

Transparency across the supply chain

from manufacturing to the
consumer's hands

Health Icon Corp., a Systech Partner



Today's discussion

- Introductions
- Your challenges
- Our solutions
- Future opportunities
- Next steps...



Authentic | Safe | Connected

INDUSTRIES SERVED

Pharma & Med Dev

Personal Care

Cosmetics

Electronics

Automotive

Animal Health

Crop Sciences



About Systech

Over three decades of innovation

- Serialization and traceability pioneer trusted by the world's leading global companies
- First to deliver a full-stack solution (L1-L5)
- Only industry offering with a configurable product and standard implementation approach
- Innovator with unparalleled product authentication technology
- A Markem-Imaje solutions brand

Key customers



Gray Market | Buy or Not to Buy?

by Burak Erzincanli
October 13, 2018
31 Comments

Fake drugs are one reason malaria still kills so many

April 25, 2018 by Jackson Thomas, Erin Walker, Gregory Peterson And Mark Naunton, The Conversation

Fake booze threat pushes startups to trial new tests

A significant increase in the sale of counterfeit alcohol is a major threat. Scientists and entrepreneurs are rushing to create tools that, in future,

Hair Product Diversion Is Dirty Business. Here's What It Will Take To Clean Up The Supply Chain

PRESS RELEASE

Security Labels Market to Grow at a CAGR of 5.3% During 2018-2027 - Future Market Insights

Published: Jan 14, 2018



Reimagining the 'Outdated' Pharmaceutical Supply Chain

Thu, 10/04/2018 - 5:00am by Bob Miglani, Applied DNA Sciences

\$1.7 trillion

Lost annually to counterfeiting & diversion

Juul La against

Jordan Crook @jordancrook

Legal landscape is fuzzy for gray market goods

ERIC KULISCH

Battery expert warns counterfeit batteries have invaded the vape pen industry

Steps consumers can take to avoid...

BY: Isabel Rosales
POSTED: 6:36 PM, May 16, 2018
UPDATED: 7:31 PM, May 16, 2018

by Lily Henson, M.D., Piedmont Henry Hospital, Russ Nix, Piedmont Athens Regional Medical Center
Dec 18, 2018

Battling online counterfeiters: four key considerations for litigation

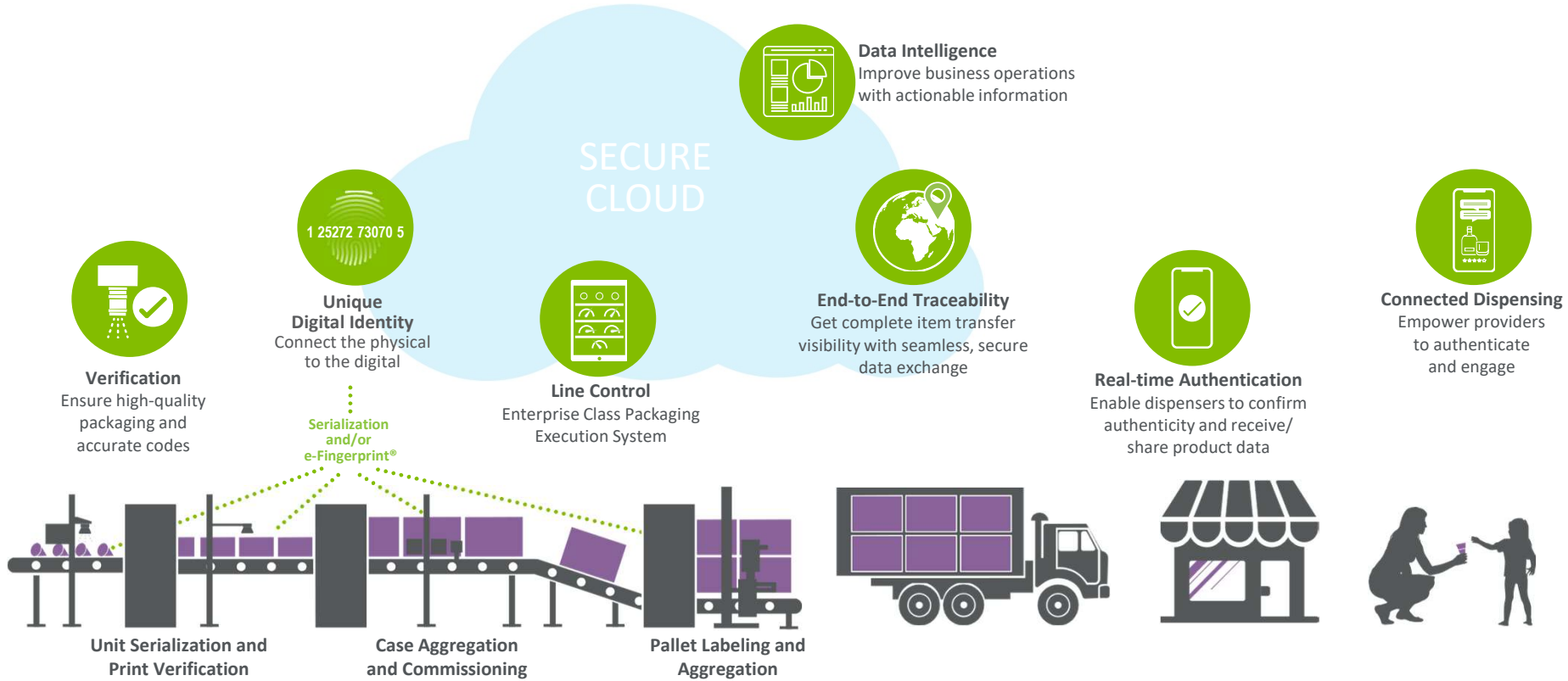
While litigation against counterfeiters on e-commerce sites can have a variety of enforcement, it is not a one

RSS Print
Stanley Chia, senior vice president at e-invoicing supplier, Tungsten | importance of secure supply chains in the age of the counterfeit drug



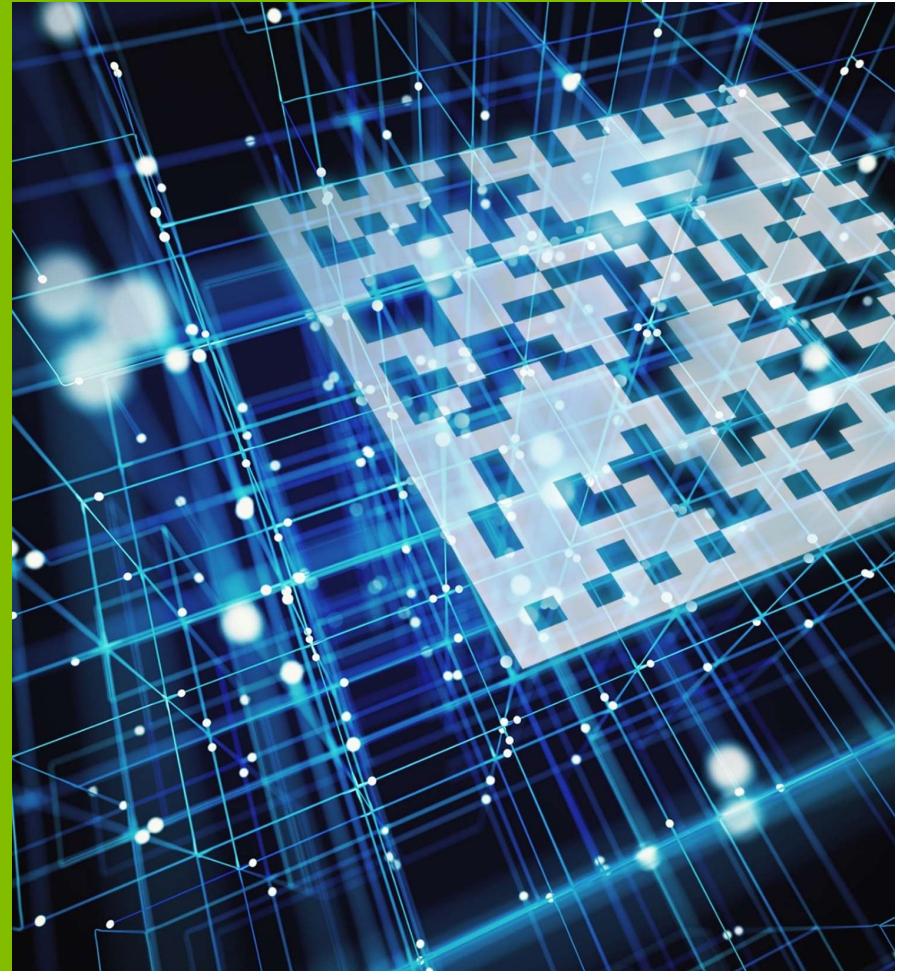
Safe and Connected Supply Chain

from production to the practitioner

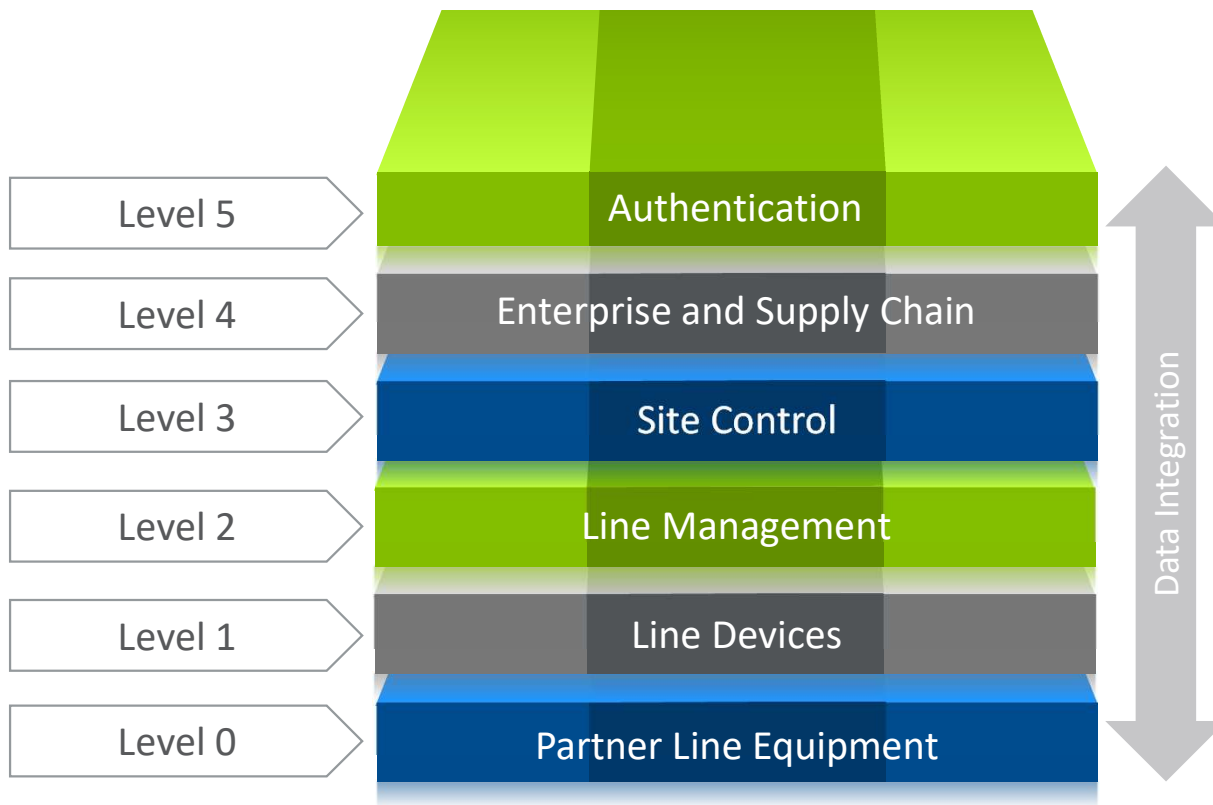


Reduce Waste | Drive Efficiency | Achieve Compliance | Detect Threats | Gain Insight

Our Serialization Solution



Flexible, fast and proven serialization



Full-Stack Pioneer

- Meets requirements now and into the future
- Rapid deployment, software maturity and ease of re-configurability minimizes TCO
- Tightly integrated software stack ensures rich data exchange and insight to maximize ROI
- First solution set to enable traceability through serialization while facilitating comprehensive item authentication

Full-stack pioneer

Level 1 | Line Devices

- Complete suite of vision tools
- User-friendly statistical training
- Single point setup of all inspections
- Advanced pack by layer solution
- 360 inspection for round bottles



Full-stack pioneer

Level 2 | Line Management

- Line and device management
- Patented IPS logic for configuring workflows
- Optimized communication to keep lines running
- Full in-lot rework and QA process support



Full-stack pioneer

Level 3 | Site Control

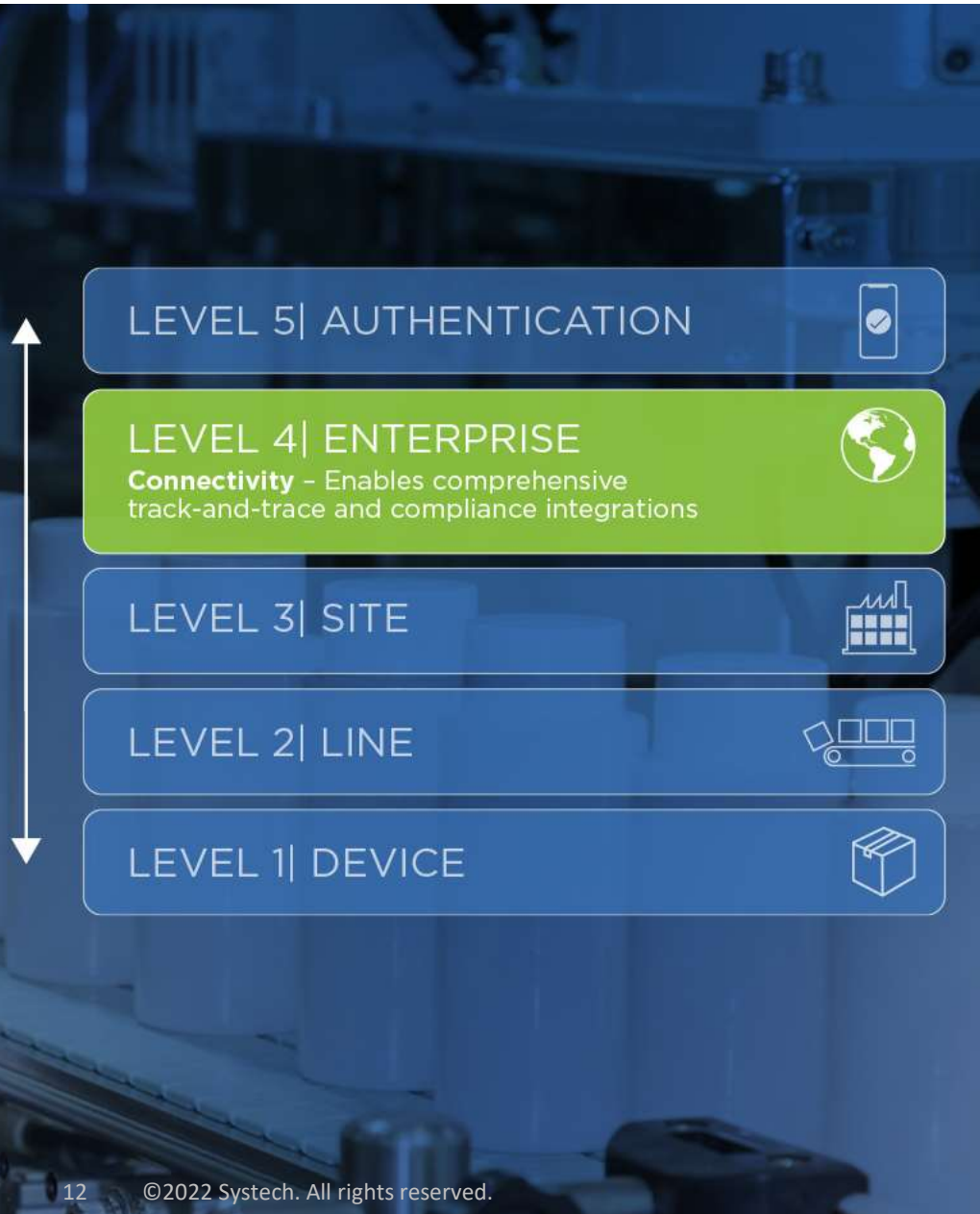
- Gateway between EPCIS layer and packaging line facilitates autonomous operations
- Standard interfaces to level 4 systems
- Post-lot rework operations and centralized palletizing
- Suspend/resume, master data, work order



Full-stack pioneer

Level 4 | Enterprise & Supply Chain

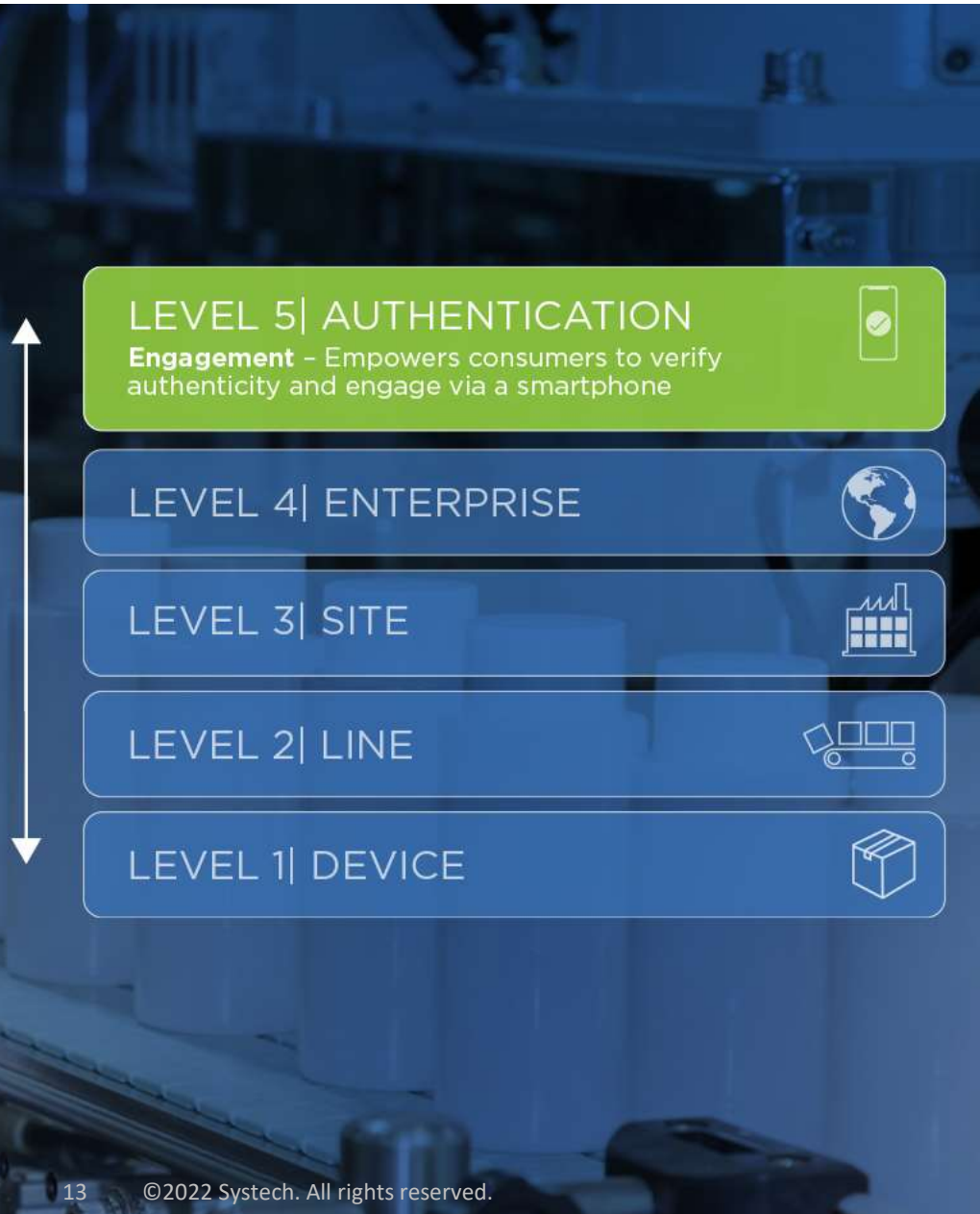
- Cloud based end-to-end supply-chain traceability platform
- Master data and EPCIS repository
- Global system of record for your serialized packaging lots
- Supply chain logistics and rework
- Third-party system integration
- Complete visibility across your global supply chain
- Integration bridge and APIs for system connectivity



Full-stack pioneer

Level 5 | Authentication & Engagement

- Non-additive digital identity using package barcode — impossible to duplicate
- Physical product connected to the digital supply chain
- Item-level authentication and tracking
- Real-time insight and visibility with item-specific product data
- Instant consumer engagement — push promos/product info, invite feedback, etc.



Vision and Inspection

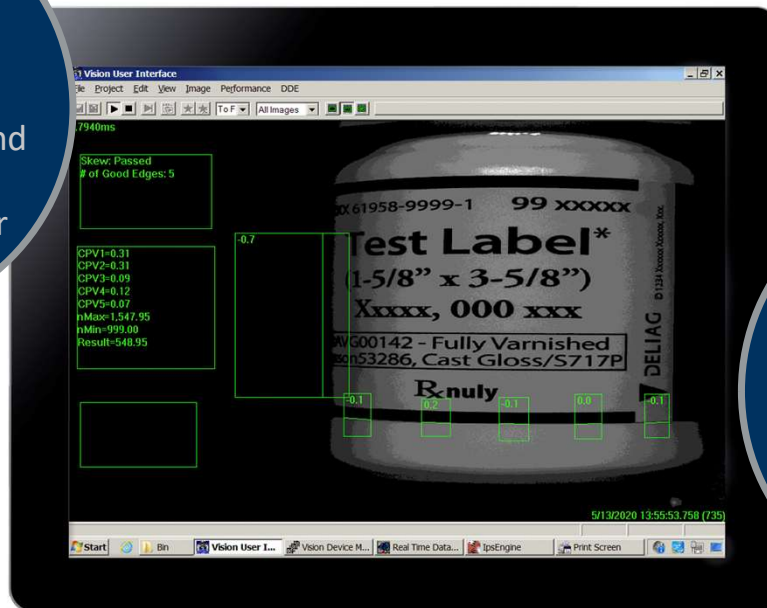


Verification & automated inspection

Ensure quality and accurate codes

Packaging Accuracy

Verify packaging, labeling, contents and data on a broad variety of container types



Data Integrity

Confirm printed data is consistently present, readable and contains the right information

Quality Assurance

Detect and correct coding and packaging errors in real time

Automated vision inspection

Ensure quality and accurate packaging



Round Bottles

- Verifies position of the label wrap
- Reads barcodes on un-oriented bottles
- Inspects stopper position and liquid fill level



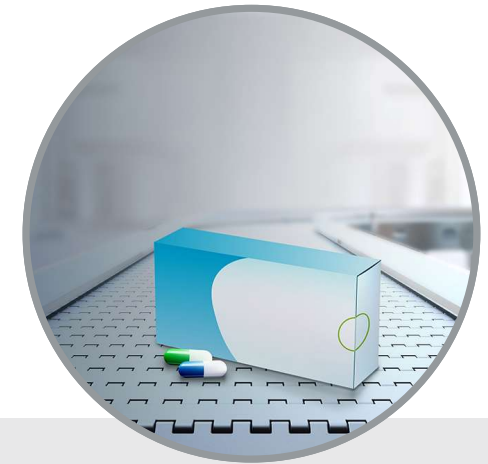
Non-Uniform Packages

- Decodes UV printed data
- Verifies each character independently and accurately
- Confirms front and back label placement



Glass Vials

- Ensures accurate label application
- Verifies correct quantity and color of vials in cartons and trays
- Detects seal defects and crimp deformations



Cartons

- Verifies print quality, including inspection of text and graphics
- Ensures correct carton contents
- Detects tamper-evident label placement

Automated vision inspection

Ensure quality and accurate packaging



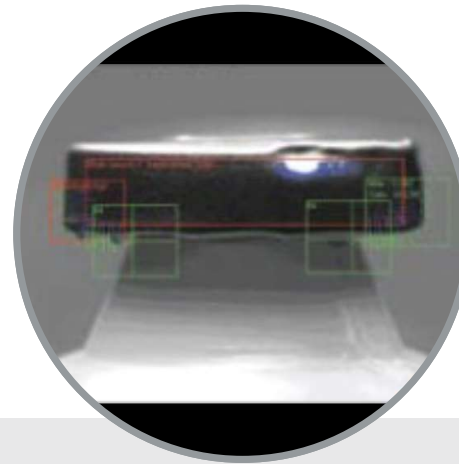
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Line control

Enterprise class packaging execution system

Production Control

ERP interface for recipe and production workorders



Monitoring & Status

Real-time production counts, alarms, messages

Device Management

Download critical parameters to all packaging line devices

Aggregation



Serialization – ID & compliance

Establish a unique identifier for every packaging level



Turnkey serialization solutions

Make aggregation simple

UNIT



Carton Print & Verify

Unit Labeling Ops

Manual Print & Scan

Bottom to Top Association

BUNDLE



Labeled Bundles

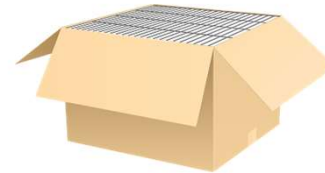
Virtual Bundles

Bundle Group Read

Integrated Bundle Label Printer

Remote Bundle Printer

CASE



Automatic Casepacker

Manual Packing Operations

Semi-automatic casepacker

Manual Pack by Layer

Casepacker infeed reads

PALLET



Manual Palletizing

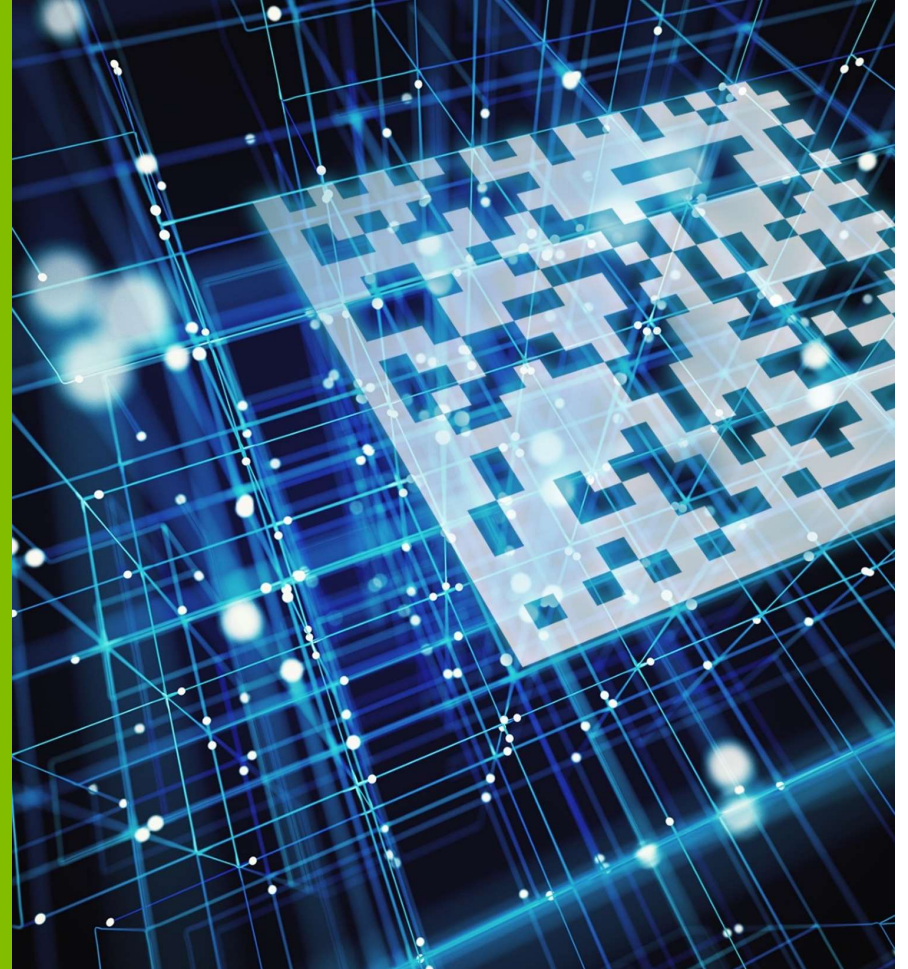
Automated Palletizing

End of line Palletizing

Centralized Palleting

Our configurable, standardized solution supports over 250 serialization workflows on various types of packaging operations

The Systech Approach



Configurable versus custom

Systech's solutions-based approach

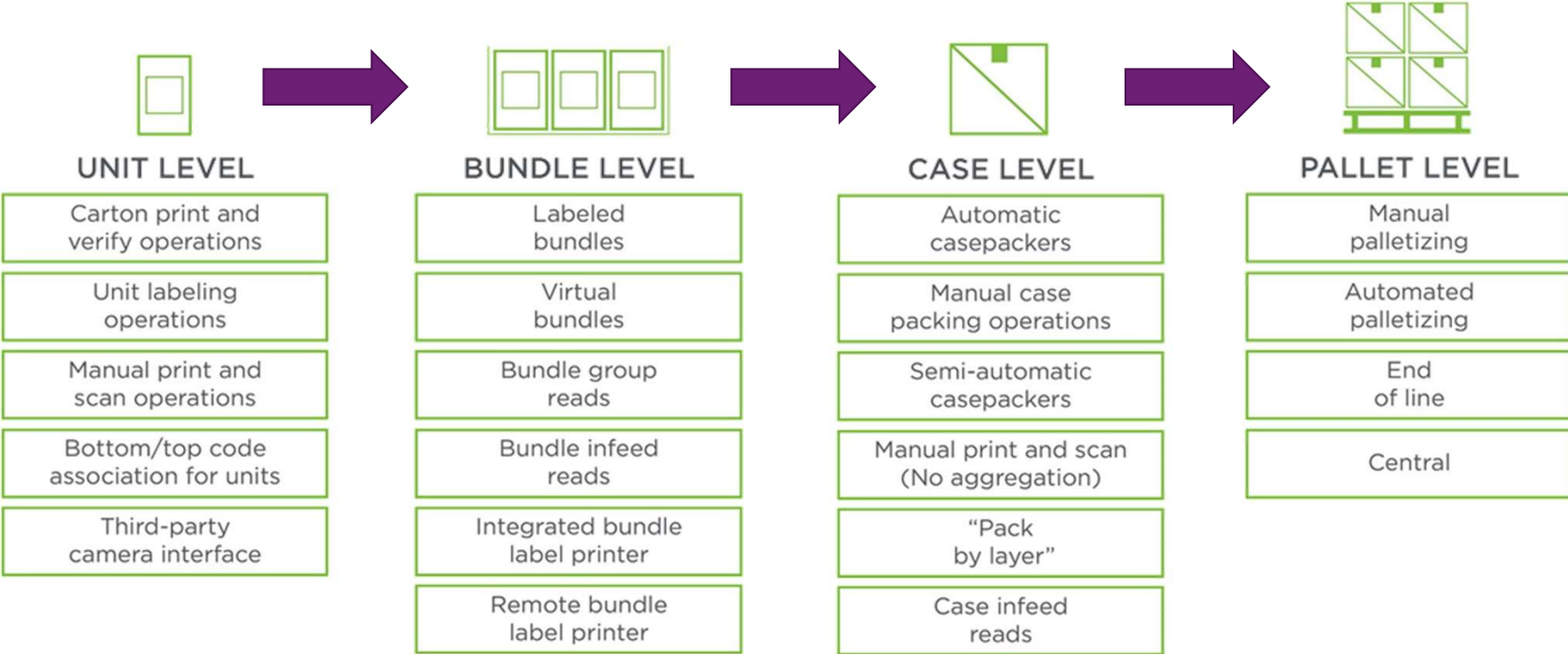
- Solutions library of prepackaged, integrated modules
- Solution creation based on prebuilt module selection
- Modules can be standalone or connected with other modules
- Modules are reused across multiple deployments
- Supportability improved with known components

Custom serialization vendors

- Bespoke Code
- “White Board” solutions
- Build configurations from scratch
- Customized one-off configurations
- Lack of central governance or guidance provided
- Lack of consistency
- Solution quality dependent on project team experience
- Issues/defects hard to diagnose

Configurable, standardized solution

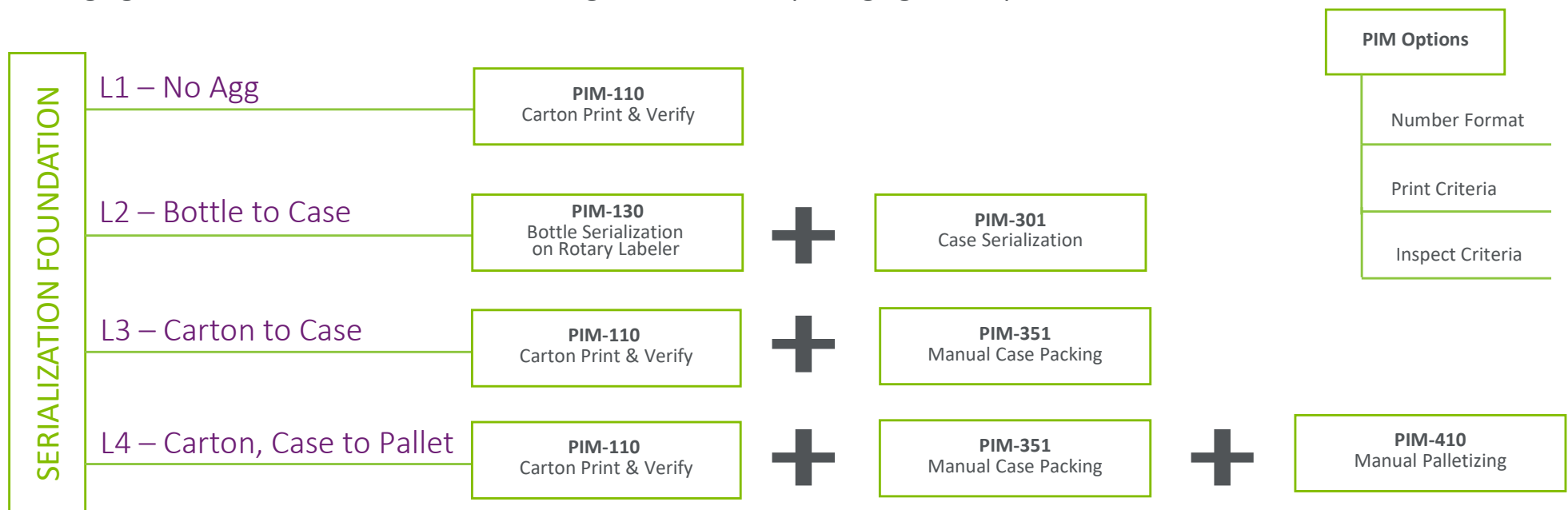
Supports over 250 serialization workflows on various types of packaging operations



Modular approach

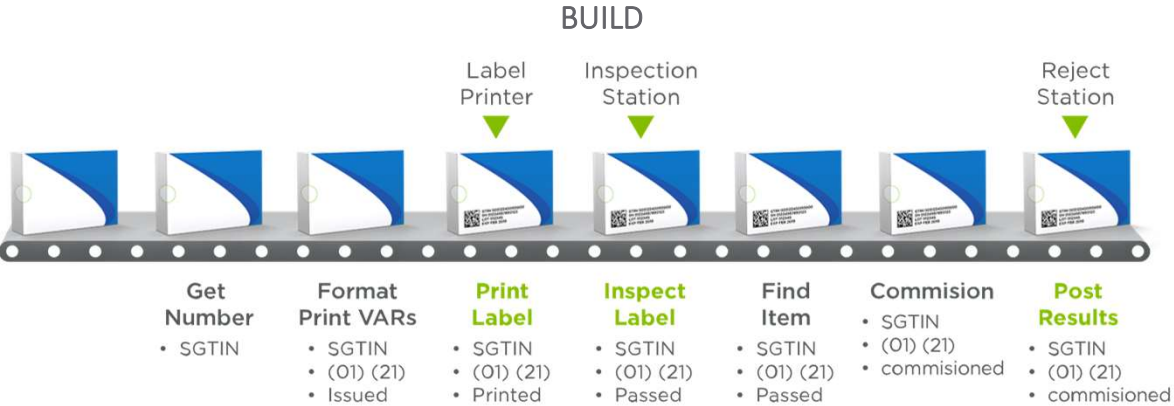
Serialization Foundation – Base set of functions used for serialization, independent of the packaging line. Examples are rework operations, reports, master data download, packaging work order download, and suspend/resume functionalities.

Packaging Integration Modules (PIMs) – A library of reusable applications with unique workflows leveraging foundational elements as the building blocks to meet packaging line requirements.



Standardized use cases

Item Process Stream (IPS) Engine



Case-Level "Item"
Comprised of Multiple
Unit-Level "Items"

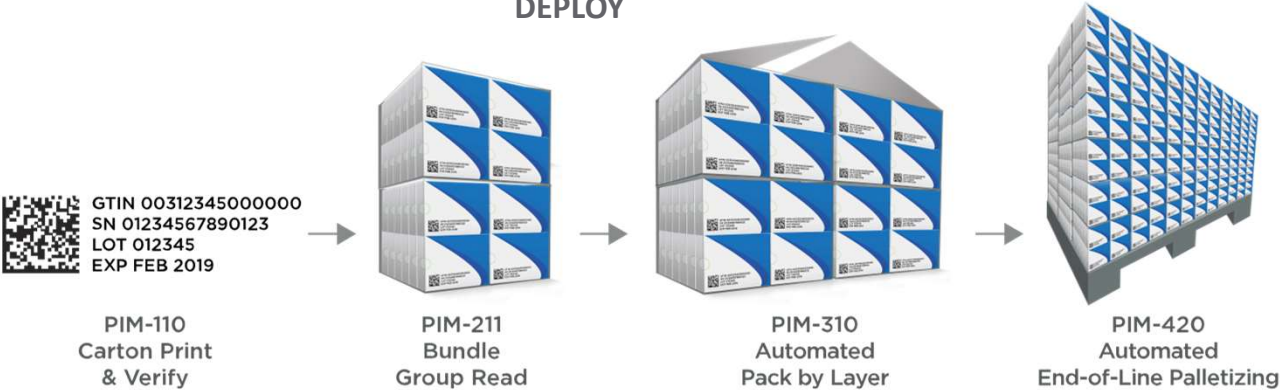
- SGTIN
- (01) (21)
- Commisioned
- Passed
- Children
-
-



Unit-Level "Item"

- SGTIN
- (01) (21)
- Parent
- Commisioned
- Packed

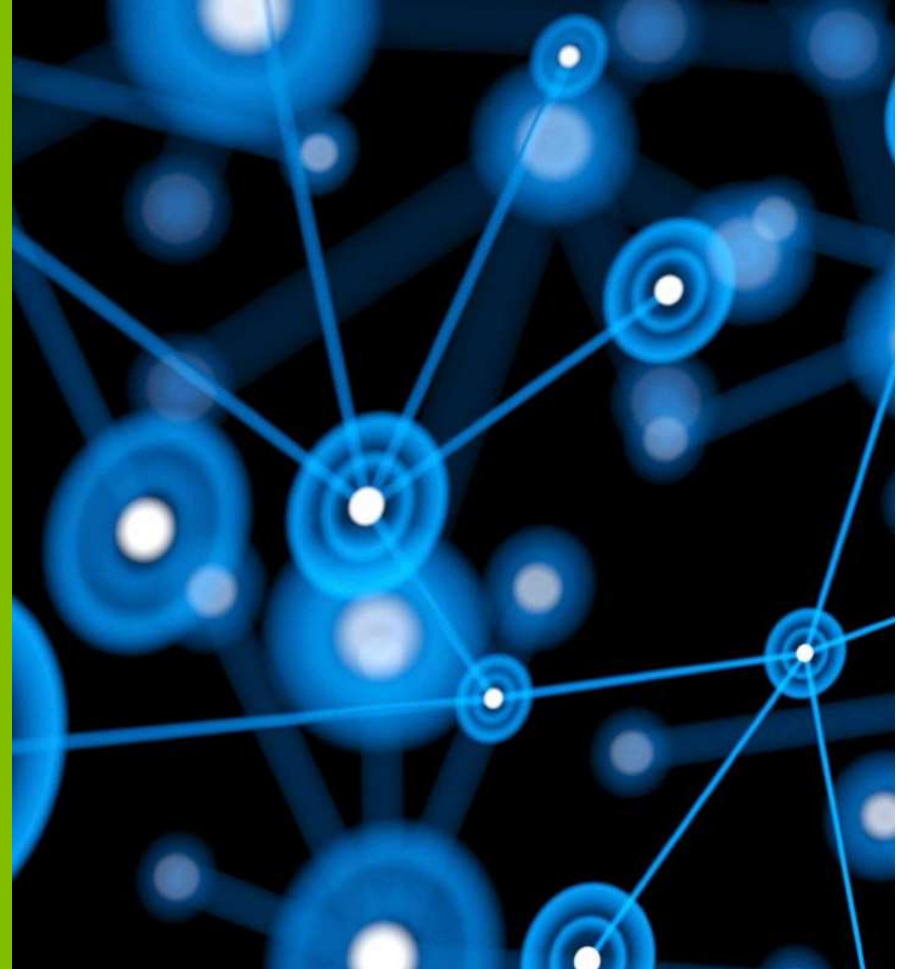
DEPLOY



INCLUDED W/ PACKAGE

- Solution Summary
- Design & Interface Specification
- Electrical Wiring Schematic
- Station Designs for Mounting Cameras/Lighting
- Configuration Specification
- Validation Specification
- Implementation Guides
- Operator's Manuals

End-to-End Traceability



End-to-end traceability

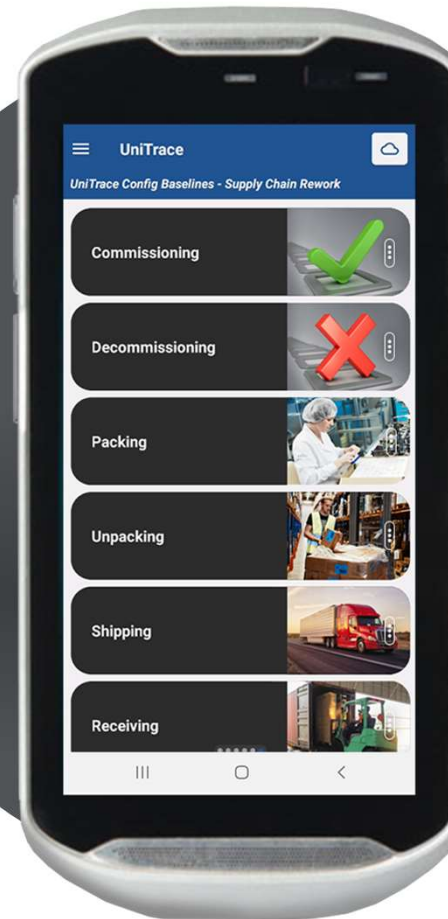
Get complete product visibility across the supply chain

One-Vendor Solution

Integrate logistics, rework and exception handling—no third-party software needed

Data Integration

Generate, manage and report product data in a diverse supply chain ecosystem



Simple Deployment

Implement flexible, scalable functionality with configurable software

Advanced data platform

Support for all regulatory compliance needs



- Integrated logistics, rework and exception handling platform—no third-party software required
- Workstation or mobile device support to facilitate ease of processing
- Full access to all data via portal
 - Suspect product reporting
 - Lot/batch data
 - Location/Geo-tracking data
 - Product master data
 - Packaging work order data

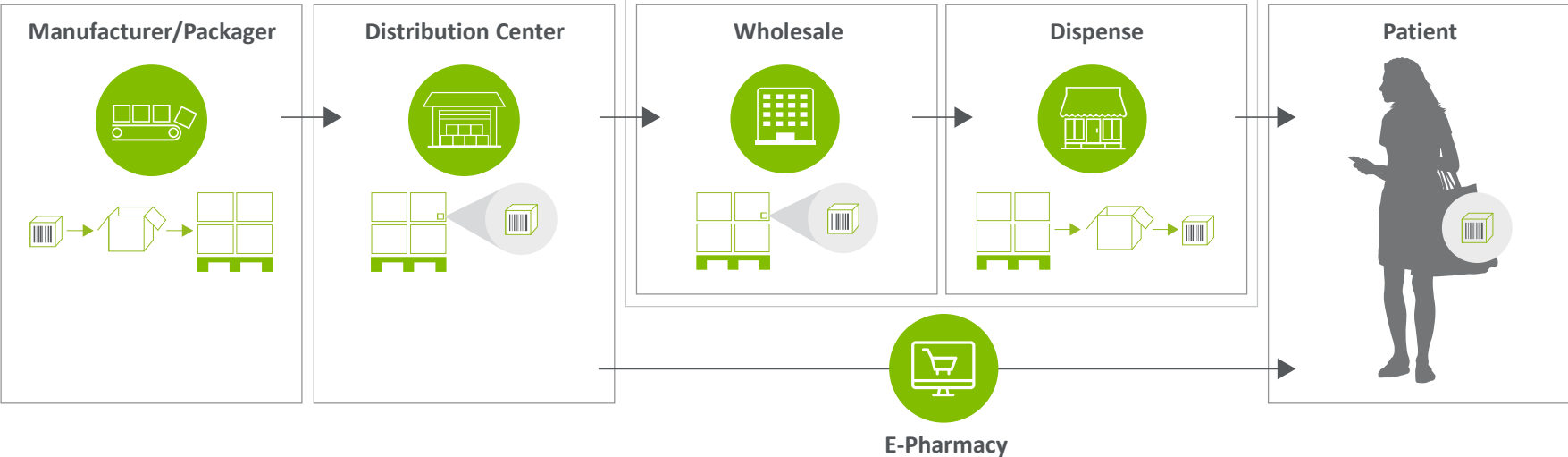
Advanced data platform

Standards-based approach

- Data footprint on NA, SA, EMEA, APAC
- Trillions of serial numbers managed by our customer network
- 1000+ supply chain partner EPCIS connections
- Blockchain enabled



- 270+ CPG Distributors, 300K+ retail locations connected
- Customers executing over 100K+ transactions per day, millions per year
- GS1 Compliant – EPCIS 1.0-2.0 and Digital Link



Packaging & supply chain rework

- Check the status of any item or parent
- Perform in-lot rework at time of packaging
- Perform post lot rework in your warehouse
- Rework both large volumes and small one-offs
- Repack, create new aggregations and print labels
- Decommission damaged items
- Supply chain rework



Industrial PC Workstation (HSM3) – Computer with a corded scanner

Tablet & Mobile Device Enabled – Built on leading OS for industrial devices and tablets

- Operator-guided workflows
- Full bidirectional communication with cloud
- Offline mode

UniTraceMOBILE

DC Console

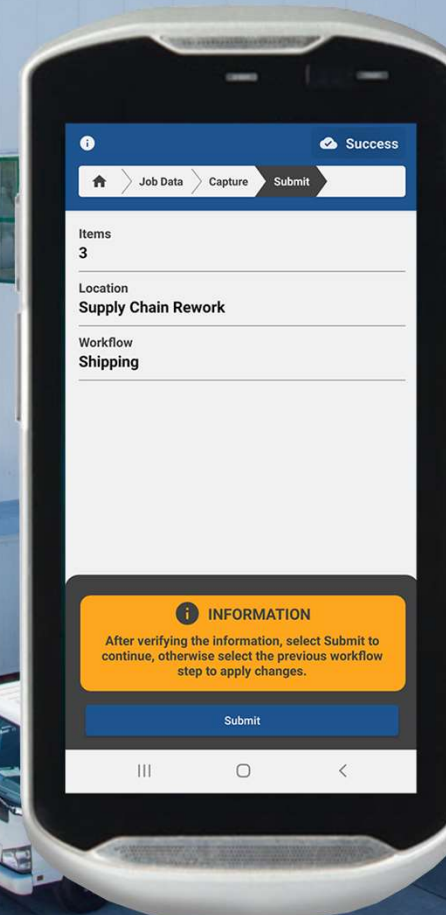
Perform mobile business operations for your supply chain

Secure Cloud

Ensure data integrity with full bi-directional communication

Intelligent

Access full data and suggestion-based workflow guidance



Product Authentication



What if...

... this was your
anti-counterfeiting
and **traceability**
solution?



Non-additive e-Fingerprint®

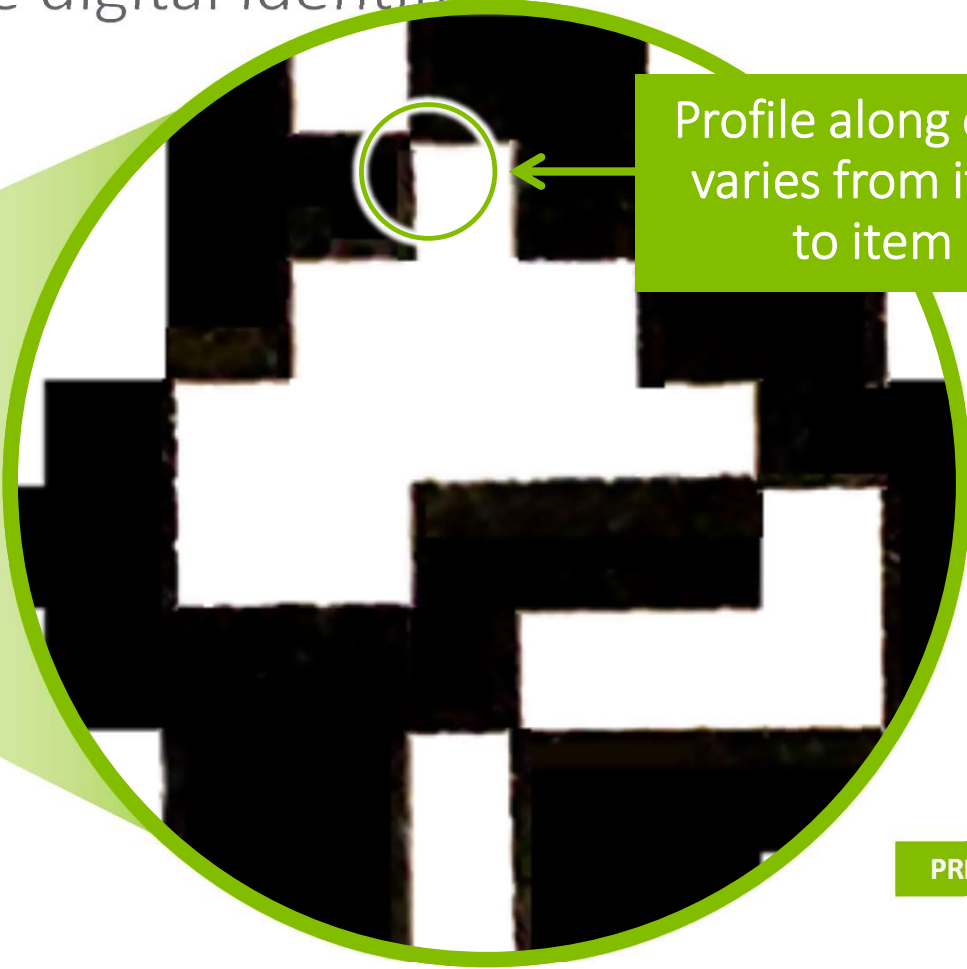
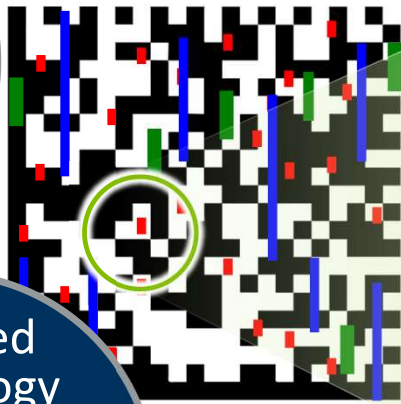
Turn any barcode into a unique digital identifier

Product DNA

Capture and carry unique product information already associated with a specific code

Patented Technology

Derive a digital fingerprint from the microvariations of any printed data carrier

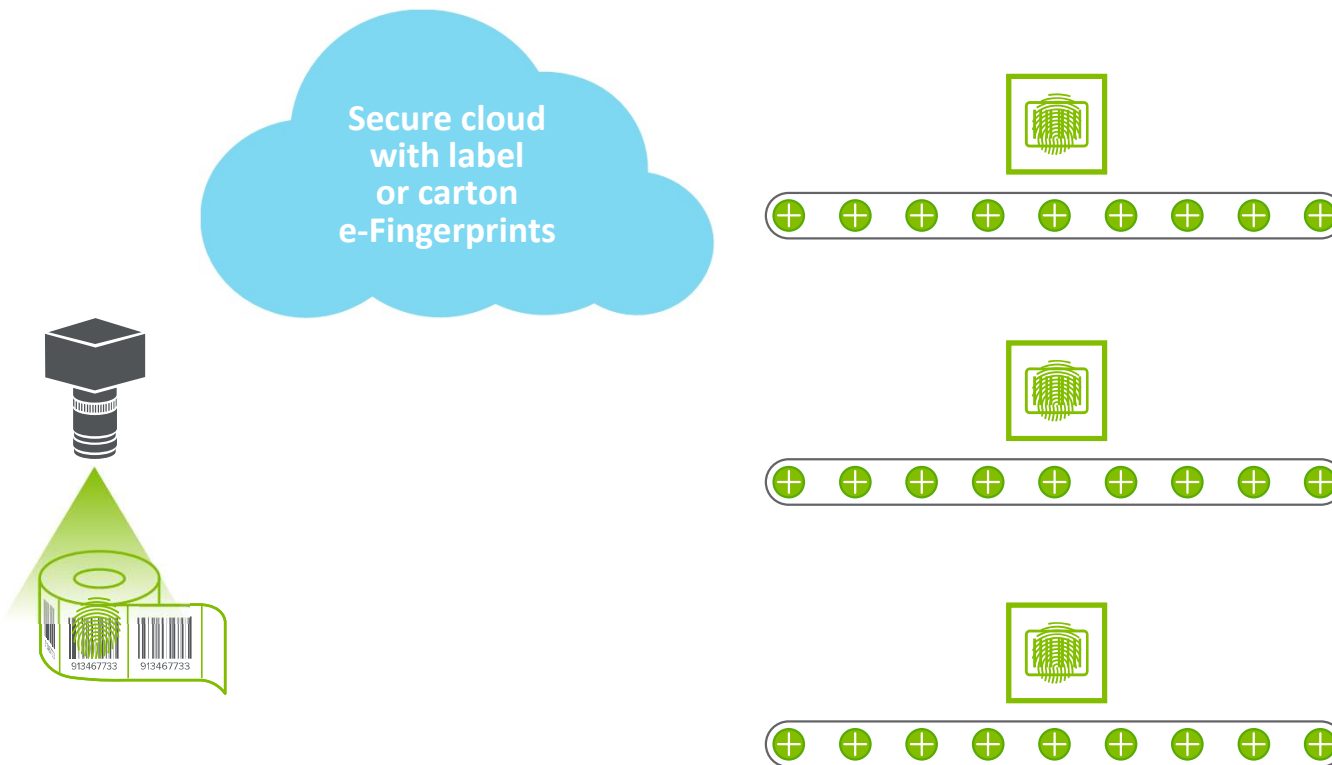


Profile along edge varies from item to item

PRINT 2

High-speed e-Fingerprinting

Non-additive, brand protection solution



Label Converter

Deliver high volumes of e-Fingerprints on web press at production speeds

Reduce brand costs

Increase brand flexibility

Limit brand exposure

Real-time product authentication

Confirm authenticity and distribution channel



Connected dispensing

Confirm authenticity and distribution journey

Trust & Credibility
Confirm authenticity and product safety

Patient Records
Link patient identification and vaccination status health records

Instant Connectivity
Deliver relevant drug information, link to e-leaflet and more...

Data Intelligence and Supply Chain Insights



Systech Insight™

Unlock greater value in your serialization investment

ACCESSIBLE: Simplify serialization operations with data access for all stakeholders

CONSISTENT: Drive efficiency through standardized configurations across lines

VISIBLE: Gain consolidated packaging operations visibility and monitoring



Systemech Insight platform

Operational intelligence

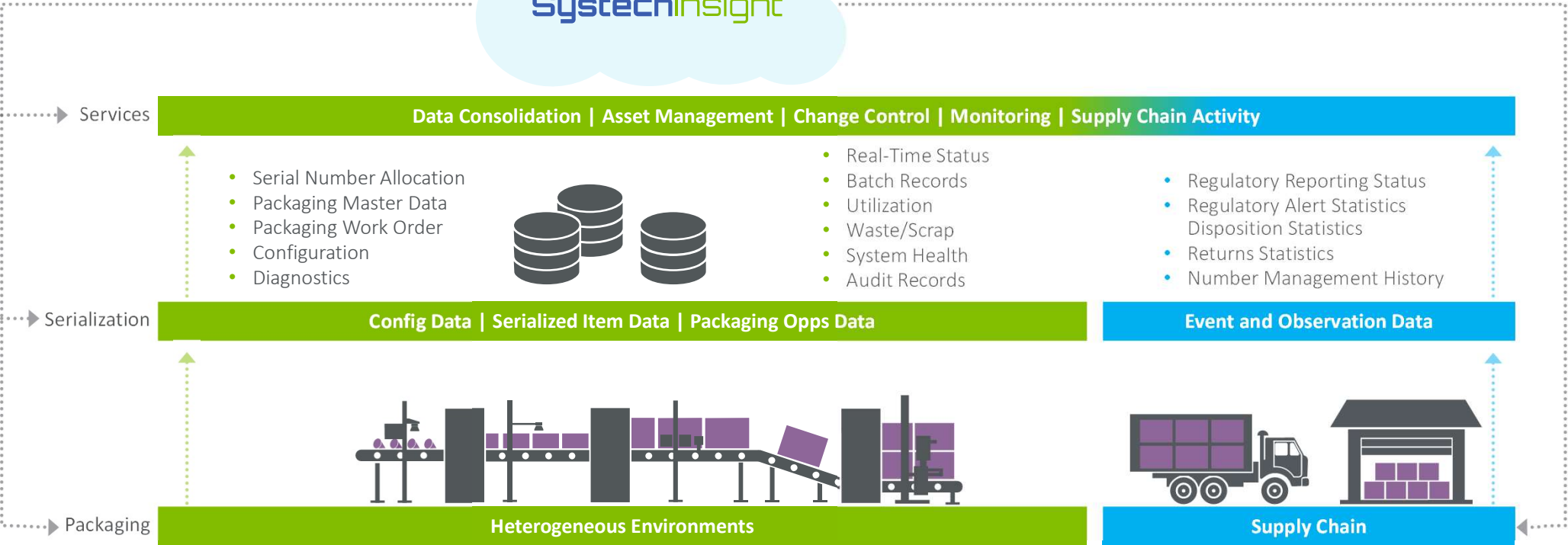
ACCESSIBLE



CONSISTENT




VISIBLE



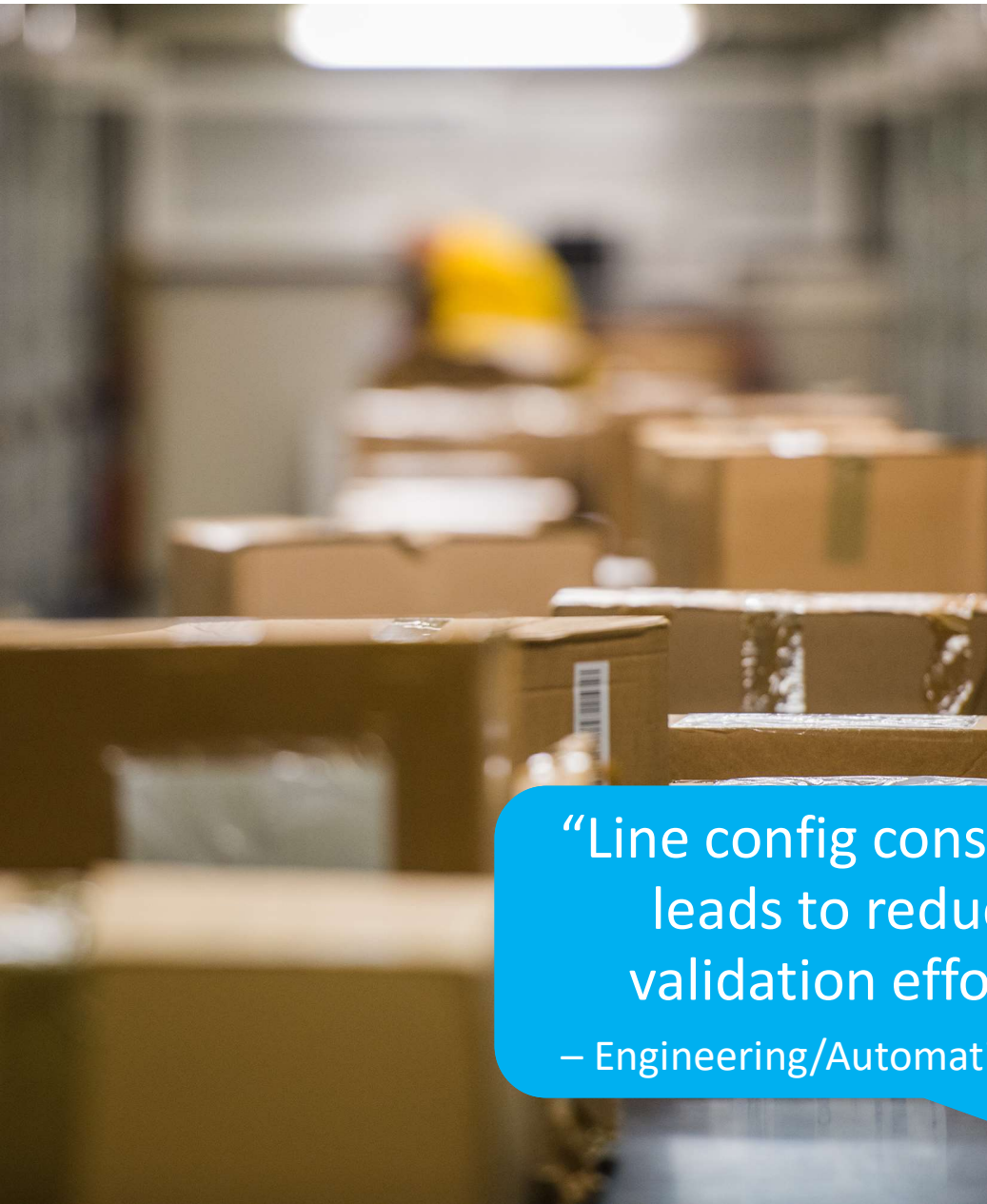
Accessibility

- Packaging information is always consolidated and ready
- Reduction in manual data collection hours – up to 60%
- Data is available to other business systems and business intelligence tools



“Collect critical data with minimal effort for long term storage.”

– Business Systems Analyst



Consistency


- Configuration standards can be defined, deployed and verified
- Self-support through asset management tools
- Move the business towards an Industry 4.0 solutions provider

“Line config consistency
leads to reduced
validation efforts.”

– Engineering/Automation Director

Visibility

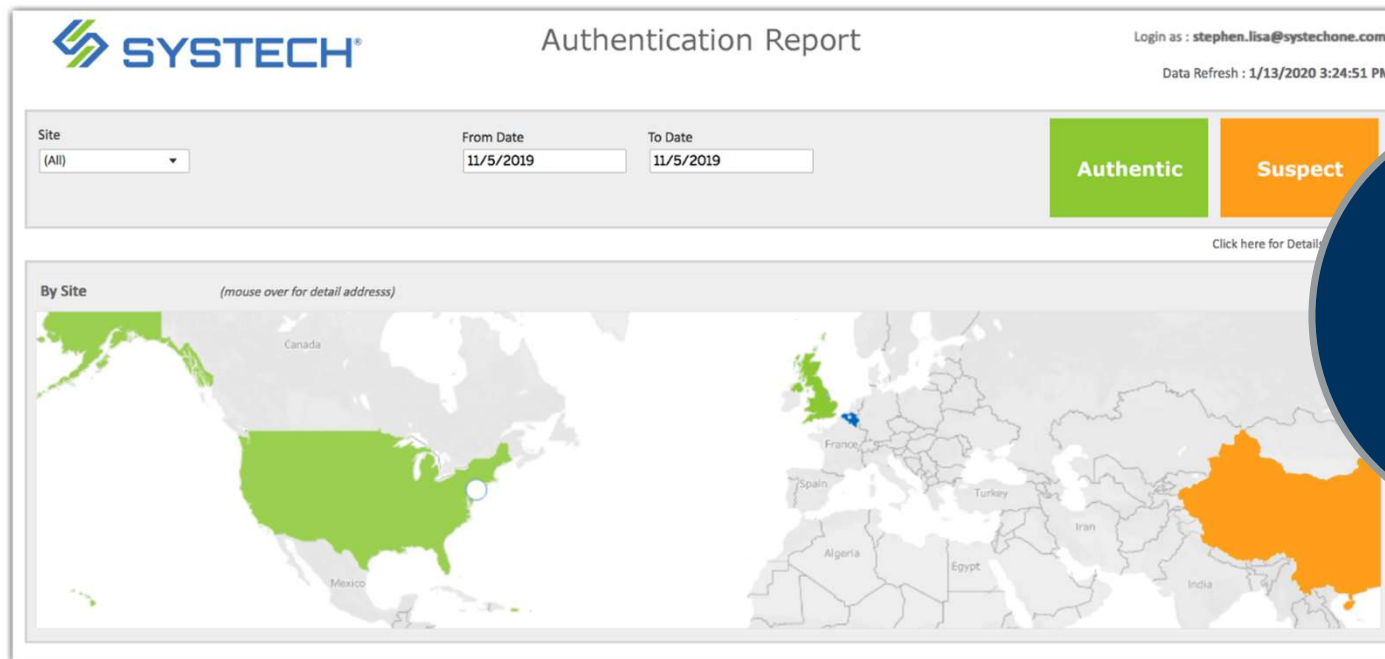
- Information is shared with the people that need it, streamlining communication
- Status and health information is available without physical access to each system
- Automated alerts are issued to critical events



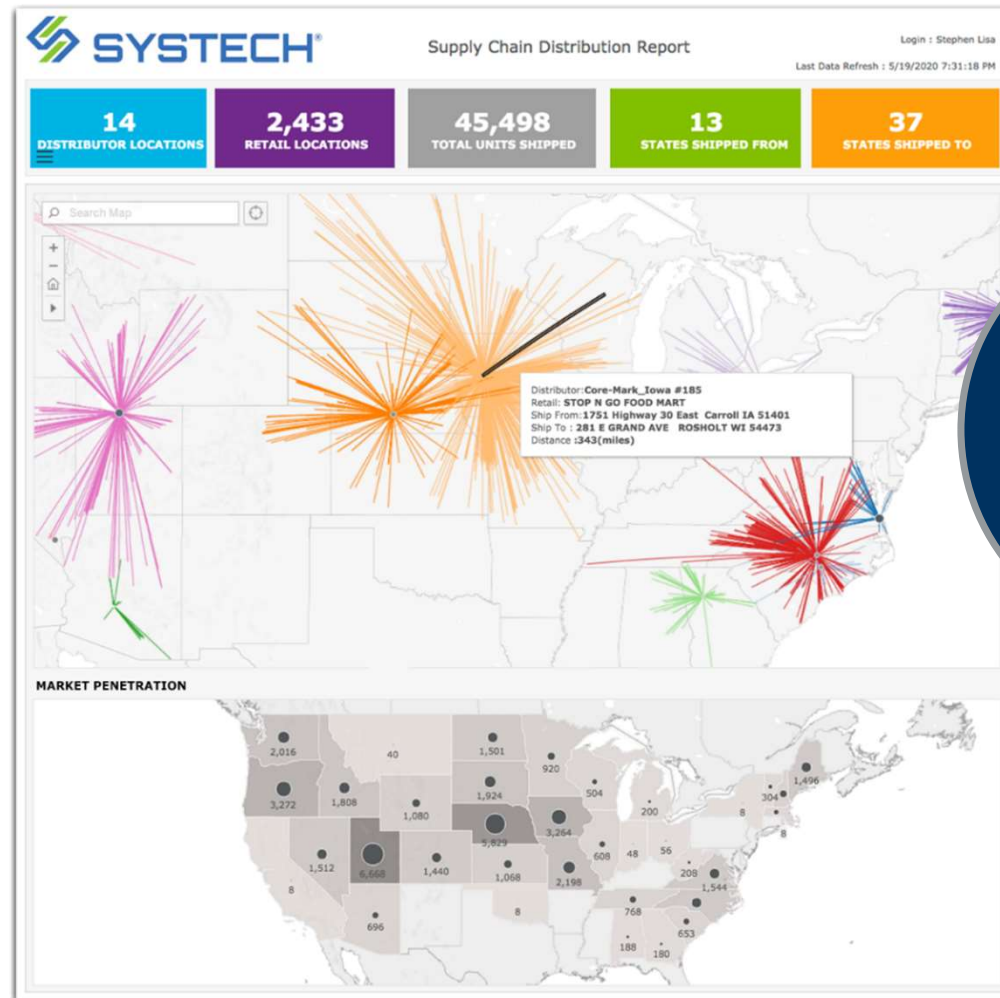
“Make informed decisions from accurate information with minimal response time resulting in smooth operations.”

– Director of Operations

Enterprise data intelligence

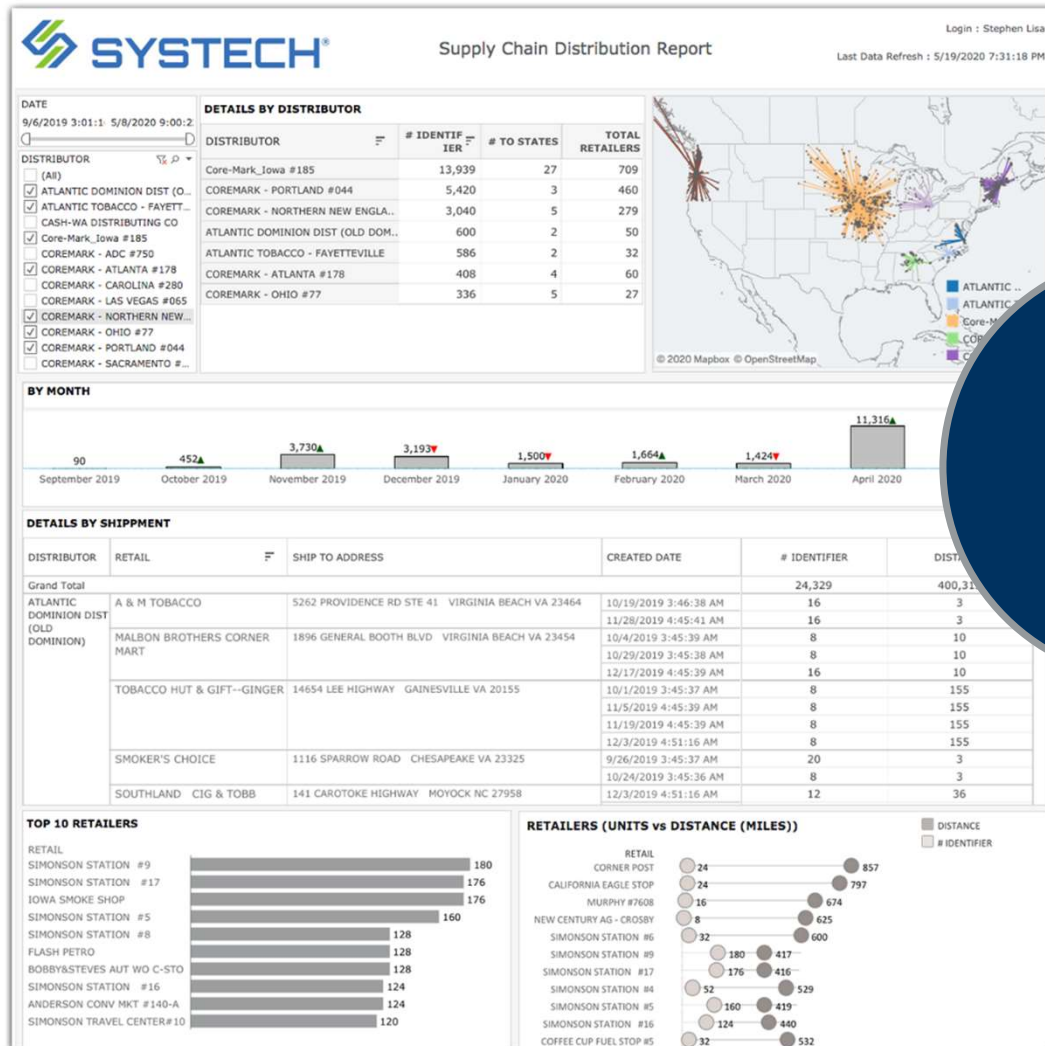


Enterprise data intelligence



Supply Chain Visibility

Enterprise data intelligence



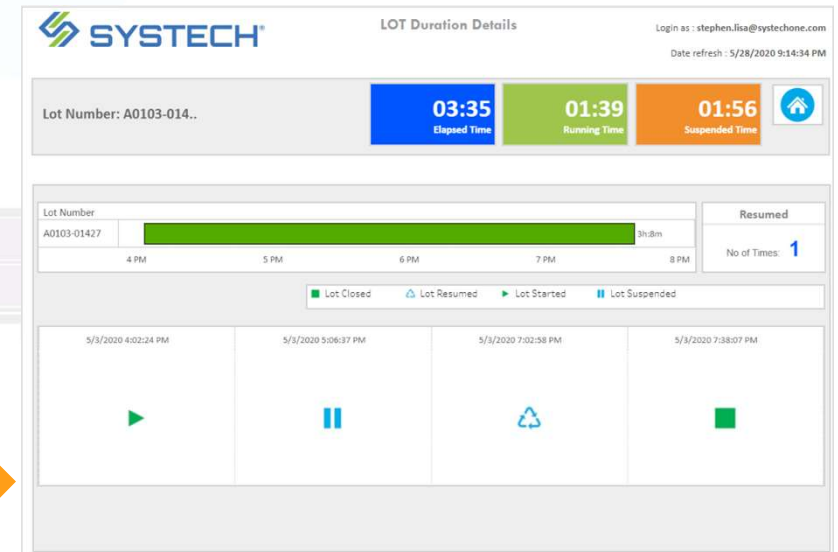
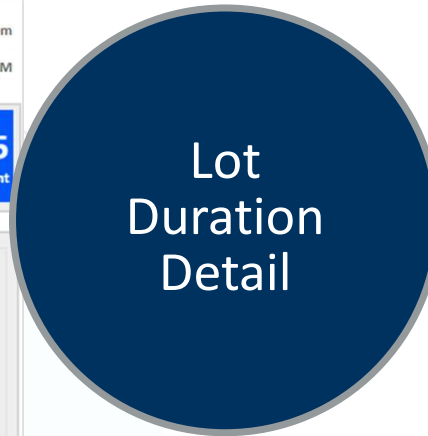
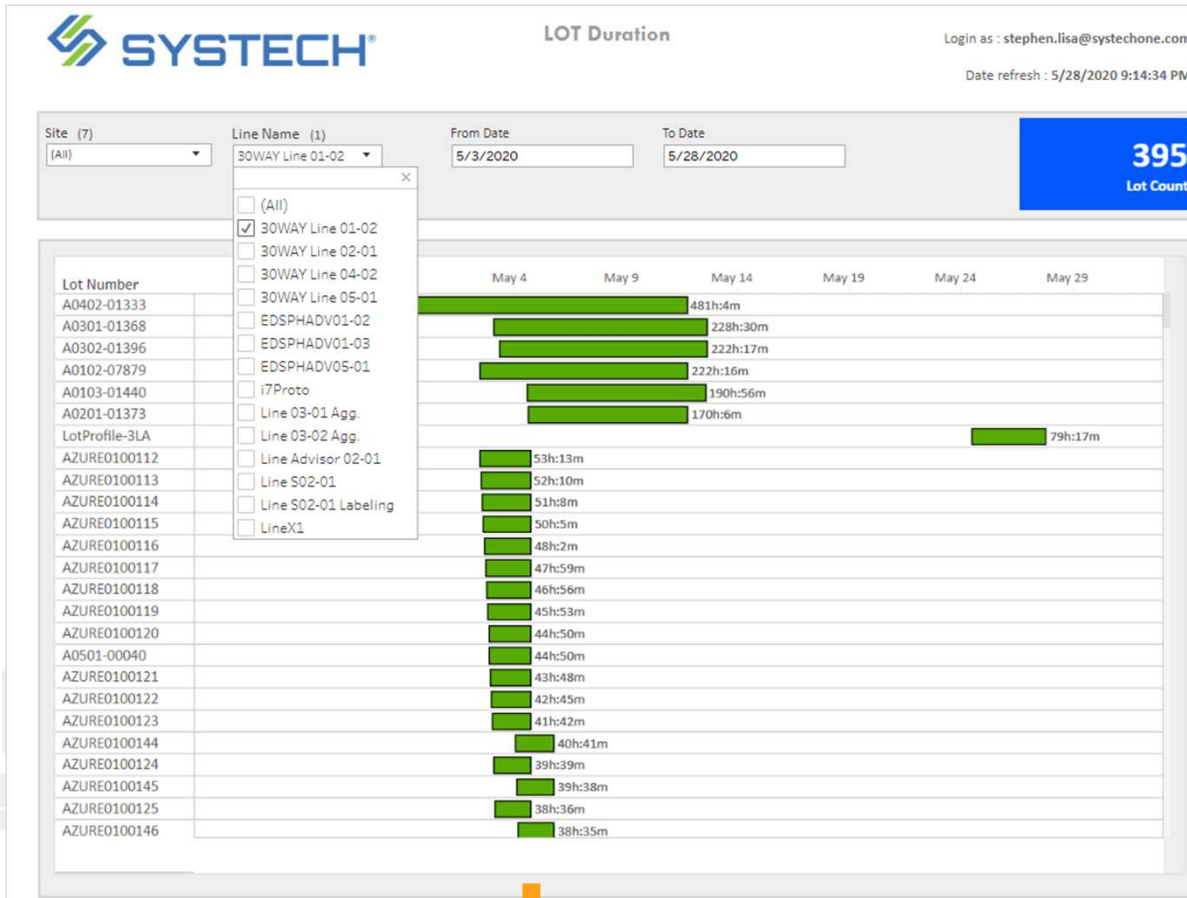
Supply Chain Metrics

Enterprise data intelligence



Line Level
Production
Detail

Enterprise data intelligence



Drill down into line runtime details

Company Commitment

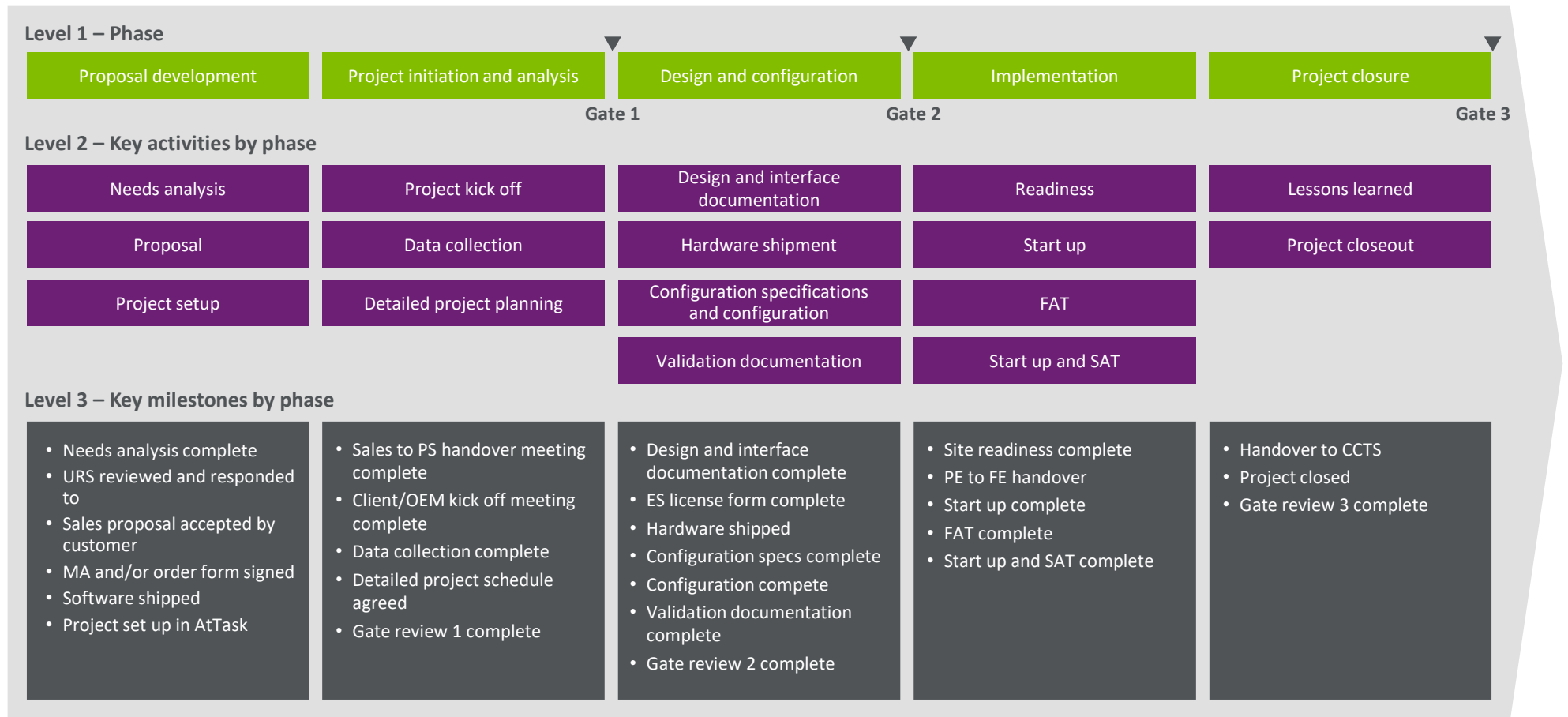


Systech services

- Risk-free solution delivery
- Provides everything you need to be successful
 - Turnkey project services
 - Global program management
 - Project and field engineering
 - Customer care and technical support
 - Global partner network
- **Formal methodology**
 - GAMP5 standards built into business process
 - GS1, 21 CFR part 11 and Annex 11 compliant



Project Lifecycle



Uncompromising customer commitment

- 24x7x365 customer care
 - Remote problem diagnosis
 - Assisted corrective action
 - Software updates and maintenance releases
 - Global multi-lingual support
 - Early Access Program
- Global training program
 - Training centers in US & Europe
 - Certification classes on our solutions
 - Course calendar
 - Learning management system
 - Online courses
 - Designed for customers and partners

