ScanIn, ScanOut, and Verify
For Supply Chain Data Integrity
Safe Harbor Statement

All information in this presentation is current as of October 11, 2016. LSPediA undertakes no duty to update any statement in light of new information or future events.

This presentation is intended for information purposes only, and may not be incorporated into any contract.
Agenda

• Company overview
• Efforts on implementation – labels
• Efforts on implementation – data exchange
• Scan-In, Scan-Out, Verify
• Safeguard supply chain data integrity
Introduction

Riya Cao

Bio

- Founder, LSPediA
- Director Life Sciences, QAD
- Manager IT, Ferndale Laboratories
- Managing Director, CAOWARE
- Sr. Consultant, TRW Information Systems CS
- Sr. System Engineer, United Technologies

CEO
LSPediA LLC
LSPediA Overview

Life Sciences Solution Provider

Products

- Traceability solution
  RxChain
- Productivity solution
  Serialization toolkit

Services

- US and global Serialization
- DSCSA, cGMP, Part 11
- Internal and external quality
- IT architecture
- Management consulting
## Progress → Implementing Product Identification

### Efforts on Implementing Product ID

<table>
<thead>
<tr>
<th>Customer Engagement</th>
<th>Industry Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Branded and generic pharma manufacturers</td>
<td>• HDA</td>
</tr>
<tr>
<td>• Biotech manufacturers</td>
<td>• GS1</td>
</tr>
<tr>
<td>• CMO and CPOs</td>
<td>• Solution partners</td>
</tr>
<tr>
<td>• Wholesale distributors</td>
<td>• Collaborative pilots</td>
</tr>
<tr>
<td>• Solution providers</td>
<td>• Pilot initiatives</td>
</tr>
</tbody>
</table>

Copyright © 2016 LSPediA
Progress ➔ Implementing Product Identification

Efforts on Unique Product ID Requirement

• Understand unique challenges
• Provide thought leadership
• Align to standards
• Implement industry best practice
• Voice of the customer
<table>
<thead>
<tr>
<th>Observations</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D contains various data elements &amp; format</td>
<td>Can’t parse or collect data</td>
</tr>
<tr>
<td>Exp. date inconsistent</td>
<td>Reading the wrong data</td>
</tr>
<tr>
<td>Product number inconsistent</td>
<td>GTINs and non-GTINs</td>
</tr>
<tr>
<td>No readable text</td>
<td>No Secondary data source</td>
</tr>
<tr>
<td>Readable text mismatch barcode</td>
<td>Which one is correct</td>
</tr>
<tr>
<td>2D next to UPC</td>
<td>Scanner Challenges</td>
</tr>
</tbody>
</table>
Progress → Implementing Product Identification

Continue Efforts - Labels

• Support GS1 and HDA label standard
• Get the words out - blogs and webinars
• Help customers adopt label standard
• Discover and address label issues
## Current Situation – Data Exchange

### Observations

<table>
<thead>
<tr>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregated and non-aggregated</td>
</tr>
<tr>
<td>Exceptions not reconciled</td>
</tr>
<tr>
<td>Data sent mismatches shipment</td>
</tr>
<tr>
<td>Data received misinterprets data sent</td>
</tr>
<tr>
<td>Data correction does not travel</td>
</tr>
<tr>
<td>Serialization data decouples from ERP</td>
</tr>
</tbody>
</table>

### Concerns

<table>
<thead>
<tr>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t always have inference data</td>
</tr>
<tr>
<td>Data mismatches inventory</td>
</tr>
<tr>
<td>Data integrity issues</td>
</tr>
<tr>
<td>Diminished data accuracy as it travels</td>
</tr>
<tr>
<td>Downstream data stays wrong</td>
</tr>
<tr>
<td>No accountability for data correction</td>
</tr>
</tbody>
</table>
Progress ➔ Implementing Product Identification

Continue Efforts - Data Exchange

- Support GS1 Standard
- Develop innovative technology
- Enable better process and better control
- Safeguard supply chain data integrity
Progress  Implementing Product Identification

Efforts - Data Exchange

- Enable multi-channel serial data collection

Scan-In
- GTIN: 00388000888880
- S/N: 0010123456789
- EXP: 082018
- LOT: 09010231

Scan-Out
- GTIN: 00388000888880
- S/N: 0010123456789
- EXP: 082018
- LOT: 09010231

RxChain
- Data feed
- QA data and label

Request Inference
- Web call
- Partner Database
- Collect data

Collect data
Efforts - Data Exchange

• Common data repository model

• Data feed

Data Repository
Progress → Implementing Product Identification

Efforts - Data Exchange

- Enable multi-channel verification
Progress ➔ Implementing Product Identification

Safeguard Supply Chain Data Integrity

• Enable quality control (label & data) at Scan-In
• Receive data feeds after QA only
• Capture unit and case data at Scan-Out
• Allow data reconciliation for exceptions
• Request and receive inference data from Partner
• Enable verification with internal and external data source
• Error reporting and trending
Progress → Implementing Product Identification

Continue Efforts - Data Exchange

• Enable compliance
• Improve operational efficiency
• Support pilot initiatives
Summary

• Q&A

rcao@lspedia.com
www.lspedia.com