The Warehouse is The Heart of Any Supply Chain

Learn How RAIN RFID Makes it More Powerful
AGENDA

Why now? – Current trends

Meeting customers needs with the connected supply chain

Connecting the warehouse

The benefits
# Ecommerce Volumes Only Going One Way

<table>
<thead>
<tr>
<th>Increase before Covid-19</th>
<th>Volumes are increasing for ecommerce sales and deliveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase during Covid-19</td>
<td>New customers and bigger baskets from existing customers</td>
</tr>
<tr>
<td>Increase after Covid-19</td>
<td>Trend looks like it’s here to stay Customers expectations changing</td>
</tr>
</tbody>
</table>
TOP THREE GOALS FOR SUPPLY CHAINS

Reduce costs
To increase profitability, while meeting evolving customer expectations

Increase flexibility
To react faster when disruptions occur and scale more quickly to meet changes in demand

Increase visibility
To improve inventory management, sustainability, and costs, while managing supply-chain security and risks
MEETING THE NEEDS OF THE SUPPLY CHAIN

Warehouse is **heart** of supply chain

Just delivering on time is not enough

Key to connected supply chain is **visibility**

Visibility allows understanding of
- Where things are
- Where they’ve been
- Dwell times, process times, etc.
- Other operational data and information

RAIN RFID and complimentary technologies connecting the dots along the supply chain

- Identify, locate, authenticate
- Long read ranges
- Read multiple items
- No line of sight
- Fast operation
Every item gets a unique digital identity

- Manufacturing lines using sensors

- **RAIN RFID** tags attached to specific items (raw materials and final medication)

- Upload unique identity to **Blockchain** ledgers aiding visibility for authorized entities
Monitor progress

- Dispatching the products: **RAIN RFID** ensures right product destined for the right truck and ultimately location

- **NFC** and **RAIN RFID** tags with sensors to monitor the environment

- Tags with **tamper loops** to alert if packages have been manipulated

- **Machine Learning** and **Artificial Intelligence** predict environment and make adjustments

- **Smart shipping container** combining different technologies
Managing the inventory

• **RAIN RFID** automatically recording what’s coming into the warehouse - do shipments tally with electronic documentation?

• What’s in the warehouse? Accurate inventory tracking with **RAIN RFID**

• Ensuring the right items are dispatched – Right product, to the Right place/customer at the Right time
WAREHOUSE – THE USE CASES

RECEIVING

<table>
<thead>
<tr>
<th>Bulk Receipt</th>
<th>Lots of items received simultaneously providing both speed and accuracy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What’s arrived?</td>
<td>Automatic reconciliation; where are the discrepancies?</td>
</tr>
<tr>
<td>Prioritise fast order and put away</td>
<td>Identify products and items for expedited actions and put away.</td>
</tr>
<tr>
<td>How?</td>
<td>Typically hand held, conveyor or dock door readers.</td>
</tr>
</tbody>
</table>

INVENTORY

<table>
<thead>
<tr>
<th>What have we got?</th>
<th>Maintains accurate data; critical to efficient and flexible operations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations</td>
<td>Speed of data collection both faster and more often with minimal disruption.</td>
</tr>
<tr>
<td>Lower stock</td>
<td>Accurate and timely data results in both lower buffer stock and higher flexibility.</td>
</tr>
<tr>
<td>How?</td>
<td>Typically handheld readers, but overhead, fork lift truck, drones, robot readers are being used and investigated.</td>
</tr>
</tbody>
</table>
WAREHOUSE – THE USE CASES

STAGING AND DISPATCH

Eliminate errors
Right thing dispatched to the right place. Reduced penalties.

Lower dwell time
Lower manual processes and rework speeding up operation.

Increase customer satisfaction
Ultimately meet and exceed expectations.

How?
Typically handheld readers and dock door readers.

CROSS DOCKING

Right orders?
Lots at the same time; speed and accuracy.

Faster order processing
Automatic reconciliation.

Eliminate inventory
No need to hold stock – true cross docking.

How?
Typically handheld readers and dock door readers.
Increased Visibility

- Enabling smarter decisions
- Ensuring accurate inventory
- Facilitating new business models

Lower Costs

- Increasing efficiency through automation
- Removing unnecessary activities
- Increasing accuracy

Flexibility

- Coping with variable volumes
- Predicting changes
- Shifting to meet changing customer expectations

RAIN RFID connects the dots of the Connected Supply Chain
HOW WE'RE CONNECTING SUPPLY CHAINS

- Top 10 semiconductor company globally
- 60 years of experience in semiconductor industry
- Broad RAIN RFID and NFC portfolio ranging from basic to secure chips
- Co-inventor of Near Field Communication (NFC) technology
- Billions of ICs shipped for use in Smart City applications
- Trusted partner in retail, e-government and transportation industries

NXP connects the dots of the Connected Supply Chain
Ecommerce is growing. Expectations are growing. The need for visibility is growing. Now is the time for RAIN RFID.
THANK YOU