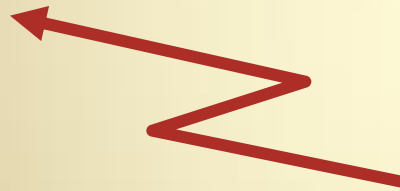
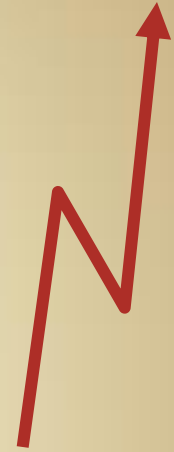


# Track & Trace Scenario and Demonstration



By Cryptocodex Ltd



# Event No. 1

900 packages of Amlow 5 mg medicine are being manufactured

## Product details:

Medicine Code:	72011 Amlow Pills
Dosage:	5 mg
Production Date:	28-02-2012
Expiration Date:	31-12-2016
Manufacturing Plant:	103
Country of Destination:	853 China
Sub-Area Destination:	137 Shanghai
Batch Number:	94522



A serial number is assigned to each package: 853001 to 853900  
barcode is attached to each pack,

In which the product data is embedded, **ENCRYPTED**



# Product Tracking Requirements

- In the past, tracking complete shipments fulfilled the manufacturers' and the authorities requirements.
- Increasing processing capabilities, combined with regulatory requirements, a necessity emerged for tracking each and every package of goods in the distribution chain.
- Databases, now holding vast volumes of data, collapse as they cannot maintain so many records.
- Also, performance of huge databases becomes very slow and impractical for online use.
- Counter-Fight solves these problems (and more) in a very simple manner: One record is kept in the database, holding relevant information for a large number of products.

# Two systems are compared:

The Randomized system

Database dependent – No Encryption

- A82ZYIU73B
- V3KZJ73VEQ
- PEAOIUHX8R
- 2QVIMK0LL7
- W1RGN5B0QB
- XUFQ720F1U

**Counter-Fight encrypted label**

Serial No. 853001 – 853900 assigned

853001  
853002  
853003  
...  
...  
853900

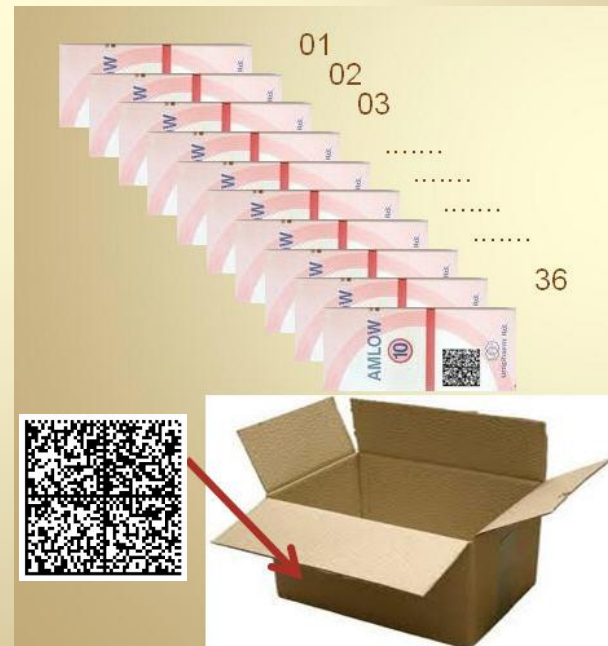
# Event No. 2

The 900 Amlow Packages are packed in Cartons.  
36 Packages are packed in each Carton.  
Cartons are assigned numbers: 1 to 25

## The EVENTS Log

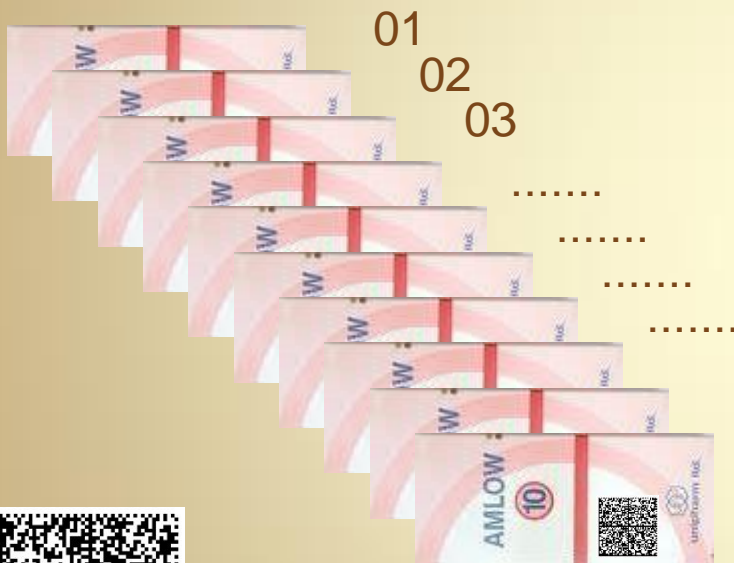
Site	Carton No.		Package No.	
	<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>
Production Plant	1	25	853001	853900

A 2D-Barcode is assigned to each carton, containing the carton number and the individual packs serial numbers



# Production line

- Individual packages encrypted 2D-Barcode
- Carton Track&Trace 2D-Barcode



A82ZYIU73B  
 V3KZJ73VEQ  
 PEAUIUHX8R  
 2QVIMK0LL7  
 W1RGN5B0QB  
 QGDV6SEE1I  
 1T28K392F2  
 .....

**Each package must be individually registered !!!**



## ON-Carton Marking

Counter-Fight	Random marking
One Record	36 Records
853001-853036	Each and Every Package

# Distribution Flow



X4 STOLEN

**GREEN Truck #4**



**Warehouse #2**

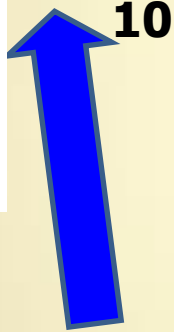
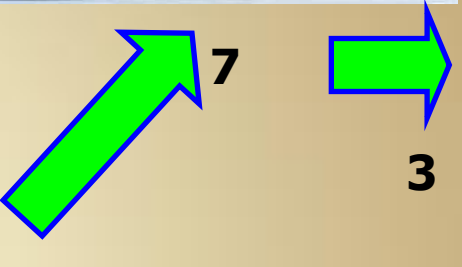
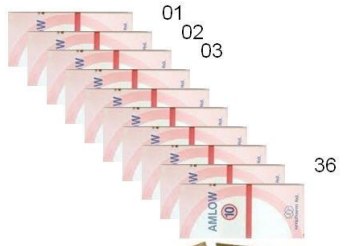


**Warehouse #3**

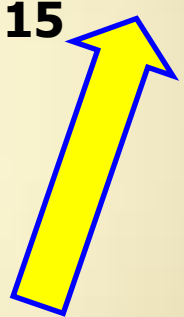


## Production line

- Individual packages encrypted 2D-Barcode
- Carton Track&Trace 2D-Barcode



**BLUE Truck #2**



**YELLOW Truck #3**



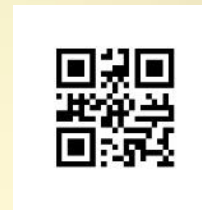
**RED Truck #1**



**Warehouse #1**

# Event No. 3

- 25 Cartons are loaded on Red Truck #1
- Truck is driven to Warehouse #1
- 25 Cartons are unloaded from Red Truck #1 and stored in Warehouse #1



## The EVENTS Log

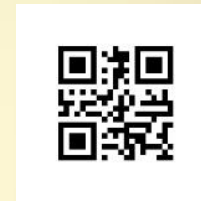
Site	Carton No.		Package No.	
	From	To	From	To
Production Plant	1	25	853001	853900
RED Truck #1	1	25	853001	853900
Warehouse #1	1	25	853001	853900



# Event No. 4



- 10 Cartons, numbered 1 to 10, are loaded on Blue Truck #2.
- Truck is driven to Warehouse #2
- 10 Cartons, numbered 1 to 10, are unloaded from Blue Truck #2 and stored in Warehouse #2



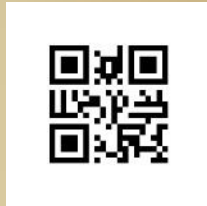
## The EVENTS Log

Site	Carton No.		Package No.	
	From	To	From	To
Production Plant	1	25	853001	853900
RED Truck #1	1	25	853001	853900
BLUE Truck #2	1	10	853001	853360
Warehouse #2	1	10	853001	853360

# Event No. 5



- 15 Cartons, numbered 11 to 25, are loaded on Yellow Truck #3.
- Truck is driven to Warehouse #3
- 15 Cartons, numbered 11 to 25, are unloaded from Yellow Truck #3 and stored in Warehouse #3

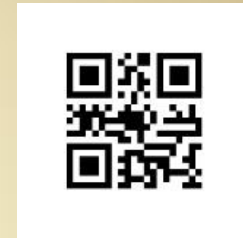


## The EVENTS Log

Site	Carton No.		Package No.	
	From	To	From	To
Production Plant	1	25	853001	853900
RED Truck #1	1	25	853001	853900
BLUE Truck #2	1	10	853001	853360
Warehouse #2	1	10	853001	853360
YELLOW Truck #3	11	25	853361	853900
Warehouse #3	11	25	853361	853900

# Event No. 6

- 7 Cartons, numbered 11 to 17, are loaded on Green Truck #4.
- Truck is driven to Warehouse #4



## The EVENTS Log

Site	Carton No.		Package No.	
	From	To	From	To
Production Plant	1	25	853001	853900
RED Truck #1	1	25	853001	853900
BLUE Truck #2	1	10	853001	853360
Warehouse #2	1	10	853001	853360
YELLOW Truck #3	11	25	853361	853900
Warehouse #3	11	25	853361	853900
GREEN Truck #4	11	17	853361	853612
Warehouse #3	18	25	853613	853900

after loading Green Truck #4

# Event No. 7

- Underway, 4 Cartons, numbered 11 to 14, get **STOLEN** from Green Truck #4
- 3 Cartons, numbered 15 to 17 remain on Green Truck #4

## The EVENTS Log

Site	Carton No.		Package No.	
	From	To	From	To
Production Plant	1	25	853001	853900
RED Truck #1	1	25	853001	853900
BLUE Truck #2	1	10	853001	853360
Warehouse #2	1	10	853001	853360
YELLOW Truck #3	11	25	853361	853900
Warehouse #3	11	25	853361	853900
GREEN Truck #4	11	17	853361	853612
Warehouse #3	18	25	853613	853900
after loading Green Truck #4				
BLACK LIST	11	14	853361	853504
<b>STOLEN</b> from GREEN Truck #4				



# Event No. 8

- 3 Cartons, numbered 15 to 17, are unloaded from Green Truck #3 and stored in Warehouse #4

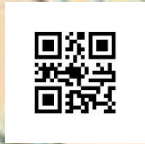
## The EVENTS Log

<u>Site</u>	<u>Carton No.</u>		<u>Package No.</u>		<u>Random Marking</u>		<u>Counter-Fight</u>	
	<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Added</u>	<u>Total</u>	<u>Added</u>	<u>Total</u>
Production Plant	1	25	853001	853900	900	900	1	1
RED Truck #1	1	25	853001	853900	900	1800	1	2
Warehouse #1	1	25	853001	853900	900	2700	1	3
BLUE Truck #2	1	10	853001	853360	360	3060	1	4
Warehouse #2	1	10	853001	853360	360	3420	1	5
YELLOW Truck #3	11	25	853361	853900	540	3960	1	6
Warehouse #3	11	25	853361	853900	540	4500	1	7
GREEN Truck #4	11	17	853361	853612	252	4752	1	8
Warehouse #3	18	25	853613	853900	288	5040	1	9
after loading Green Truck #4								
BLACK LIST	11	14	853361	853504	144	5184	1	10
STOLEN from GREEN Truck #4								
Warehouse #4	15	17	853577	853612	108	5292	1	11



**X4 Cartons Stolen**

# SHIPMENT TRACKING



# Quantity on Site

## (Packs and Cartons)

Cartons: 11 – 14  
Packs: 853361 - 853504



X4

### GREEN Truck #4



Cartons: 1 – 10  
Packs: 853001 - 853360

### Warehouse #2



Cartons: 18 – 25  
Packs: 853613 - 853900

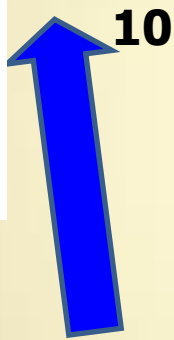
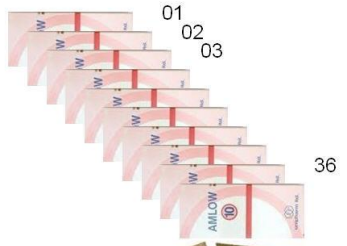
### Warehouse #3



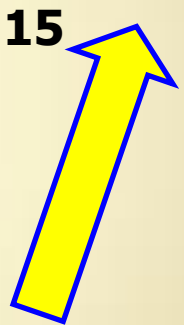
Cartons: 11 – 17  
Packs: 853361 - 853612

### Production line

- Individual packages encrypted 2D-Barcode
- Carton Track&Trace 2D-Barcode



### BLUE Truck #2



### YELLOW Truck #3



Cartons: 11 – 25  
Packs: 853361 - 853900

### RED Truck #1



25



### Warehouse #1

Cartons: 1 – 25  
Packs: 853001 – 853900  
All packs and cartons dispatched  
Stock left: Zero

# Self Experience

Read the barcodes, trace location



Pack: 853001

Carton: 01

Warehouse #2



Pack: 853361

Carton: 11



Pack: 853505

Carton: 15

Warehouse #4



Pack: 853613

Carton: 18

Warehouse #3





For further details please contact:

**Giora Egosi — B.Sc.E.E**

Cellular: 972-52-3997131

Cryptocodex.ltd

Website: [www.cryptocodex.com](http://www.cryptocodex.com)

email: [G@cryptocodex.com](mailto:G@cryptocodex.com)

