

Improving Supply Planning & Inventory Management Using Serialized Product Intelligence

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Objectives

- Understanding challenges with Serialized Operations in the Supply Chain
- Leveraging Serialized Operations for Business Objectives
- Tools for Visibility into Serialized Inventory





**Managing serialized operations
in the life sciences supply chain
is a global necessity.**

Industry Challenge: Manage Serialized Inventory



Serialization is required across multiple markets



Amplified by expanding, disparate regulatory requirements globally



Monitoring internal and external serialization activities like aggregation hierarchies, item & delivery statuses is required but extremely challenging



Disruptions are costly, can take days or weeks to resolve and delays critical business projects

What Your Peers Are Telling Us



81%

Want proactive
supply chain
monitoring



59%

Spend way too much
time and effort on
manual data analysis



81%

Want CMO
tracking &
monitoring

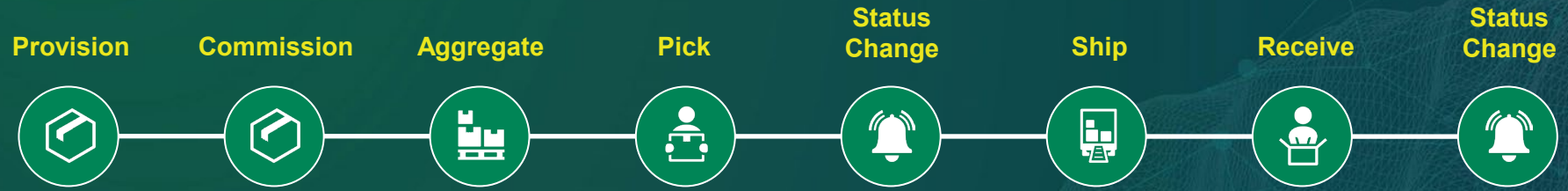


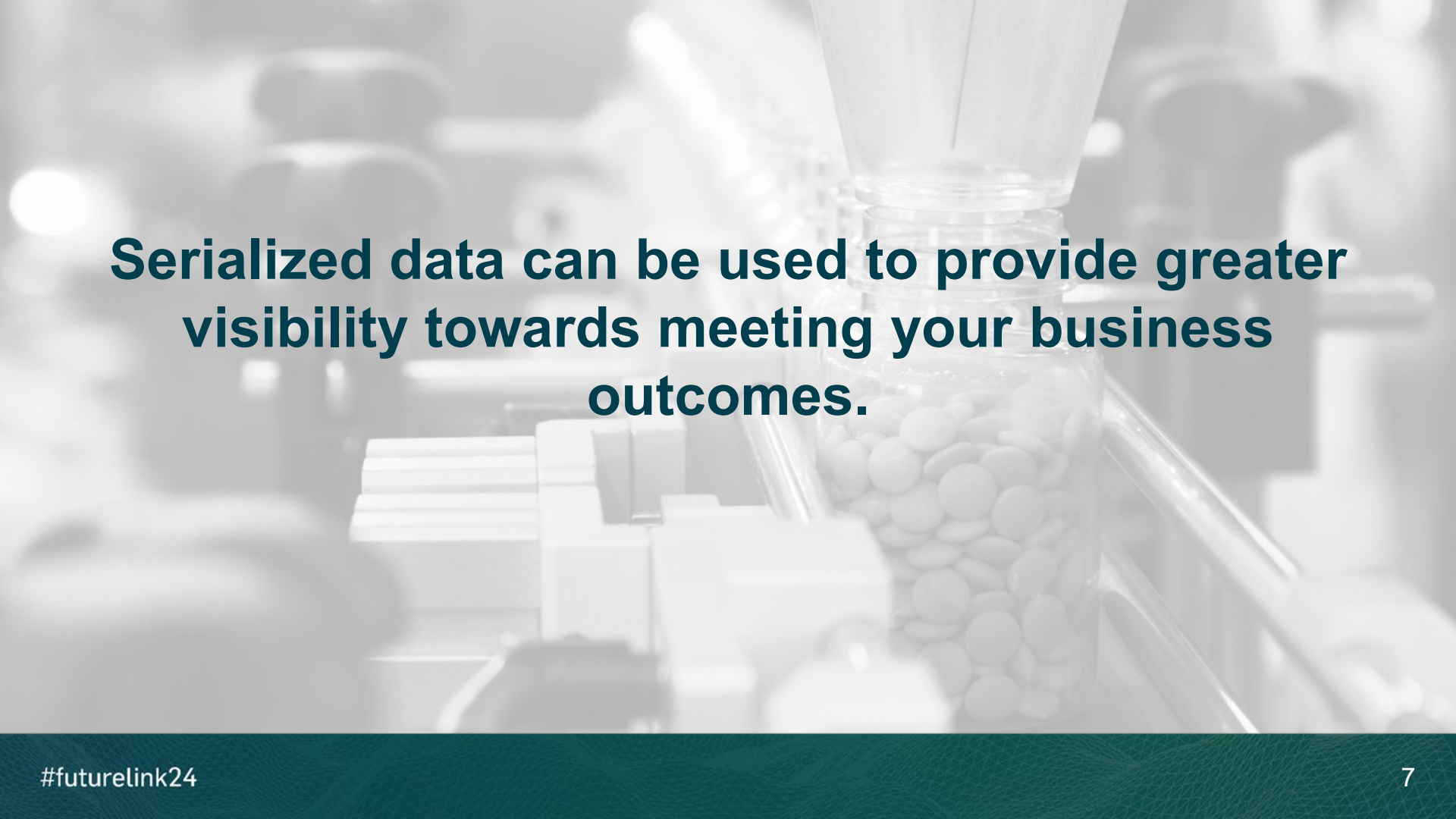
72%

Want to unlock value
of their data for digital
transformation

Source: 2020 Industry Benchmark of Serialization Programs

Serialized Operations and Processes Introduced by DSCSA Requirements





Serialized data can be used to provide greater visibility towards meeting your business outcomes.

Leverage Serialized Operations for Greater Visibility

- **Ensure product availability**
 - Monitor potential sales delays due to serialization or compliance issues
 - Monitor issues and resolve for these by target market
 - Ensure revenue continuity
- **Manage Exceptions**
 - Triage and resolve exceptions
 - Proactively identify EPCIS message exchange (shipping / receipt) errors
 - Reduce cost of unexpected issues by proactive monitoring
- **Risk reduction**
 - Brand protection
 - Respond quickly to regulatory or audit inquiries and avoid potential fines
- **Standardize processes**
 - Reduce ad-hoc issue resolution by standardizing SOPs using relevant tools
 - Empower additional resources and eliminate single point of knowledge
 - Enable key resources to focus on strategic business initiations, rather than forensics

What is Serialized Product Intelligence (SPI)?

Analytics application to ensure timely delivery of serialized medicines while reducing operational costs

Monitor internal & external serialization activities to ensure smooth operations and avoid mistakes



SUPPLY CHAIN MONITORING

Resolve issues up to 50% faster to reduce the cost of product delays and disruptions



ISSUE RESOLUTION

Free up resources and avoid the cost of hiring additional employees to support business growth



RESOURCE OPTIMIZATION

SPI - Out of the Box Capabilities



SN Event Batch History

- Analyze SN and event reported in a timeline view, to reduce root cause analysis
- Strategically view all Serialization events
- Analyze all serial numbers and events associated to a transaction, shipment or receipt
- View compliance failures and drill into root cause

Event-level
visibility



Serial Number Reconciliation

- Consolidated view of the current status of items in a lot, pallet sent in the last transaction
- What is the current aggregation hierarchy reported to TraceLink
- Gain visibility into serial numbers by their status
- Compare TraceLink data with ERP/Level 3 systems easily
- Returns reconciliation

SN item
level visibility



Commissioned Lot Reconciliation

- View all manufactured products on a single screen
- Monitor actual commission and aggregation quantities across all products
- Validate aggregation accuracy
- View production timelines to better forecast and ensure market demand

Lot level
visibility



Message Analysis

- Monitor all Info exchange events in near real time
- Provide visual summary of message details by processes (SOM, SNX) and status (successful, failed)
- Drill down into specific message to view details of errors with Input and output file details
- Monitor data exchange errors for timely root cause analysis.

Message exchange
visibility



Lot Reconciliation

- Proactively monitor all lots modified across all markets
- Drill down into specific lot and review the entire lot history
- Identify serial number volumes / units shipped to any company or location
- Monitor shipments sent to multiple target markets
- Track CMO production across markets and across products

Lot, SN & Event
Visibility



Export clean, curated data from any of these modules in SPI in CSV format for further analysis

Monitor Commissioned Lots

Serialized Production Monitoring

The screenshot displays the Tracelink interface for 'Franks Pharma - Serialized Prod...'. The top navigation bar includes 'NETWORK', 'TEAM', and 'PROCESS' dropdowns, along with notification and user icons. A left sidebar contains navigation options: LEARN, SHARE, DO, and ADMINISTER. The main content area is titled 'Commissioning Details' and features a 'Products by Lot and Packaging Level' chart. The chart shows a bar for 'Anti-Inflammatory (Xibax 90mg)' with a value of 810 / 28, and another bar for 'Antibiotic (Amikacin)' with a value of 30 / 3. Below the chart, a table lists commissioning details for 'Antibiotic (Amikacin)' with filters for 'Begin Date: 2023-07-31', 'End Date: 2023-08-30', and 'Product Name: Antibiotic (Amikacin)'. The table columns include Packaging Code, Packaging Code Type, UOM, Internal Material Number, Lot Number, Initial Commission Quantity, and Initial Commission Location Name. A detailed view for lot 22014120011220 is shown below the table, listing various attributes such as Expiration Date, Country Drug Code Type, Aggregated status, and Product Description.

Packaging Code	Packaging Code Type	UOM	Internal Material Number	Lot Number	Initial Commission Quantity	Initial Commission Location Name
201412	SSCC	PL	-	K1738378	1	Lycan Plant 1
201412	SSCC	PL	-	O1377189	1	-
201412	SSCC	PL	-	R8841501	1	-
22014120011220	GTIN_14	CA	-	K1738378	10	Lycan Plant 1

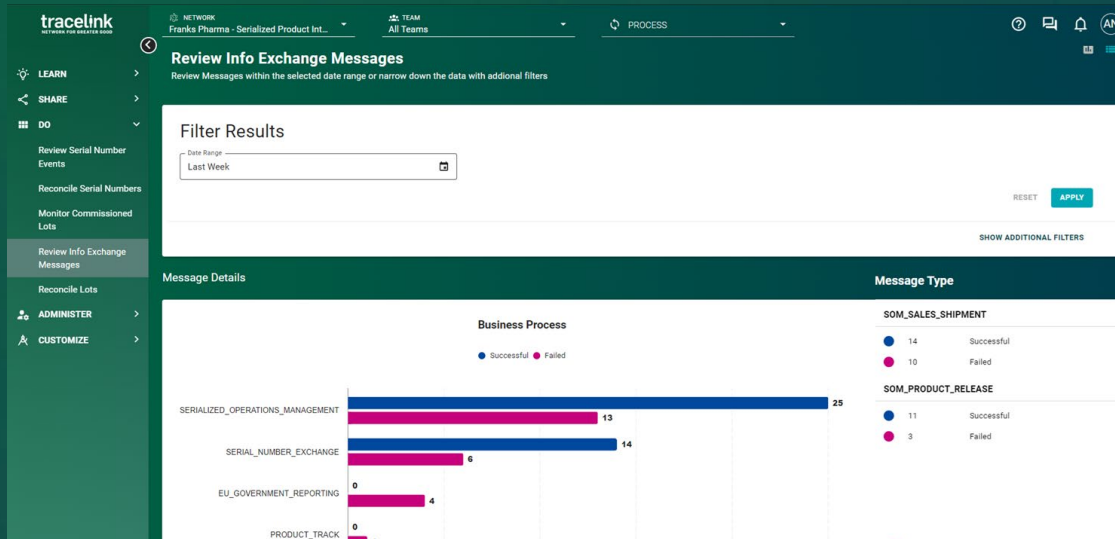
Expiration Date	2025-07-31	Target Market	US
Country Drug Code Type	NDC442	Product Name	Antibiotic (Amikacin)
Country Drug Code	4477290201	Product Description	Antibiotic (Amikacin)
Aggregated	Yes	Dosage Form	Intramuscular
Initial Commission Date	2023-08-01	Strength	20ml
Initial Commissioned Location ID	2014121.50602.1	Package Size	1
Manufacturing Date	2023-08-01	Product Release Date	-
Manufactured By	Partner Company	Product Released	No

Detailed View into Production

- Provides a view into production statuses
- Monitor Aggregation levels and statuses
- Detailed information of inventory and product availability to sell across markets

Message Analytics

Monitor Supply Chain Transmissions



Data Exchange is Critical

- Status of message exchanges with partners
- Identify issues to provide a true picture of Product Availability
- Compliance reporting statuses are needed to provide true inventory picture
- Did I receive the product expected or it is still 'Pending Receipt'

Issue Resolution

Triage and Resolve

Reconcile Serial Numbers

Access search results generated within the last 30 days

View Lot Operation History

View the operations history for the selected lots.

Filter Results

Filter By: []

Filter By: Ship From Business: Franks India Pharma... [X]

Filter By: Ship To Location: Davis Distribution W... [X]

Filter By: Product: antibio [X]

ADD ANOTHER FILTER

Operation Date	Lot Number	Operation
2023-12-06	368312 IMN NDC4424477290201 Antibiotic (Amikacin) 20ml GTIN1412014120011223 EACH	Commissioned
2023-12-15	368312 IMN NDC4424477290201 Antibiotic (Linezolid) 600mg CODIG013072023	Aggregated
2023-12-15	368312 IMN NDC4424477290201 Antibiotic (Linezolid) 600mg GTIN1412014120011339 EACH	Commissioned
2024-02-05	Internal Material Number 06593037682 NDC542 06593037682 Cold Med K1422060	Aggregated

Issue Resolution

- On exceptions, making inventory available again to sell is critical
- Right tools and personnel empowerment is needed to resolve issues
- Right tools and personnel empowerment is needed to resolve issues
- Search and Filter by item statuses, message status, partial SNs, transaction identifiers, and others attributes

Key Takeaways

Utilize serialized visibility into inventory to:

- Triage and manage DSCSA Exceptions
- Empower users to resolve issues and make product available quicker
- Get greater & more granular insights into product availability
- Increase supply chain predictability by utilizing serialized data

Thank You

