



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



**RAIN**<sup>®</sup>  
ALLIANCE



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

# Thank you to our sponsors

Platinum



Gold



Silver



SIMPLYRFID



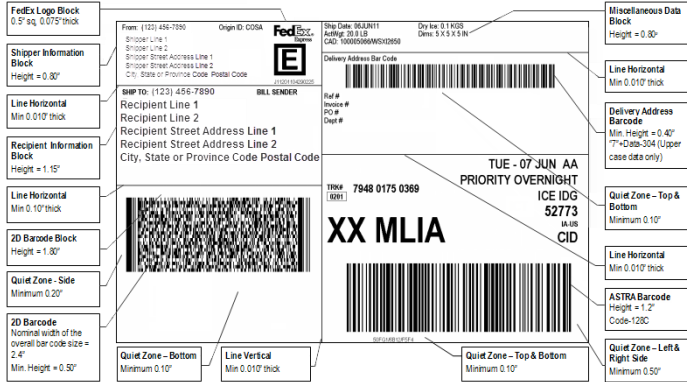


# Labels Information Density Driving Verification

December 10th, 2020

# Who, What, Where, When, How

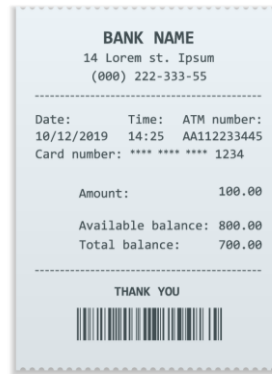
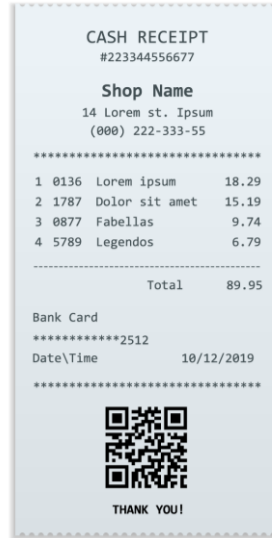
- Labels communicate information
- Labels help ensure items get to their destination





# Labels Provide Proof - Enable Action

- Proof of identity
- Proof of purchase
- Brand identity
- Certification
- Authentication
- Enable entry
- Capture transaction information



# Labels Enable Increased Speed

- Reduce handling time
- Assure accuracy
- Capture information rapidly



# Labels Enhance Security, Safety

- Ensure compliance
- Validate patient information
- Track location
- Control access
- Secure sensitive information in more secure format





# Labels Help Reduce Fraud

- Contain security features to reduce ease of counterfeiting
- Over 50 security features on currency today
- Controlled access label generation software
- Controlled access printing



**KNOW YOUR LABELS**

WHAT DOES THIS CODE MEAN?



- 5 digit: 9-XXXX  
Starting with 9  
✓ Organic
- X 5 digit: 8-XXXX  
Starting with 8  
✓ GMO GE
- X 4 digit: XXXX  
Conventionally grown  
✓ Contains pesticides

the detox market

**It's your HEALTH!**

**What are you eating?**





# Are Labels As “Smart” As Possible?



There are about 1.5 million preventable medication errors **each year**, according to a 2006 report from the Institute of Medicine.



CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases.



The biopharma industry loses approximately \$35 billion annually as a result of failures in temperature-controlled logistics, according to IQVIA Institute for Human Data Science.



The risk of compromising biopharmaceutical materials in internal shipping and external distribution is relatively high, as these materials are particularly vulnerable to degradation when exposed to various environmental and handling conditions.



# A Few Sensor Label Applications





# Label Trends


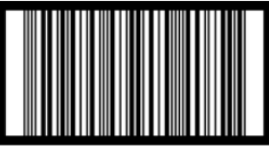










- Increasing regulatory focus
- Reduce/Eliminate paper documents (eIFU)
- Location specific labels (destination and transit)
- Guaranteed unique ID's
- Increasing information density
- Location capabilities
- Sensing capabilities
- Security features
- Action indicators

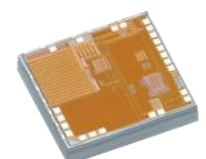


*Globally Harmonized System (GHS)*  
*Unique Device Identification (UDI)*  
*Medical Device Regulations (MDR)*  
*In-Vitro Diagnostic Regulations (IVDR)*  
*Drug Supply Chain Security Act (DSCSA)*  
*Falsified Medicines Directive (FMD)*  
*Food Safety Modernization Act (FSMA)*



# Data Density

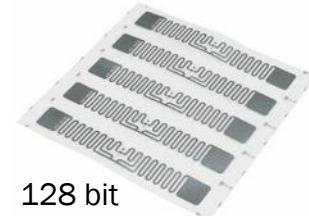
<p>DataBar Omnidirectional</p>  <p>(01) 0 9501101 53000 3</p> <ul style="list-style-type: none"> <li>• Symbol ID: Je0</li> <li>• Capacity: 14 numeric</li> <li>• Omnidirectional</li> <li>• Supports GTIN, GCN</li> <li>• Does not support attributes</li> </ul>	<p>ITF-14</p>  <p>09501101530003</p> <ul style="list-style-type: none"> <li>• Symbol ID: JI1</li> <li>• Capacity: 14 numeric</li> <li>• Supports GTIN</li> <li>• Does not support attributes</li> </ul>
<p>DataBar Stacked Omnidirectional</p>  <p>(01) 0 9501101 53000 3</p> <ul style="list-style-type: none"> <li>• Symbol ID: Je0</li> <li>• Capacity: 14 numeric</li> <li>• Omnidirectional</li> <li>• Supports GTIN, GCN</li> <li>• Does not support attributes</li> </ul>	<p>GS1-128</p>  <p>(01) 0 9501101 53000 3 (17) 140704 (10) AB-123</p> <ul style="list-style-type: none"> <li>• Symbol ID: JC1</li> <li>• Capacity: 48 Alphanumeric capacity (per symbol, multiple symbols may be used)</li> <li>• Supports all GS1 keys</li> <li>• Does support attributes</li> </ul>
<p>DataBar Expanded Stacked</p>  <p>(01) 0 9501101 53000 3 (17) 140704 (10) AB-123</p> <ul style="list-style-type: none"> <li>• Symbol ID: Je0</li> <li>• Capacity: Maximum 74 Numeric/ 41 alphabetic</li> <li>• Omnidirectional</li> <li>• Supports GTIN, GCN</li> <li>• Does support attributes</li> </ul>	<p>GS1 DataMatrix</p>  <p>(01) 0 9501101 53000 3 (17) 140704 (10) AB-123</p> <ul style="list-style-type: none"> <li>• Symbol ID: Jd2</li> <li>• Capacity: 3116 Numeric capacity, 2335 Alphanumeric capacity</li> <li>• Omnidirectional</li> <li>• Supports all keys</li> <li>• Supports attributes</li> </ul>
<p>DataBar Expanded</p>  <p>(01) 0 9501101 53000 3 (17) 140704 (10) AB-123</p> <ul style="list-style-type: none"> <li>• Symbol ID: Je0</li> <li>• Capacity: Maximum 74 Numeric/ 41 alphabetic</li> <li>• Omnidirectional</li> <li>• Supports GTIN, GCN</li> <li>• Does support attributes</li> </ul>	<p>GS1 QR Code</p>  <p>(01) 0 9501101 53000 3 (17) 140704 (10) AB-123</p> <ul style="list-style-type: none"> <li>• Symbol ID: JQ3</li> <li>• Capacity: 7089 Numeric capacity 4296 Alphanumeric capacity</li> <li>• Omnidirectional</li> <li>• Supports all keys</li> <li>• Supports attributes</li> </ul>
<p>EAN-13</p>  <p>9 501101 530003</p> <ul style="list-style-type: none"> <li>• Symbol ID: JE0</li> <li>• Capacity: 13 numeric</li> <li>• Omnidirectional</li> <li>• Supports GTIN-13</li> <li>• Does not support attributes</li> </ul>	
<p>UPC-A</p>  <p>6 14141 00003 6</p> <ul style="list-style-type: none"> <li>• Symbol ID: JE0</li> <li>• Capacity: 12 numeric</li> <li>• Omnidirectional</li> <li>• Supports GTIN-12</li> <li>• Does not support attributes</li> </ul>	
<p>EAN-8</p>  <p>9505 0003</p> <ul style="list-style-type: none"> <li>• Symbol ID: JE4</li> <li>• Capacity: 8 numeric</li> <li>• Omnidirectional</li> <li>• Supports GTIN-8</li> <li>• Does not support attributes</li> </ul>	
<p>UPC-E</p>  <p>0 614193 9</p> <ul style="list-style-type: none"> <li>• Symbol ID: JE0</li> <li>• Capacity: 12 Numeric, zeroes suppressed</li> <li>• Omnidirectional</li> <li>• Supports GTIN-12</li> <li>• Does not support attributes</li> </ul>	



Sensors




Large Memory



128 bit

## Example of Barcode Information Density


**An Agricultural Company**



Golden Delicious  
20 lb. Carton


---

GTIN displayed in GS1 DataBar format (10 mil)




(01) 0 08 27763 00177 4

GTIN displayed in GS1 DataMatrix format (10 mil)



(01)00827763001774(30)1

GTIN + Production Date + Batch Number  
+Best Used By Date in  
GS1 DataMatrix format (10 mil)



(01)00827763001774(30)1(13)201115(10)DBCR4567ZX(15)210415

# What happens if a label fails?

- Goods may be misdirected or lost
- Goods may be returned to the supplier
- Chargebacks
- Regulatory fines
- Delays and backups in shipping
- Manufacturing delays
- Additional cost

“Good Enough” isn’t good enough

# Label Inspection

- What?
  - Barcodes (Validate and Verify)
  - RFID (Read)
  - Text (OCR or OCV)
  - Images (Pattern match threshold)
- When?
  - Not too early
  - Not too late





# Barcode Verification

**Avoid expensive compliance fees by printing labels that are graded and verified for accuracy**

The solution for unreadable barcodes is Online Data Verification (ODV)

- Verifies and validates full suite of ID & 2D barcodes with up to 50 barcodes per label
- Prints up to 8 ips with full verification, grading & compliance reporting
- Grades to ISO standards including Quiet Zone & Check Sum errors
- Full label back-up and overstrike\*
- Barcode “GPS” dynamically locates barcode, orientation for improved throughput
- The industry’s first affordable, fully integrated 2D barcode verifier solution

\*Available on the T8000



# Quality is a collaborative effort



## A Centralized, End-to-End Barcode Verification Solution for Ease of Compliance

Many industries are regulated to enforce labeling workflows and ensure that the same process is followed every time a label is generated. Manufacturers require documented proof, from end-to-end, of the labeling and barcode verification process. Until now, companies had to inefficiently maintain multiple systems, requiring significant effort to track and report the results of label printing and barcode verification.

The powerful Printronix Auto ID T8000 ODDV-2D powered by TEKLYNX LABEL ARCHIVE gives you full traceability of label design, printing, and storage to support compliance with industry regulations and internal process requirements.



DESIGN



PROOF



PRINT



GRADE



REPORT

## How It Works

Every single barcode label that is printed has both its 1D and 2D barcodes scanned, verified, graded, and recorded in the LABEL ARCHIVE database. Any labels with barcodes that fall below the passing threshold are automatically overstruck and re-printed. Rest easy knowing that 100% of your barcode labels are error-free.

The Printronix Auto ID ODDV-2D and TEKLYNX LABEL ARCHIVE integrated solution centralizes label changes, print history, and barcode verification grades. This solution is ideal for regulated industries and any industry with the need for barcodes and label tracking, such as medical device manufacturers and manufacturers that ship products to third party packers or distributors.



Contact us today to learn more about the Printronix Auto ID ODDV-2D and TEKLYNX LABEL ARCHIVE complete barcode verification solution at [sales@printronixautoid.com](mailto:sales@printronixautoid.com)

TEKLYNX teklynx.com



## Benefits:

- Regulatory compliance
- Quality assurance and approval
- Establish permissions to control access
- Keep record of changes, comments, revisions, and print history for every label
- A single solution

- Comply with regulatory and industry standards
- Establish security access controls
- Ensure maximum traceability with Printronix Auto ID ODDV-2D and LABEL ARCHIVE
- Control your labeling process
- Integrated LABEL ARCHIVE & Printronix Auto ID T8000 ODDV-2D solution
- Print only approved labels

TSC Auto ID [tscprinters.com](mailto:tscprinters.com)  
Printronix Auto ID [printronixautoid.com](http://printronixautoid.com)



## Perceptor PTXL

Compliant Label and Print Verification Solution



Printing and overprinting labels 'feel to feel' whilst still meeting all process controls including 21CFR, GS1 validation and ISO verification is challenging and expensive. No longer!

With a Printronix T8300 ODDV-2D series printer and InterVision Global's industry leading Perceptor PTXL software you now have an 'off the shelf' fully compliant thermal transfer and direct transfer 4" printer that is capable of printing high quality industry compliant labels at up to 5,400 per hour.

- Direct thermal and thermal transfer printing
- Fullback print overstrike and repair feature
- No manual data input
- 'Closed loop' data process
- Secure data storage
- Serial no. duplication and validity check
- 1D Barcode verification to ISO 15416
- 2D DataMatrix verification to ISO 15415
- OCV/OCV of human readable text with quality grading
- GS1 Data Validation
- Compliant to 21CFR with User Access Control, Audit Trail and Batch Reconciliation
- Fully integrated with serialization software systems
- Autonom capability
- Label consumption and stock management

### Introduction to InterVision Global

InterVision Global's machine vision systems and solutions allow manufacturers to adhere to the ever-increasing levels of industry compliance, improving productivity & yield, giving them a competitive advantage in their manufacturing processes. InterVision Global's expertise spans over a decade within the Food & Beverage, Healthcare & Pharmaceutical, Medical Device & Life Sciences, Defence and Machine Building market sectors. Customers trust and rely on InterVision's competence, expertise and innovation in automated machine vision.

Accredited to ISO9001 UKAS international standards core values of: integrity and hard work, have resulted in long established and close business relationships with its global customer base.

### Introduction to Printronix Auto ID

Printronix Auto ID is a global leader in thermal printing and barcode validation solutions for enterprise level companies. Utilizing their exclusive Printronix System Architecture, their printers are known for their ease of use, flexibility and durability as well as advanced features, such as ODDV barcode validation, RFID and remote printer management tools. Their products can be found in all leading global enterprises around the world.

Printronix Auto ID is part of the TSC Auto ID Technology family and is one of the top five thermal printer manufacturers in the world with over 40 years' experience in the design, development, and manufacturing of high-performance thermal label printers. Designed in the USA and built in their own manufacturing facilities in Taiwan and China they are a true global leader in thermal print technology.

Perceptor PTXL is a software application that is installed on a networked Windows PC that is connected to a Printronix T8300 series printer with the ODDV-2D option installed. Connection between the ODDV-2D optical imaging head and the PC is via Ethernet, label printing is via either local USB or LAN/Ethernet. Label design and printing is managed using products such as Bartender, NiceLabel or other established brands.

It is well known that manually entering data leads to errors. Perceptor PTXL solution requires no manual input of data by the operator. When integrated with Serialization Software and the Printronix T8300 series printer, this solution provides a secure 'closed loop' system that manages and checks serial numbers, human readable text, verifies machine readable codes and provides an end of batch reconciliation report with statistics, label consumption and failed label data.

Building on the well-known pedigree and quality of the Printronix product line this system fully benefits from their unique print overstrike feature which pulls back, overstrikes and reprints any failures. Unique in its offering this is the first fully integrated compliant serialisation print quality verification system that can print and process up to 5,400 labels per hour!

Using Serialization software the Operator generates an order and sends the Print Job to the printer. Prior to printing Perceptor PTXL will receive via secure connection the Print ID and data along with the label template ID. In process Perceptor PTXL will pass back all successfully printed serial numbers along with the OCR text grade and code verification grades.

Perceptor PTXL verifies and validates the correctness of labels. Each and every label printed is imaged and processed inline.

As labels are printed Perceptor PTXL will receive an image of each and every label. Perceptor PTXL allows the user to specify which inspections are to be performed on which area of the label. If an inspection fails then the label is deemed a reject and the printer pulls the label back and destroys it by overprinting before reprinting.

The label result is only passed back to Serialization software system if the label passes ISO code verification, OCR verification, serial number validation and there are no unacceptable blemishes on the label.

### COMPLIANCE AND PROCESS CONTROL

Compliant to 21CFR Perceptor PTXL controls user access, has full audit trail and, on completion of each batch, generates a Batch Reconciliation Report that details the quantity of acceptable labels produced as well as the number of labels consumed within the process. An image of each failed inspection will be included in the secure PDF report along with key statistics.

GTIN 76358425  
Batch 12345  
P 100215  
1568025C57

Examples of software leveraging validation capabilities of printer hardware



# Labels Summary: (“More”)

- More data
- More function
- More regulations
- More collaboration/connectivity
- More security
- Less acceptance of unreadable label





**Thank You**

# Thank you for Attending



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

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