ASK THE EXPERTS
GS1 DataMatrix

The Basics and...
...an Example Implementation

GS1 Healthcare Conference – Mexico City
22 April 2015
Ask the Experts – GS1 DataMatrix...

Today’s presenters...

• **GS1 DataMatrix – The Basics**
  - Chuck Biss - GS1 Global Office
  - Senior Director, AIDC Healthcare

• **GS1 DataMatrix – An Implementation**
  - Bivian Pereira - CEFA, Central Farmacéutica S.A.
  - Manager Regulatory Affairs
  - Daniel Chaves - CEFA, Central Farmacéutica S.A.
  - Manager Logistics
Ask the Experts – Topics...

A General Discussion of GS1 DataMatrix, with a GS1 Healthcare Application Standards Focus

- Why GS1 DataMatrix in Healthcare
- Data Matrix... The Symbology
  - "GS1 DataMatrix" or "ISO/IEC Data Matrix"
- Thoughts on Structure & Quality
- Practical Application - Printing / Reading
- A Practical Application – CEFA
- Audience Q & A
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Healthcare – A need for “Unique” ID...

“Traceability is the ability to track forward the movement through specified stage(s) of the extended supply chain and trace backward the history, application or location of that which is under consideration”* ...generally using documented & recorded “unique” identification.
Healthcare – A need for “Unique” ID...

AIDC – Unique Product Identification

The goal is unambiguous identification of a specific product. From an AIDC standpoint this identification would have two (2) parts:

- The **Product Identifier** – Meant to be the identification of the “generic” product – GS1 **GTIN** enables this.
- The **Product Attribute** – Meant to be whatever “control” numbers or data a manufacturer uses in their process – GS1 **Application Identifiers** (AI’s such as lot/batch number, serial number, expiry, in any combination with a GTIN) enable this aspect.

GTIN + AI(s) = Unique Product ID
Healthcare – Data & Data Carrier needs...

- Expiry Date, Lot, and/or Serial Number
- Small space
- Direct part marking
- Additional data & variable data at high production rates
- Non-retail channels
- And more...

The Global Language of Business
Healthcare – Data & Data Carrier needs...

Note: Images shown are for illustration example only, refer to local regulations and/or the latest version of the GS1 General Specification for more detail.
Healthcare – Data need beyond GTIN...

GS1 Keys prevail... but some users need more detailed information about that specific unit

Item identifier

Expiry date

Batch number

Serial number
Healthcare – GS1 DataMatrix global...

GTIN – Global Trade Item Number
Plus attributes
• Lot number
• Expiry date
• Serial number (2016)
• In a GS1 DataMatrix

© GS1 2015
Healthcare – GS1 Data Carrier choices...

**GS1-128 & GS1 DataBar**
Prefered options if:
✓ package allows

**GS1 DataMatrix**
Prefered option if:
✓ Large amount of data in a small space
✓ Variable information at high production rates
✓ Direct part marking

**EPC/RFID**
Additional option
✓ Non-line of sight
✓ Large amount of data
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Data Carriers – Some symbology history...

Bar code symbology “evolution”...

or “revolution”...

1D “Linear” 2D “Multi Row” 2D “Matrix”
Data Carriers – Some symbology history...

- **1968-75**: 2 of 5
- **1972**: Interleaved 2 of 5
- **1973**: UPC
- **1976**: EAN

First Scan 1974
Data Carriers – Some symbology history...

1981-82 Code 128

1989 Data Matrix

1992 PDF-417

1992-99 RSS / GS1 DataBar
Data Carriers – **2D/Matrix technology**...

- Mature Technology
- Weak Vertical and Horizontal Redundancy
- “Strong” Finder Patterns
- Omnidirectional Design for Scanning
- Inherent Robust Error Detection and Error Correction
- Complex Algorithms
- Data Compaction Modes
- Structured Append
- Extended Channel Interpretation (ECI)
- Image Reverse and Color Reverse
Data Carriers – 2D/Matrix technology...

- General Components of a 2D Symbol
  - Finder Patterns
    - Robustness & Weakness
  - Data Region(s)
    - Balanced by amount of Error Detection & Correction
  - Error Correction Region(s)
    - Balanced by amount of Error Detection & Correction
Data Carriers – 2D/Matrix symbologies...

Many to choose from... are they all “the same”...

Data Matrix

QR Code

MaxiCode

Aztec Code
Data Carriers – ISO/IEC Data Matrix...

- Established 1989 by International Data Matrix
- Internationally standardized in ISO/IEC 16022
- Scaleable matrix from 9 x 9 to 49 x 49 modules
  - (Size Change w/ Data Content... in “block steps”...)
- Error Detection & Multiple Error Correction Levels
- Multiple encoding formats and macros
- More adaptable to “direct” marking (DPM)
- Primary Applications - Parts marking (Aerospace, Automotive, Semiconductor, Medical instruments), Pharmaceutical packaging, Documents
Data Carriers – ISO/IEC Data Matrix...

Direct Part Marking (DPM)

Identification & Document Tracking

Item Package & Label Marking

Packaging Verification
Data Carriers – **GS1 DataMatrix**

- ISO/IEC 16022 Data Matrix... as “**GS1 DataMatrix**”:
  - Similar to the Code 128 / GS1-128 “relationship”, an **FNC1** in the first data position signals GS1 formatted data & a **GS1 DataMatrix**
  - Is always “ECC 200” & Alpha-Numeric encodation capable
  - GS1 DataMatrix has a specific ISO/IEC Symbology Identifier
GS1 DataMatrix… Size Change w/ Data Content… in “blocks”

Symbol 1 - GTIN Only

Symbol 2 - GTIN + AI(17)

Symbol 3 - GTIN + AI(17) + AI(10) of 4 numeric & 6 alpha

Symbol 4 - GTIN + AI(17) + AI(10) of 8 numeric & 12 alpha

Symbol 5 - Symbol 4 + AI(21) of 3 numeric

Symbol 6 - Symbol 4 + AI(21) of 13 numeric & 1 alpha

Symbol 7 - Symbol 4 + AI(21) of 15 numeric & 2 alpha

Symbol 8 - Symbol 4 + AI(21) of 17 numeric & 3 alpha
Data Carriers – 2D/Matrix scanning...

Linear Scanners:
- Laser line or linear imager based
- Massive, long-term installed base
- Scans 1D / Linear and some 2D Stacked symbols

Area Image Scanners:
- Camera based
- Growing installed base in all sectors
- Scans 1D/Linear, 2D/Stacked & 2D/Matrix symbols

Camera-based bar code scanners… needed in Healthcare AND are GS1 Healthcare Leadership Team recommended!!

GS1-128 & GS1 DataBar

GS1 DataMatrix
Position – 2D Imager/Camera scanners...

Preparing members, solutions providers and end users for the future...

Get your copy at:
http://www.gs1.org/docs/healthcare/GS1_HUG_ps_Camera_Based_Scanners.pdf
Position – GS1 DataMatrix adoption...

Prepping members, solutions providers and end users for the future thru global positions...

Get your copy at:

As we see more AIDC marking on small Pharmaceutical and Medical Device products (and/or on their packaging) we will see more GS1 DataMatrix due to its ability to efficiently and securely carry more data in smaller areas, and also due to its promotion for use by the GS1 Healthcare global members. Becoming familiar with the available support materials is advised...

CHECK OUT:  http://www.gs1.org/healthcare/library
GS1 DataMatrix – technical help...

GS1 DataMatrix
An introduction and technical overview of the most advanced GS1 Application Identifiers compliant symbology

This document facilitates processes by offering detailed information on GS1 DataMatrix and its technical characteristics encoding, printing and reading. It is a repository of reference information that can support the implementation of GS1 DataMatrix in any sector, industry or country.

http://www.gs1.org/services/publications/online/
GS1 DataMatrix versus GS1 QR Code...
Reinforcing the GS1 Global Healthcare direction for

**ONE** 2D Matrix data carrier... **GS1 DataMatrix**...

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**Purpose**

The purpose of this paper is to facilitate discussions on the similarities and differences between GS1 DataMatrix and GS1 QR Code data carriers, their use in “business to consumer” (B2C) applications, and the **Global GS1 Healthcare preference for the use of GS1 DataMatrix in the healthcare sector**.

**Regulatory requirements – GS1 DataMatrix as a preferred option**

The unique identification of medicinal products is a key objective of regulations around the world. More and more regulators are requiring the use of unique identifiers to be encoded into machine-readable forms (also called data carriers). Increasingly, regulators are recommending or requiring GS1 DataMatrix as that data carrier.

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Get your copy at:

http://www.gs1.org/sites/default/files/docs/healthcare/GS1%20QR%20DM%20discussion%20paper_20140113_FINAL.pdf
A General Discussion of GS1 DataMatrix, with a GS1 Healthcare Application Standards Focus

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- **Thoughts on Structure & Quality**
- Practical Application - Printing / Reading
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- Audience Q & A
GS1 system – Bar code symbol quality...

GS1 General Specifications

ISO/IEC 15415 Information technology -- Automatic identification and data capture techniques -- Bar code print quality test specification -- Two-dimensional symbols
ISO/IEC 15426-2 Information technology -- Automatic identification and data capture techniques -- Bar code verifier conformance specification -- Part 2: Two-dimensional symbols
ISO/IEC 16022 Information technology -- International symbology specification -- Data Matrix
ISO/IEC TR 24720 Information technology -- Automatic identification and data capture techniques -- Guidelines for direct part marking (DPM)
ISO/IEC TR 29158 Information technology -- Automatic identification and data capture techniques -- Direct Part Mark (DPM) Quality Guideline

Have the right “tools” for the job, starting with proper documentation, education, training…
Symbol quality - 1D/Linear vs. 2D/Matrix...

Common Quality Parameters

- Decode / RDA
- X Dimension / Module Size
- Data Structure, Validity
- Human Readable Interpretation
- Symbol Contrast
- Modulation
- Quite Zones, as applicable

1D Only

- Bar Height
- Minimum Reflectance
- Edge Contrast
- Defects
- Decodability

2D Only

- Fixed Pattern Damage
- Axial Nonuniformity
- Grid Nonuniformity
- Unused Error Correction
- Print Growth
- Clock Track Regularity
Symbol quality – Reference decode...

GS1 DataMatrix… or not… how do you know?

Symbol decode: Jd2 01108576740020171714112010KMB11205201[GS]21CEB630078700

Whether you use a Verifier or go “more manual”… it’s all in the data… and the ISO Symbology Identifier!

ISO Symbology ID’s are Internationally agreed (ISO/IEC 15424) 3 character codes that scanner/imagers output at the beginning of a data string that tells what bar code symbology has been read. It is in the form:

] - (ASCII 93) the ID flag character
C - code (symbology) character as ISO defined
M - modifier character(s)

where:

Symbol decode: Jd1 01108576740020171714112010KMB11205201[ GS]21CEB630078700

ISO Data Matrix - (No FNC1)
Symbol quality – There is help...

Bar Code Print Quality Verifiers are available for testing 2D Matrix symbols like GS1 DataMatrix

Check the AIM Buyer's Guide for a listing of most manufacturers
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Overview – Most early adopters have been hesitant to share details as yet on implementation challenges, this can be for many reasons such avoiding operational comparisons, keeping competitive advantage, protecting an active pilot implementation project, lack of long term cost information, etc. Many times we have been told the more significant costs are in IT infrastructure changes. We are all learning...

Costs - Manufacturing? – When it comes to implementation costs anecdotal estimates have run from $50K to about $500K (or more) USD per manufacturing line for printing / scanning updates (without serial number addition). Many note that with printing software it is critical to ensure automatic inclusion of the leading Function 1 character.
Productivity? – In all cases we have heard that no one would even attempt to install systems if they were not assured that it would not negatively affect productivity.

Costs – User? – IT infrastructure changes may be the major unknown cost as it is different user to user. Scanner costs will depend on the type & use case need, however single, tethered/corded handheld “gun” type scanner imagers can cost about $250 - $350 USD per unit... from there (depending on quantities, type of unit, features, etc.) the costs can go slightly lower but also can rise into the $1000’s USD for some systems. Bar code symbol print quality verifiers can run $2000 USD and up, but are available.
Printing / Marking:

- Many existing “demand” label printers can print Data Matrix well.
- May not be the case for all “in line” printers (validity of inks, needed speeds, etc.).
- DPM brings on a whole new set of challenges.
- Beware the missing FNC1.

Printing / marking must be matched to the application use case needs... as with other bar code symbol generation.
Area Image Scanners:
- Camera / area imager based
- Growing installed base in industrial, commercial, healthcare
- Scans 1D / Linear, 2D Stacked & 2D Matrix symbols
- Competitive pricing more apparent

Camera-based bar code scanners are needed in Healthcare AND are a GS1 Healthcare Leadership Team recommendation!!
GS1 DataMatrix – Unique product ID...

For pharmaceutical & medical device...

GTIN (static data)

AI’s (variable attribute data)

...in one bar code symbol (GS1 Data Carrier)
GS1 DataMatrix – Implementation test...

- To meet the French “CIP” requirements
- Identification of the product with “Lot/Batch” & “Expiry”
- Tests already run to add Serial Number and a country specific NHRN (National Healthcare Reimburse Number)
- Running at “normal” line speeds - 300 cartons/minute, 45m/min
- Print sizes – 300 DPI, Module size of 345µm, Wolke m600A, Universal Black UB 7482 HP Inkjet cartridge
- Read & verify – On and off-line camera based & verifier systems
GS1 DataMatrix – Implementation test...

- Tests have also been run to add Serial Number, a country specific NHRN (National Healthcare Reimbursement Number) and a URL
- Run at “normal” line speed - 300 cartons/minute, 45m/min
- Again print sizes – 300 DPI, Module size of 345μm, Wolke m600A, Universal Black UB 7482 HP Inkjet cartridge
- Data: 74 Alphanumeric characters (GTIN, Expiry, Lot/Batch, Serial, NHRN, URL)
- Symbol Size: 32x32 matrix, physical size of 11x11mm
- 94% of run achieved an ISO/IEC 15415 Grade of “B” - 3.0/08/660 (with the remainder a “C” grade)
**Technical challenges**

Limited space means small carriers + high data density
- e.g. DMX size: 6x6 - 10x10 mm
- Production/packaging line speed
- Packaging materials
- Printing technology
- Inks

**Quality challenges**

- Quality verification (ISO)
- Translucent paper
- Impact on contrast

ISO required = C (1.5 – 2.5)
Only 2D DataMatrix possible at present
  • Consistent reading... min. area of 3x3mm needed
Size of surgical instruments extremely limited
  • Not all can be encoded (size, material, etc.)
Implants (!?!?)
  • Size, corrosion, bio-compatibility, warranty issues, etc.
  • High-quality DPM technology required (laser, dot peen, etc.)
H.E.L.P. Acetate Buffer pH 4.85

CA/GB Sodium acetate buffer solution for use ONLY with extracorporeal H.E.L.P. apheresis

Caution: Federal law (U.S.) restricts this device to sale by or on order of a physician.

CA/FR: Solution tampon d'acétate de sodium destinée à une utilisation UNIQUEMENT avec apheresèse H.E.L.P. extracorporelle

sterile / stérile

Endotoxin-FREE and non-pyrogenic/ Ne contient pas d'endotoxines et non-pyrogène

SINGLE USE only, discard unused portion. À USAGE UNIQUE seulement, jeter la portion inutilisée

DO NOT add any additives/ NE PAS ajouter d'additifs

NOT for intravenous infusion/ NON adapté à une perfusion intraveineuse

ONLY USE if solution is clear and colourless/ UTILISER UNIQUEMENT si la solution est limpide et incolore

ONLY USE if container and connections are not damaged/ Ne pas utiliser si l'emballage et les connections sont endommagées

Keep out of the reach of children/ Conserver la solution hors de portée des enfants

Sodium acetate x 3 H₂O 27.22 g/L
Acetic acid 90% 6.62 g/L

DIN: 02573807

US FDA UDI required

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- **A Practical Application – CEFA**
- Audience Q & A
GS1 Healthcare Datamatrix
A successful case

Dr. Bivian Pereira A.
Regulatory Affairs Manager

Ing. Daniel Chaves
Logistics Manager

April, 2015
INTRODUCTION
About CEFA

REGULATORY ASPECTS
Traceability Definition
International and Local Regulations

LOGISTIC ASPECTS
Process, how do we do?
Implementation Barriers
Additional Benefits
Next Steps

CLOSURE AND QUESTIONS
INTRODUCTION

Dr. Bivian Pereira A.
Regulatory Affairs Manager
REGULATORY ASPECTS
Dr. Bivian Pereira A.
Regulatory Affairs Manager
Traceability is all the processes carried out through the supply chain that determines the various steps by which a product goes from its source to its current location.
Costa Rica Health Authority:

37700-S Regulation: Good Distribution Practices for Pharmaceutical Products

‘There must be product traceability through the chain of production, storage and distribution. This is a shared responsibility between all parties involved.

Procedures should be in place to ensure products documentary traceability by the pharmaceutical distributor from reception through commercialization that facilitates, if needed, recalls and product research if counterfeit suspicion or any other request by Health authorities.

To be approved: National System of Techno-Vigilance Regulation

‘Implement a tracking system that allows medical devices traceability through commercialization and uses. This traceability system must be available to Health Authority if required.
**37700-S REGULATION**

**REQUIREMENTS:**

- Quality Control System
- Qualified personnel
- Pharmaceutical regency responsibilities
- Documentation
- Traceability
- Facilities
- Storages Areas
- Handling and pharmaceutical products disposal
- Labeling
- Reception and release
- Distribution
- Transportation
- Claims or complaints
- Recall
- Returns
- Counterfeit
- Contracts
- Audits or self-inspections
- Control and verification

We are constantly subjected to audits from Health Authority and our suppliers (Pharmaceutical Companies)
A voluntary procedure or required by Health Authorities, by which a manufacturing batch is recalled.
TRACEABILITY PURPOSE: RECALL

Traceability has different meanings and purposes depending on who is the protagonist of the recall:

- Health Authorities: allows them to quickly immobilize unsafe products and, if necessary, recall them from the market.

- Pharmaceutical Company: allows them to quickly locate a defect batch, so that the rest of the production is not affected. Also, allows to deliver products to specific target markets, which guarantee origin and history.

- Pharmaceutical Distributors and Drugstores: allows them that if an alert about a pharmaceutical products occurred, controls will work properly to ensure patient safety.

Cefa has conducted about 30 recalls of pharmaceutical products (class II and III) in recent years effectively, in compliance with the requirements of our pharmaceutical suppliers and Health Authorities.
Refers to the product manufactured in a deliberately and fraudulently way with respect to its identity or origin. They may include products with the right ingredients or with the wrong ingredients, without active ingredients, with insufficient active ingredients or whose packaging and its labeling or accompanying information contains false, ambiguous or misleading information about their identity, composition, qualities, usefulness or safety.

37700- S Regulation:
Good Distribution Practices for Pharmaceutical Products
Situation in our country

Costa Rica

Policía allana vivienda distribuidora de 'Cofal' falso

POR KRISIA CHACÓN / krissie.chacon@nacion.com · Actualizado el 7 de abril de 2015 a 10:56 a.m.

En Desamparados comercializaban Cofal falso proveniente de Centroamérica

Invirtieron más de $3 millones en la producción de Lipitor falso

Una inversión de capital por más de $3 millones ($1.395 millones) sirvió para financiar la producción de medicamento Lipitor que se falsificó en Costa Rica.

Fuente: La Nación

Imagen cortesía

Durante los últimos cinco meses, las acciones se concentraban en dar con lo que sucedía en una casa ubicada en San Rafael Abajo de Desamparados, donde funciona la distribuidora.

Fuente: crhoy.com 7/04/2015
Through to traceability, you can clearly identify the location of the drug in a pharmaceutical company, distributor or drugstore and it is relatively easy to establish mechanisms against counterfeiting:

- Only pharmaceutical companies legally established can produce drugs. From this point, the traceability system can controlled step-by-step the drugs up to drugstores.

- Pharmaceutical distributor must only purchase from companies that meet the above requirements and sell just to legally established drugstores.

- Drugstores must not accept drugs outside of a recognize traceability system.

Next step:

Give consumers the option of consulting traceability of a particular unit to ensure the reliable origin and supply chain.
CONCLUSIONS

✓ Comply with international and local regulations.

✓ Comply with the requirements of our suppliers (pharmaceutical companies).

✓ Allow effective control and regulatory requirements in case of a recall of any pharmaceutical product due to quality, safety or efficacy.

✓ Validate an original product and prevent counterfeiting and smuggling.

✓ Supply chain transparency.

✓ Increase patient safety.
LOGISTICS ASPECTS

Ing. Daniel Chaves
Logistics Manager
Began implementation of traceability system in 2010 with GS1 Costa Rica Assistance

DATAMATRIX four elements chosen by CEFA:
- GTIN
- Batch Number
- Expiry Date
- Serial Number

Started by labeling items as they came, and simultaneously adding labels to low turnover products in Distribution Center

100% of shipments under GS1 DATAMATRIX Traceability by mid 2010.
INBOUND PROCESS

RECEIVING DOCKS
- Check: one batch per box
- Each box is Labeled with LPN

PRINTING STATION
- Scann LPN info and Print DATAMATRIX labels

WORK TABLES
- Labeling by hand

QUALITY ASSURANCE
- Batch Inspection sampling

RELEASING
- Product release for sell by Pharmaceutical Regent
OUTBOUND PROCESS

PICKING
By Radiofrequency Hand Held

PACKING STATION
Scann each DATAMATRIX

PACKING STATION
Serial numbers are associated with each order

PACKING STATION
Invoice printed with batch number & expiration date

In Case of Recall

LOGISTICS
Batch number deliveries report generated

CALL CENTER
Contact customers and coordinate returns
Service time

Dock-to-stock time increase due to labeling process:

✓ Simultaneous Labeling with product check-in
✓ Managing priorities with commercial department
✓ Increase of safety stocks was not necessary
✓ Minimum impact on time in availability of stock
Supplier Collaboration

Suppliers support was vital for the success of the project:

- Involving Suppliers in the traceability concept
- “Reception Guide for CEFA Suppliers” was developed and shared
- Comply by suppliers of the Reception Guide was key to reduce inbound delays and product rejection
- Improving suppliers Fill Rate
High volume in small batches labeling processes

Inbound: to label between 500,000 and 800,000 units of 1,800 SKUs per month

- Average: between 300 and 400 units per SKU
- Automatic labeling or direct inkjet printing is not possible
- CEFA Distribution Center contracted a Value Added Service Supplier.
- An skilled Operator can label 6,000 units per shift
- Manual task is outsourced, supervision and Quality Control are CEFA´s responsibility
Initial Investment

Change scanners and acquire 2D printers.

- Scanners were replaced on packing stations
- Agreement with Label Supplier included the printers, its maintenance and replacement
Cost Allocation

Who should assume the cost of DATAMATRIX labeling?

✓ The Commercial Unit? Since it was a sales requirement
✓ Or Regulatory Unit? Since it was a traceability requirement
✓ Or a Logistic Unit? Since it was an operational activity

✓ Cost of applying label can vary depending on product size and type.

✓ An average cost related to DATAMATRIX system is added to product cost.

✓ DATAMATRIX cost is insignificant compared to inventory value.
Expiration date control on deliveries

To deliver product with short shelf life could upset customers

- DATAMATRIX system allows to set up a minimum shelf life parameter to avoid shipping products not accept by costumers.

- Help to detect operating errors in warehouse locations

- To ensure that only products with sufficient shelf life go to market.

- Increases distributor credibility, prevents customer displeasures, and reduces returns
Financial benefits on product returns

Marketing conditions are constantly changing: price, discounts, offers.

- Normally in returns is difficult to associate the product with the invoice price and conditions at delivery.

- With DATAMATRIX, is possible to identify the marketing conditions given at purchase moment. Therefore CEFA can recognize the exact amount to each customer when product is return.

- Avoid product returns sold by another Distributor.

- Identify informal supply channels.
Customer Claims

24 hours policy to submit any claims for missing or damage product. This policy allows more efficient use of distribution resources.

- DATAMATRIX is an accurate tool for verifying shipment dates and accept or reject drugstores claims.
- Reinforces credibility with customers and prevents frauds.
- Delivery process at packaging station is video taped. Using DATAMATRIX scanning is possible to find the specific time when an order was prepared.
Real Case: Drugstore in Guanacaste, 250 km from our Warehouse

✓ A consumer was very upset because they sold a cough syrup bottle labeled “Sample, Not for Sale”.

✓ A DATAMATRIX photo was sent by WhatsApp.

✓ Batch number was identified and Quality Assurance inspected the remaining stock, finding bottles with “sample text” printed mixed with regular product.

✓ Pharmaceutical company was informed and others drugstores were contacted to inspect the batch received. Others non-conforming units were recovered fast and easy.
Cooperating with Authorities

Cooperation with Authorities in investigating robberies at drugstores and tracking controlled products.

DATAMATRIX can provide evidence to support an robbery indictment:
- Define what Drugstore purchase the products
- Delivery date
- Cost of the products

Another traceability case:
- Morphine inj. found in a illegal drug confiscation
- CEFA tracked that morphine inj. found was sold to a drugstore that closed several months ago
At Pharmaceutical Market

- A Private Hospital is developing a project to record the product batch number administered to a patient.

- Using supplier DATAMATRIX a drugstore chain is evaluating alternatives to provide traceability from their distribution center to drugstores at POS.

Our own pharmacy chain “Fischel”

- Traceability to consumer: Through our CRM and DATAMATRIX scan at the purchase moment.

- Inventory management tools: Stock expiration date control and return to Distribution Center.
In CEFA, we deeply believe in the innovation supported by technology, best practices and the best talent to provide health solutions to final consumer.

Our experience has been very positive. It was easy to overcome the obstacles that arose in the DATAMATRIX implementation.

Fulfilling traceability requirements, we obtained many additional benefits. With DATAMATRIX we have taken our supply chain to a higher level of reliability and develop collaborative relationships with suppliers and customers.

Traceability carried out by world standards, helps to assure pharma products that meet the quality, safety and effectiveness required.

Traceability is a growing need to preserve the security of patients; and it is essential to implement a valid and satisfactory solution to comply with all regulations required.
THANK YOU QUESTIONS
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Audience Q & A
And now... audience questions...
GS1 DataMatrix & Healthcare...

Find information & support at GS1 Global Healthcare on the web...

Check out: http://www.gs1.org/healthcare
AIDC in Healthcare

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