

DETECTING FAKE PRODUCTS



CryptoCodex Ltd.



PEOPLE WILL COUNTERFEIT ANY PRODUCT...

Just For Money...



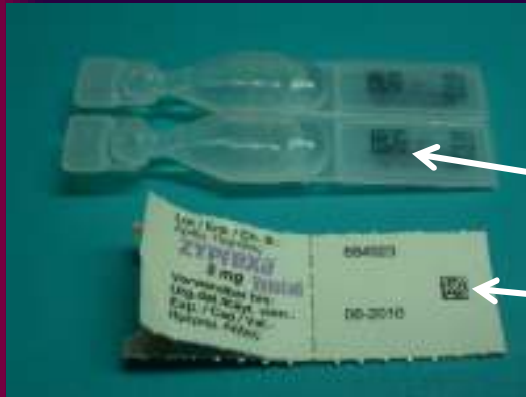
The Solution

- Mark each product by a unique, non-reproducible, method
- Have a thorough stream of product I.Ds flow back to the original manufacturer
- Encourage the public to authenticate the products they have purchased
- Track fake products and identify their distributors and source



The Market

Leading manufacturers already started using the 2-D barcode technique:



Colgate

Eye Drops

Pfizer not only Viagra...



Soon all products will utilize the protection:

From consumer products... to avionics spare parts



Don't worry, it will take-off...



THE TOOLS...



The Encryption Technique

- The group has developed a unique encryption algorithm
 - The algorithm is '**CHAOTIC**', non-mathematical
 - The KEY is a **PHR (Pure Human Random)** type
- The resulting encryption is of extreme strength
- Experts attempts to 'break' it - **failed**
- The technique was registered as an international patent, presently at its pending stage

The 'data' in the bottle is encrypted

Becomes meaningful only to the key owner.

Data size is maintained.

The only technique to fit on a barcode



The BARCODE Technology

- The Barcode Technology is widely used in industrial and commercial applications
- Label printing costs are negligible
- Scanning and reading hardware is reasonably priced
- A 2-D barcode can maintain hundreds of characters



Utilization of Barcodes



- Unlike standard barcoded products for cash register sales, each package of the product to be protected, will bear a **UNIQUE** barcode label. Thus, two identical labels will never coexist
- **The Cryptocodex technique is the only one to maintain low data size to fit a barcode label**



Example

The following, **meaningful**, data:

200701068222250158780670717366

The string holds the following data:

Date	8 digits
Plant ID	2 digits
Batch	4 digits
Country Code	2 digits
QA	4 digits
Serial	10 digits



Turns into an output string:

070A07030301060E0E020A07000D0D060A06070F020A020808000A0E0F08



Inspection



- Have the manufacturer inspectors, and/or the authorities representatives, collect products I.D. data and transmit it (via encrypted Internet messages) to an authentication center(s)
- Make the public become your 'million eyes'



Specialized Inspectors



- Inspectors in the field, equipped with hand-held terminals and barcode scanners, accumulate data at product point-of-sale
- Inspection can take place anywhere along the distribution or customer-service chain
- Data is collected on a 'Blind' basis
- On a daily basis, data is sent to the manufacturer's center, via the Internet
- Data is validated and frauds are detected
- A fraud is associated with the site where data was collected



'Million Eyes'

- A simpler code may be printed on the product packaging (not necessarily identical to the barcode content)
- The simple code resembles software activation process (easy to be typed)

e.g. XVZ132 - 564AWR – 947208 - AWB689 - BBS412

- Customers are encouraged to enter a WebSite and type-in the simple code
- Customers are offered benefits, should they lead to a counterfeit source



Imitators options

- Imitators cannot reproduce authentic barcode I.D.s

Therefore:

1. They can print a meaningless barcode:

Fraud detection is immediate, by the first read product

Or:

2. They can copy and print one authentic label a million times

They increase by million fold the chances of fraud detection, as the second identical label will disclose the fake

Imitators life will become very difficult,

if country information is contained in the encrypted data and cross checked with data received from the field.

Not mentioning the 'GREY MARKET' ... yet.



The Authentication Center

- To protect the encryption mechanism and key, the authentication system should be kept in a well protected site
- No need to have access to a database, the product bears all required data
- Setting multiple authentication centers is feasible
- The process resembles drawing money from ATMs
(Automatic Teller Machines)



Some added values...

- Should a robbery occur
(warehouse burglary, stolen truck, etc.)
the **unique product marking**
serves as an identification tool, by assigning all
stolen I.D.s to a worldwide black list
- When the stolen goods return to the market,
Inspectors' or Customers' data entry will disclose
the stolen product and assist in tracing its sources



'Grey Market' Prevention

Including destination country in the encrypted barcode:

'Under the counter' goods shifting (between countries)

is easily detected by the manufacturer,
thus exposing any breaching of manufacturer's policies



NEW? Refurbished? ...



Budgets

- **Negligible costs are involved in printing a 2-D Barcode label**
- **Adding more than one label to the product should be considered, in order to increase protection**
- **Scanning hardware is reasonably priced**

Day-to-day costs involve:

- **Initial organizational setup**
- **First time label preparation**
- **Pay-by-Use, per product verification**

