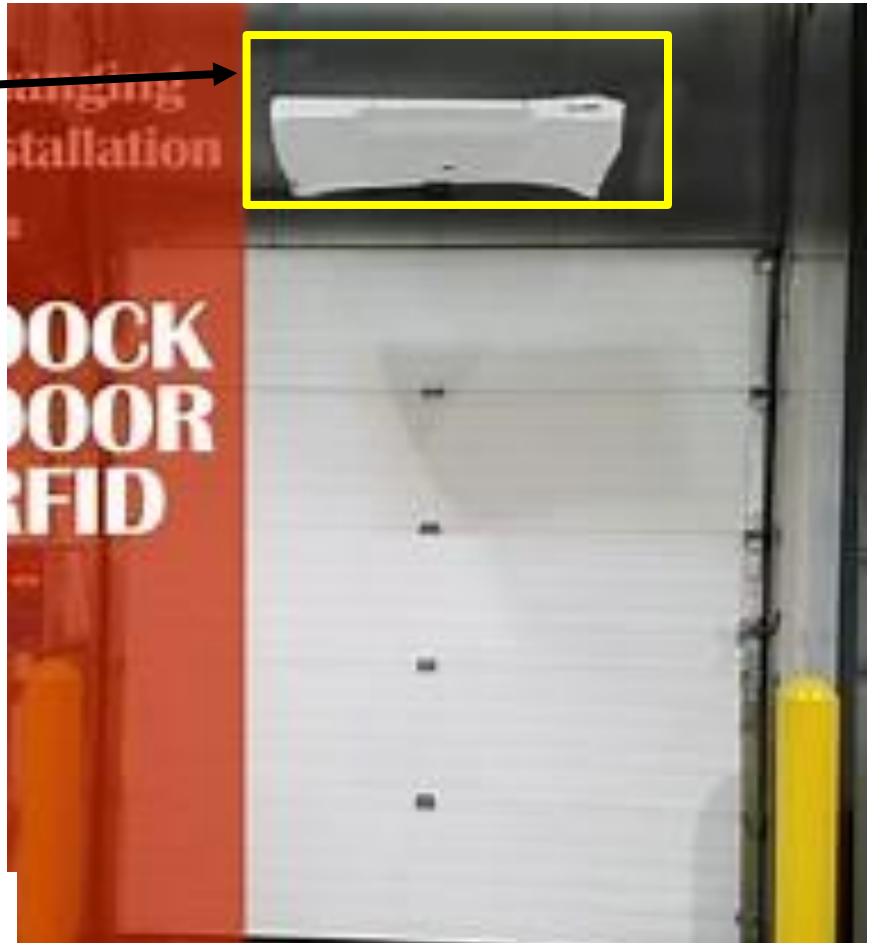


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# Aerial Systems

## Ceiling RFID

- **Costly**
  - **\$12,000 / 2 Doors**
- **Not Very Accurate**
- **Difficulty reading Tags on Flat Surfaces**

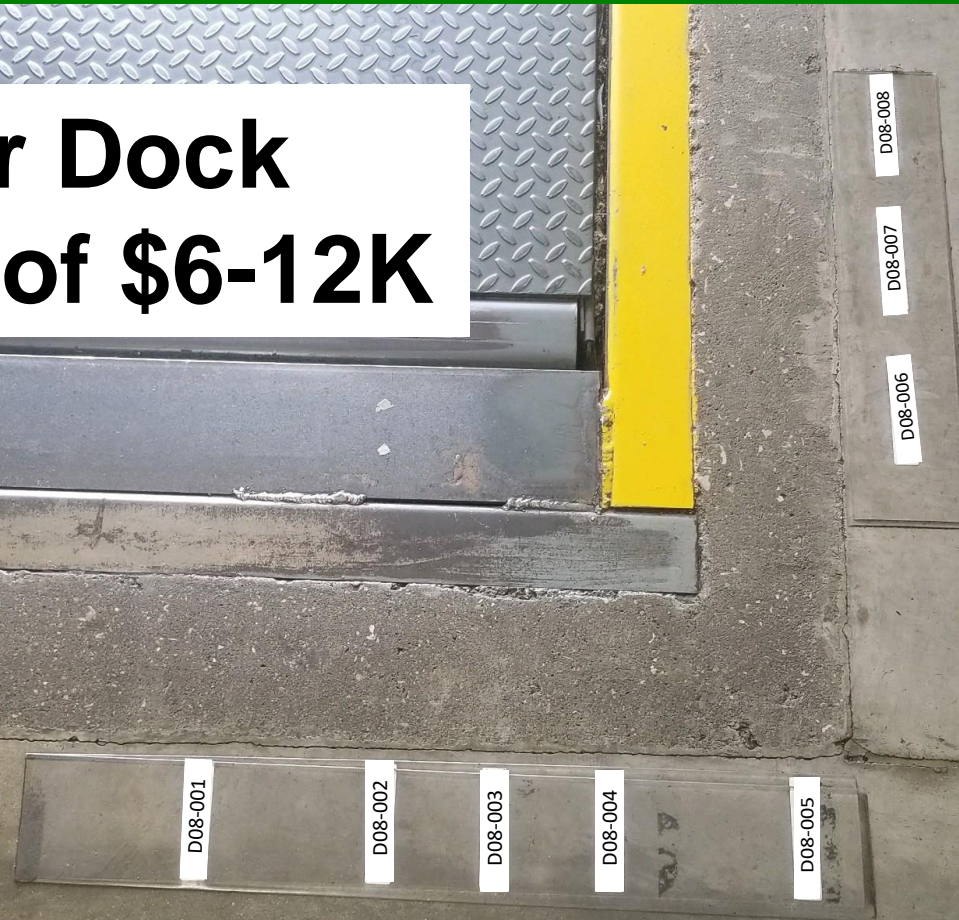




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# LivePoint Dock Tags

**\$250 per Dock  
instead of \$6-12K**



“Going from Barcodes to LivePoint-SDW is like going from Typewriters to Computers...It is a Quantum Leap in Technology!”





## Solution: LivePoint “SDW”

- LivePoint “SDW” – System Directed Workforce was born
  - **Forklift based Realtime System** that keeps track of Every Movement
  - Allows **Employees** to be **Managed by System**
  - Utilizes “**LivePoint**” RFID Floor Tags
  - **Notify Drivers of Mistakes/Forces to Correct Errors**



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# Forklift Driver Sign-in for Traceability & Accountability



LivePoint®

Enter Operator Pin:

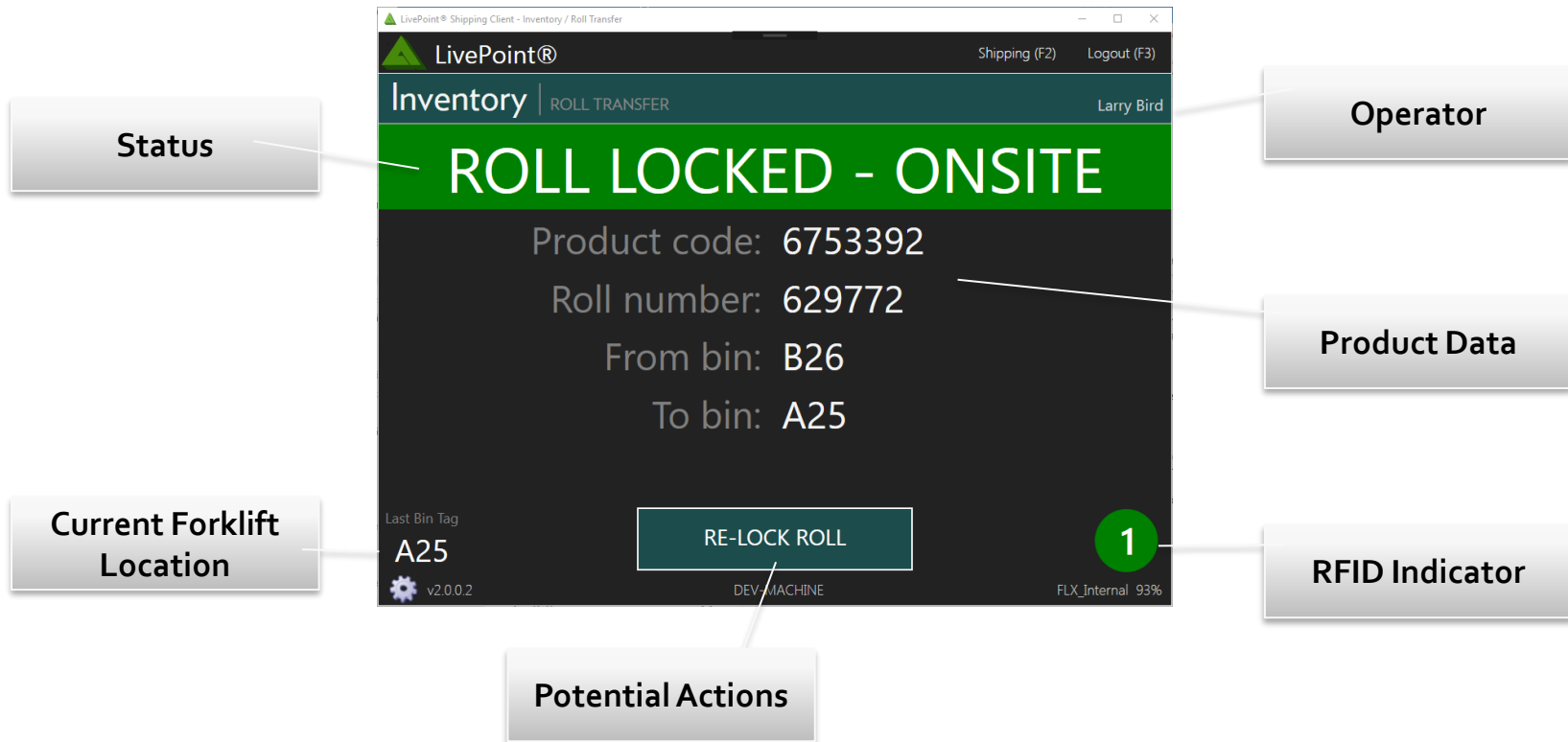
1	2	3
4	5	6
7	8	9
	0	

“Going from Barcodes to LivePoint-SDW is like going from Typewriters to Computers...It is a Quantum Leap in Technology!”



# ➤ User Interface Cues

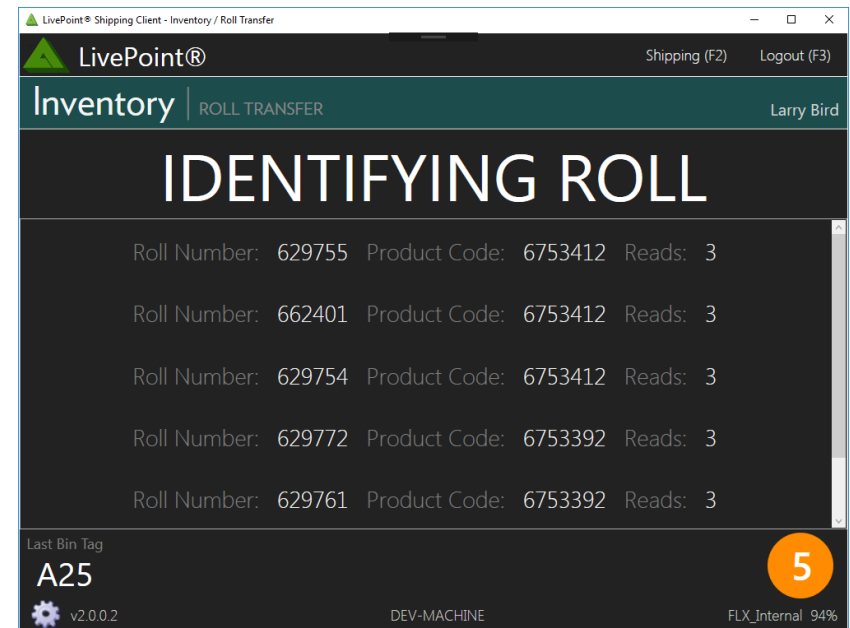
Data and Colors and Sounds!



# UI Cues

Data and Colors and Sounds! Forklift is reading 5 Products

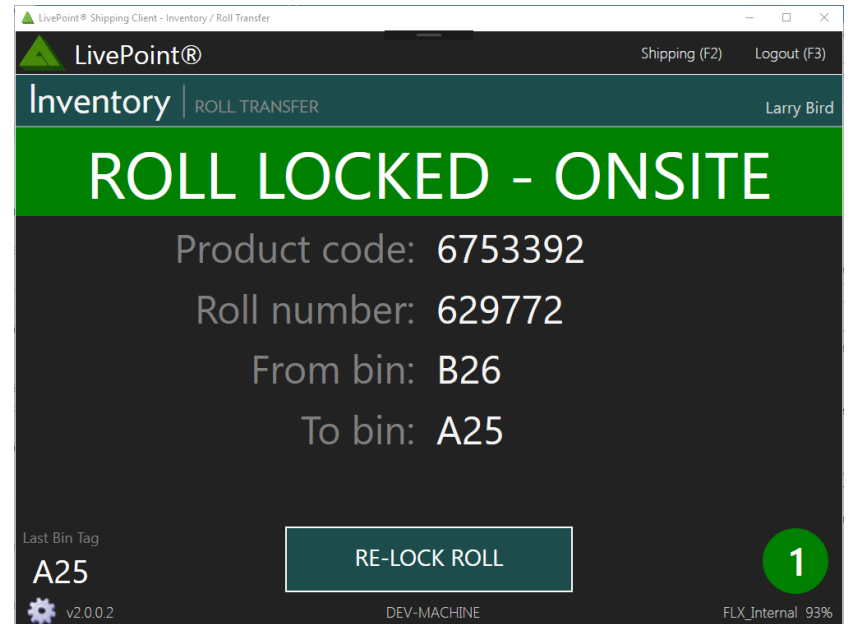
- Orange Indicator
  - Products Detected



## ▶ UI Cues

Data and Colors and Sounds! Forklift “Locks” on 1 Product that the LivePoint system indicates is Good

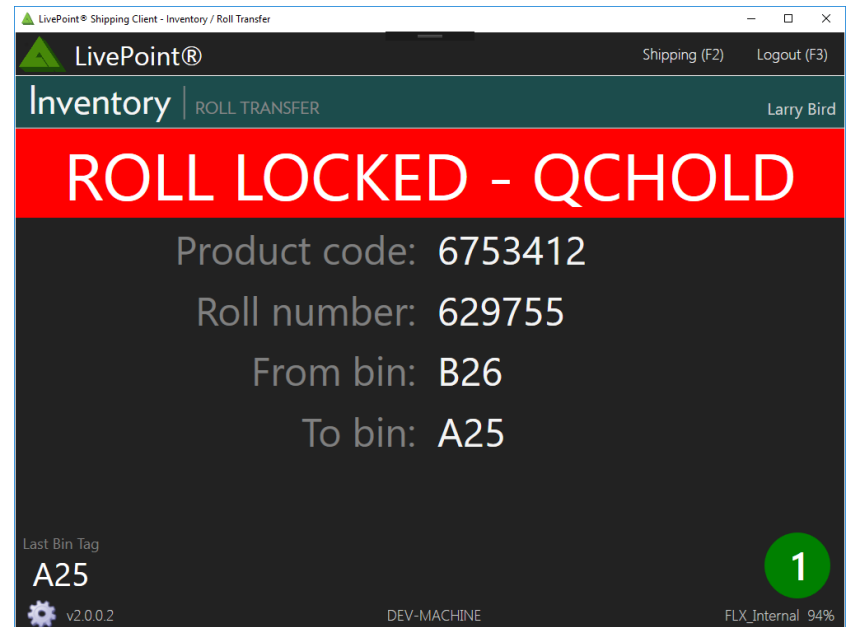
- Green Banner
  - Good Product



## ► UI Cues

Data and Colors and Sounds! LivePoint determines the Product  
"Locked" is on Quality Hold

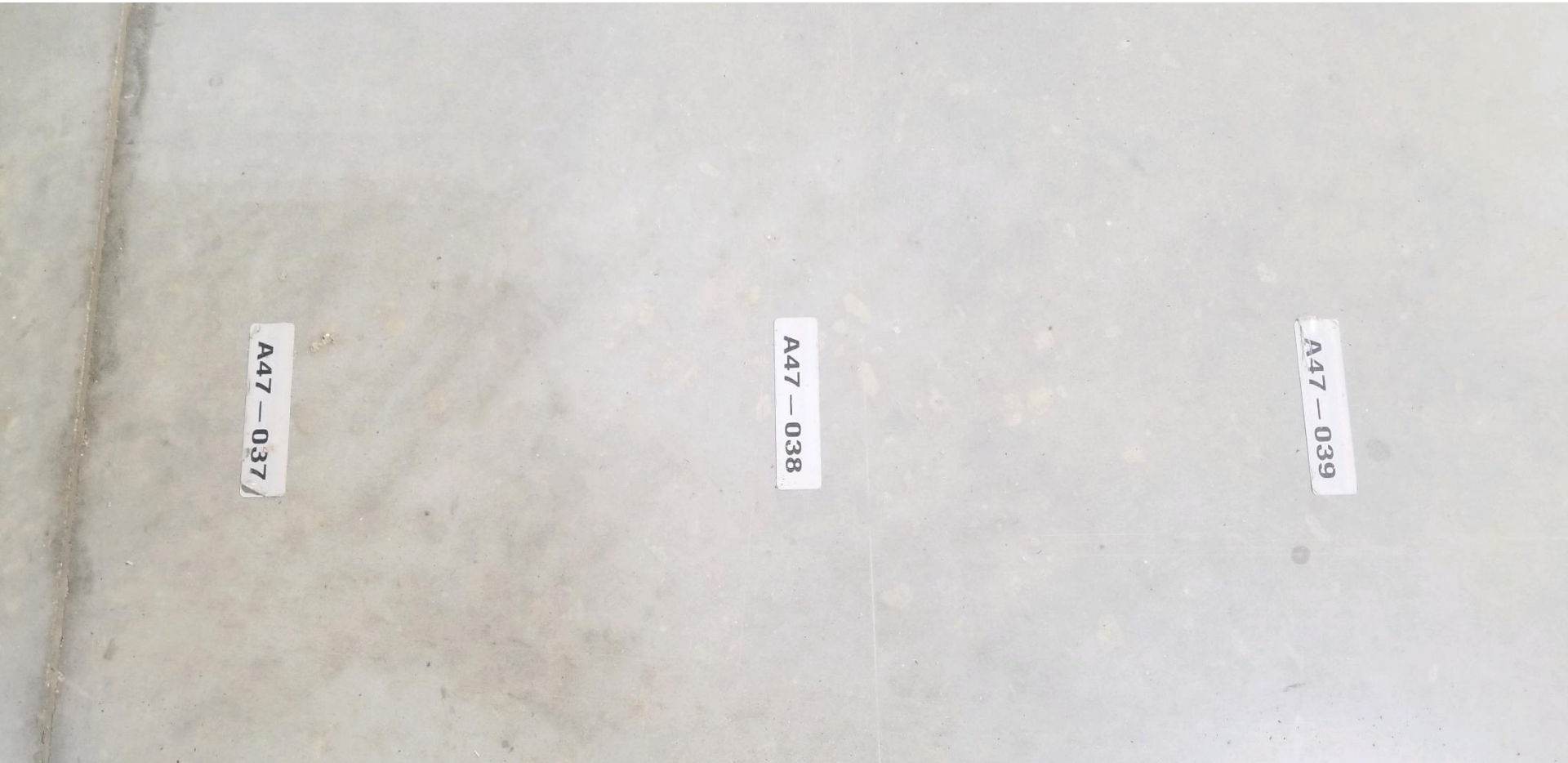
- **Red Banner**
  - Bad Product
  - QC Hold
  - Error
  - Other Disposition





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# Bin Tags

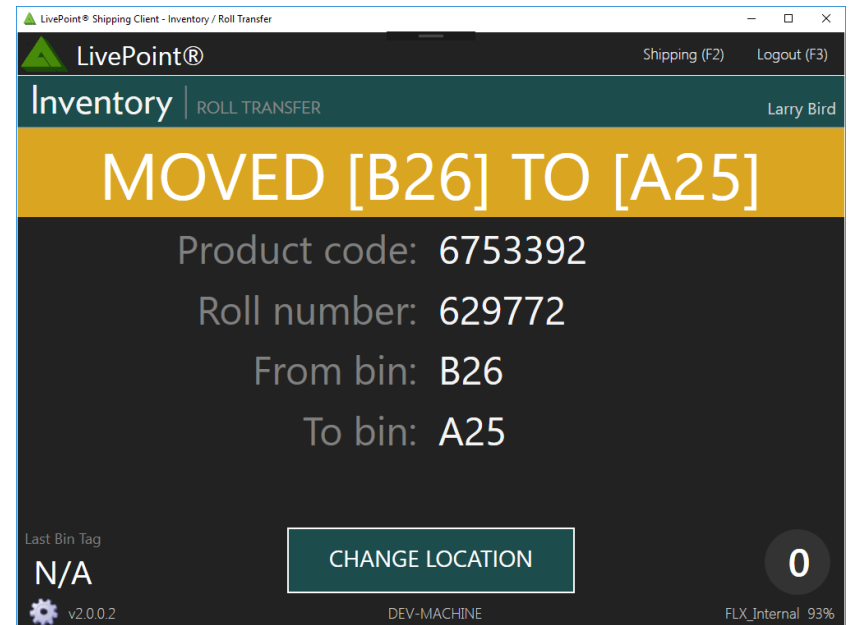


“Going from Barcodes to LivePoint-SDW is like going from Typewriters to Computers...It is a Quantum Leap in Technology!”

# UI Cues

Data and Colors and Sounds! Product was moved from bin B26 to A25

- **Gold Banner**
  - **Moved Successfully**





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# Our Floor Tags allow for Lane Lines with “Depth Tracking”

Pallet  
Lanes



B  
2  
2  
-  
0  
3

B  
2  
2  
-  
0  
2

B-22

Pallet  
Lanes



B  
2  
4  
-  
0  
3

B  
2  
4

B  
2  
4  
-  
0  
1

B-24

Pallet  
Lanes



B  
2  
6  
-  
0  
3

B  
2  
6  
-  
0  
2

B-26

Pallet  
Lanes



B  
2  
8  
-  
0  
3

B  
2  
8

B  
2  
8  
-  
0  
1

B-28

Pallet  
Lanes



B  
3  
0

B  
3  
0

B  
3  
0

B-30



LivePoint®

Shipping (F2)

Logout (F3)

Inventory | ROLL TRANSFER

Larry Bird

# Rack Height

1

2

3

4





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# Old Shipping Dispatch

SHIPMENT # / ORDER #	DESTINATION / PRODUCT	CARRIER / DRIVER	TIME IN	TIME OUT
8501484551 122352	Brookville 685/34	Trans corp Paul Gibbs	12	V15091
SHIPMENT # / ORDER #	DESTINATION / PRODUCT	CARRIER	TIME IN	TIME OUT
525059	IKO w/c	FSG	4	80
SHIPMENT # / ORDER #	DESTINATION / PRODUCT	CARRIER	TIME IN	TIME OUT
122012	Sumas 185/70 & 1203941	CN 40 JERRY CONLEY	10	CBHU 883027
SHIPMENT # / ORDER #	DESTINATION / PRODUCT	CARRIER	TIME IN	TIME OUT
525058	IKO w/c	Raven	3	66288
SHIPMENT # / ORDER #	DESTINATION / PRODUCT	CARRIER	TIME IN	TIME OUT
122103	Sylacauga 185/53	Truck Corp	4	15453
SHIPMENT # / ORDER #	DESTINATION / PRODUCT	CARRIER	TIME IN	TIME OUT
122013	Sumas 185/70 & 1203941	CN 40 Hank uc159 2-23-16	8	TCLU 793792

# Create Order Dispatch

Trailer:

Driver:

Dock:

Sales order number:

Cancel

Dispatch Order



LivePoint®

# SHIPPING

ORDER PICKING

Larry Bird

Order	Requested	In Transit	Delivered
TEST234	2	0	2
128909	11	0	0
128908	11	0	0
128907	11	0	0
122013	1	0	0
122013	6	0	0

Refresh

Start Order



LivePoint®

# SHIPPING

ORDER PICKING

Larry Bird

Order: [REDACTED]-128907		Product Code: 6753412	
Dock Door: D09	Trailer: 11329	Requested: 11	In Transit: 0
		Delivered: 0	

# NO ROLL DETECTED

Warehouse	Bin	Rolls	Age (Days)
ONSITE	A25	158	110
ONSITE	A29	228	89
ONSITE	A17	21	61
ONSITE	B12	7	61
ONSITE	A23	13	31

Last Bin Tag  
N/A

Select New Order

0



LivePoint®

# SHIPPING

ORDER PICKING

Larry Bird

Order: IKO-TEST234

Product Code: 6753392

Dock Door: A25

Trailer:

TRLR125

Requested: 2

In Transit: 1

Delivered: 1

# ROLL LOCKED - ONSITE

Product code: 6753392

Roll number: 629772

From bin: B26

Last Bin Tag

B24

RE-LOCK ROLL

1



LivePoint®

# SHIPPING

ORDER PICKING

Larry Bird

Order: IKO-TEST234

Product Code: 6753392

Dock Door: A25

Trailer:

TRLR125

Requested: 2

In Transit: 0

Delivered: 1

# WRONG PRODUCT CODE

Product code: 6753412

Roll number: 662401

From bin: B26

Last Bin Tag

N/A

RE-LOCK ROLL

1





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# LivePoint Dock Tags



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# UI Cues

Data and Colors and Sounds! Driver has Correct Product but went into Wrong Dock Door!

- Red Banner
  - Wrong Dock



LivePoint® Shipping Client

LivePoint® Production (F1) Logout (F3)

**SHIPPING** ORDER PICKING Larry Bird

Order: IKO-TEST234			Product Code: 6753392		
Dock Door: D09	Trailer: TRLR125	Requested: 50	In Transit: 1	Delivered: 1	

**WRONG DOCK**

Product code: 6753392  
Roll number: 629761  
From bin: B26

Last Bin Tag  
**D06**

RE-LOCK ROLL

1

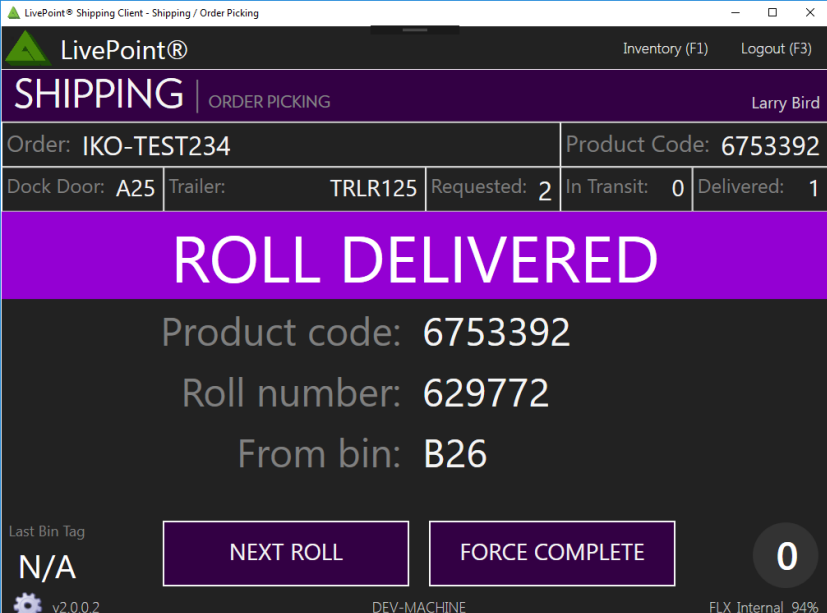
v0.1.0.0 DEV-MACHINE (No Connection) 0%



# ▶ UI Cues

Data and Colors and Sounds! Shipping – Correct Product was Delivered on Correct Order and Dock Door

- Purple Banner
  - Delivery Success



The screenshot displays the 'LivePoint® Shipping Client - Shipping / Order Picking' window. The interface features a purple header bar with the 'SHIPPING' tab selected. Below the header, a table displays order details: Order: IKO-TEST234, Product Code: 6753392, Dock Door: A25, Trailer: TRLR125, Requested: 2, In Transit: 0, and Delivered: 1. A prominent purple banner with the text 'ROLL DELIVERED' is centered on the screen. Below the banner, the product code (6753392), roll number (629772), and bin (B26) are displayed. At the bottom, there are buttons for 'NEXT ROLL' and 'FORCE COMPLETE', along with a circular indicator showing '0'. The status bar at the bottom includes 'Last Bin Tag: N/A', 'v2.0.0.2', 'DEV-MACHINE', and 'FLX\_Internal 94%'.

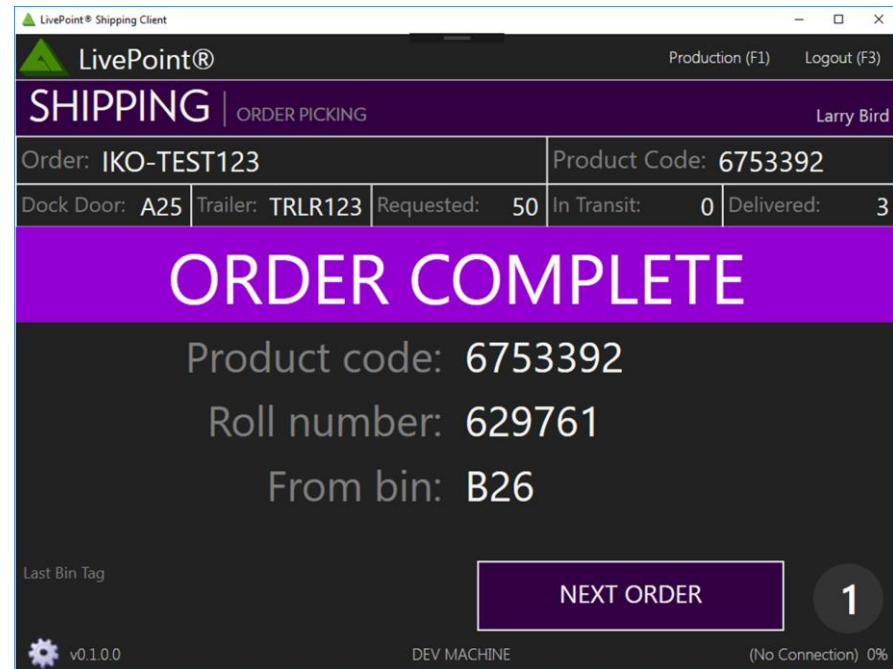
LivePoint® Shipping Client - Shipping / Order Picking					
SHIPPING			ORDER PICKING		
Order: IKO-TEST234			Product Code: 6753392		
Dock Door: A25	Trailer: TRLR125	Requested: 2	In Transit: 0	Delivered: 1	
ROLL DELIVERED					
Product code: 6753392					
Roll number: 629772					
From bin: B26					
Last Bin Tag: N/A		NEXT ROLL		FORCE COMPLETE	
v2.0.0.2		DEV-MACHINE		FLX_Internal 94%	



# UI Cues

Data and Colors and Sounds! Order was complete with Correct Products.

- Purple Banner
  - Order Complete!





## 3 levels of Error Protection

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- Wrong Product – **RED/Alarm**
- Wrong Dock Door – **RED/Alarm**
- Loads **RED** Product on Truck –  
Shipping Can **NOT** process  
Paperwork.



# Complete Traceability & Accountability!

## What product was Shipped, Date, Time, Forklift Driver(s) Name

### Order Details

[Delete](#)[Save Changes](#)[Refresh](#)[Back](#)

#### Sales Order

Order Number: 150677

Customer: CANROOF CORPORATION

Status: Complete

Dispatched: 3/8/2019 1:10 PM

Started: 3/8/2019 1:19 PM

Completed: 3/8/2019 1:40 PM

Time taken: 0 hours, 30 minutes

Load time: 0 hours, 16 minutes

**Time Truck Driver was Onsite**

**Actual Load Time**

Products:	Product Code	Requested	Delivered	Status
	1755301	11	11	Delivered

#### ^ Picked Rolls

Product Code	Roll Number	Status	Picked By	Pick Time	Delivered By	Delivered
1755301	725194	Delivered	Jacob Deffenbaugh	3/8/2019 1:19 PM	Jacob Deffenbaugh	3/8/2019 1:20:41 PM
1755301	724979	Delivered	Jacob Deffenbaugh	3/8/2019 1:21 PM	Jacob Deffenbaugh	3/8/2019 1:22:21 PM
1755301	725164	Delivered	Jacob Deffenbaugh	3/8/2019 1:23 PM	Jacob Deffenbaugh	3/8/2019 1:23:55 PM
1755301	725154	Delivered	Jacob Deffenbaugh	3/8/2019 1:24 PM	Jacob Deffenbaugh	3/8/2019 1:25:37 PM
1755301	725144	Delivered	Jacob Deffenbaugh	3/8/2019 1:26 PM	Jacob Deffenbaugh	3/8/2019 1:27:08 PM
1755301	725134	Delivered	Jacob Deffenbaugh	3/8/2019 1:27 PM	Jacob Deffenbaugh	3/8/2019 1:28:43 PM
1755301	725074	Delivered	Jacob Deffenbaugh	3/8/2019 1:29 PM	Jacob Deffenbaugh	3/8/2019 1:30:06 PM
1755301	725104	Delivered	Jacob Deffenbaugh	3/8/2019 1:30 PM	Jacob Deffenbaugh	3/8/2019 1:31:28 PM
1755301	724169	Delivered	Jacob Deffenbaugh	3/8/2019 1:32 PM	Jacob Deffenbaugh	3/8/2019 1:32:58 PM
1755301	725114	Delivered	Jacob Deffenbaugh	3/8/2019 1:33 PM	Jacob Deffenbaugh	3/8/2019 1:34:16 PM
1755301	724824	Delivered	Jacob Deffenbaugh	3/8/2019 1:35 PM	Jacob Deffenbaugh	3/8/2019 1:35:37 PM

“Going from Barcodes to LivePoint-SDW is like going from Typewriters to Computers...It is a Quantum Leap in Technology!”



# LivePoint “SDW” - Results

- Training - Reduced time from 4-6 months to 2 hours
- **Shipped 75,000 Truckloads (and Counting), ZERO ERRORS**
- **Shipping Capacity went from 70 T/L's per day to 138**
- Ergonomics
- Safety – OHSA - VPP recognized as “Best Practices”
- FG Inventory Accuracy 99.99%

# Thank you for Attending



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**Presentations will be available on-line soon. You will receive an email with a link when they are available.**