



A Total Solution for Information and Security Technology

商品信息安全技術解決方案

CHAC

China Hi-Tech Anti-Counterfeit Group Ltd.
中國高新防偽技術集團有限公司





Outline 內容

- ❑ Counterfeit news on pharmaceutical and health care products
藥品及保健產品假冒新聞
- ❑ Current anti-counterfeit technologies on pharmaceutical and health care products
市場上藥品及保健產品之防偽技術
- ❑ Drawbacks of current anti-counterfeit technologies
市場上防偽技術的缺點
- ❑ Our breakthrough anti-counterfeit printing technology: *Nano ATE ink*
納米雙層雙色抗擦墨 - 突破性的防偽打印技術
- ❑ Our Total Solution for anti-counterfeit in pharmaceutical and health care products
藥品及保健食品全方位防偽解決方案

部份假中成藥幾可亂真

資料來自：蘋果日報新聞 2010年12月28日

要聞港聞 2010年12月28日 部份假中成藥幾可亂真

部份假中成藥幾可亂真

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【本報訊】海關指出，部份假藥偽冒水平高超，尤其是中成藥，個別包裝幾可亂真，一般市民難憑包裝辨別真假，提醒市民宜先上網查核藥物防偽資料，並光顧有信譽的藥房，如有疑問，可向藥廠或代理查詢。

海關版權及商標調查〈行動〉課監督連順賢指出，部份中成藥包裝較簡單，易被假冒，「唔似得西藥咁，有晒防偽標籤，又可以上網查證批次編號。」

宜先上網查防偽資料

海關檢獲的假中成藥中，部份由包裝至藥物外表都與真貨非常相似，「除非你拎住真貨小心比較，先至分辨到。」而且假藥售價一般不會較真貨便宜很多，「最多平一成，又或者多買先至有較大折扣，售價唔會相差好大，以免被懷疑係假藥。」

他提醒市民買藥時，宜事先上網查核藥物防偽資料，並光顧有信譽的店舖，「尤其第一次買某隻藥物，更加要小心，仲要記得攞單據，萬一有咩事，都可以追究調查。」



內地製假保健品黑工廠

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資料來自：都市日報 2012年2月6日



www.metrohk.com.hk
2012-02-06

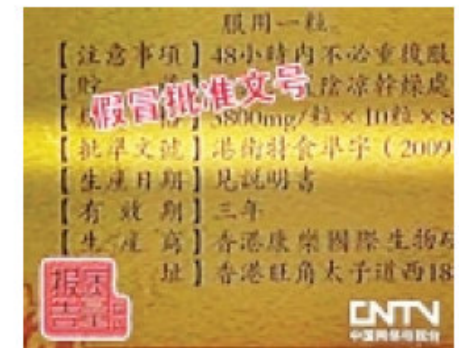
內地製假水平愈來愈高，除早前被查出的假酒、假雞蛋、假羊肉，近日內地工商在海南查獲一個假保健品黑工廠，並檢獲500萬粒膠囊。為使消費者感覺有效果，製假商更在男性保健品內加入「偉哥」。該假工廠製造的產品，更標註在本港生產，並寫有假香港公司和地址以及一個假本港衛生署批准文號來蒙騙消費者。

央視《每周質量報告》昨日報道，海南近日摧毀製售假冒保健品團夥，抓獲造假疑犯20人。警方表示，他們生產的假保健品銷往13個省市，涉案金額逾8千萬人民幣。該團夥在一個滿是塵土的房間內製「帝皇丸」、「深海魚油」、「補腦液」等假保健品。

警方稱，該團夥生產所用原材料無中藥成分，均為生粉做成，但這些產品卻聲稱「包治百病」、「替代藥物」以及「功能齊全」。一名在該製假作坊內工作的女工透露，她與另外5名工人每日將製造好的丸劑裝入包裝精美的盒子，而每日要裝30斤。



假藥丸堆積如山。互聯網圖片



假港府衛生署批准文號。互聯網圖片

假藥外文包裝充水貨

資料來自：東方日報新聞 2013年1月2日 及 香港海關



昔日東方 返回今日 電子報 即時新聞 東方新版意見箱

2013年1月2日 (三)

假藥外文包裝充水貨

上一則 下一則

假藥外文包裝充水貨

市民購買成藥要小心假貨，海關過去一年在市面檢獲種類繁多的假藥，廣為人識的整腸丸、活絡油以至「偉哥」都有。要分真假，雷射標籤、包裝盒印刷質素等都可以是線索，但亦有破綻不顯著，更重要是每批假藥的包裝都可能改變，「今次冇雷射標籤，下次咪加番落去」，更有不法商人以外文印製包裝盒訛稱「水貨」呃人，消費者防不勝防。



海關破獲偽冒藥物案件數字

	2012年1-11月	2011年1-11月
破獲的整體偽冒商標案件	483宗	578宗
偽冒藥物案 (14宗出入口14宗本地藥房)	28宗	26宗 (11宗出入口15宗本地藥房)
假藥案佔整體偽冒商標案比例	5.8%	4.5%
檢獲假藥總值	\$227萬	\$820萬

資料來源：香港海關

美國的GSK產品也有假冒



Consumers | Healthcare p



About us

Products

Careers

Our stories



Media

Press releases

Press kits

Infographics

Media contacts

Corporate reporting

Social media

Image and video library

Home > Media > Press releases > GSK reports alli® product tampering, ale...

GSK reports alli® product tampering, alerts consumers to unknown product in alli® packages

[Had Enough With Your Neighbors? These 19 Houses Are The Perfect Solution For You! \(Buzzwok\)](#)

26 March 2014

(Moon Township, PA) - March 26, 2014 —

GlaxoSmithKline (GSK) is alerting consumers that some bottles of its alli® over-the-counter weight loss medication have been tampered with. Consumer safety is GSK's primary concern. We have initiated an investigation and are working with the Food and Drug Administration.

<http://us.gsk.com/en-us/media/press-releases/2014/gsk-reports-alli-product-tampering-alerts-consumers-to-unknown-product-in-alli-packages/>

怎樣分辨假冒產品？



- The outer carton may look authentic
包裝外觀看似假的
- The bottle may contain a range of tablets and capsules of various shapes and colors
瓶子裏可能含有不同顏色形狀的藥丸和膠囊
- The bottle may not have a label
樽身可能沒有標籤
- The bottle's tamper evident seal may not be intact, not be made of foil and/or not have the authentic alli® wording: "Sealed for your Protection."
瓶身密封可能不好，封口膜沒有alli®字眼
- The lot numbers and expiration dates on the bottle do not match the lot number and expiration date on the outer carton
樽身批號和過期日可能跟外包裝的不一



Drawbacks of Current Anti-counterfeit Technologies

市場上防偽技術的缺點

- 1. Difficult to differentiate real products from counterfeit ones**
很難分辨真偽貨品
- 2. Not tamper-proof and easy to counterfeit**
容易被竄改和假冒
- 3. Passive anti-counterfeit technology**
被動式的防偽技術



Active Anti-Counterfeiting Technology 主動式的防偽技術



2D Datamatrix on Drug Pill 二維碼藥丸

資料來自：**都市日報** 2012年2月6日

德國在藥丸方面發展了二維碼技術，目的在杜絕偽冒藥品危害患者及消費者：

德研發新藥物塗層防偽冒

【記者林靜儀報道】本港七成藥物是沒有任何包裝的白色藥丸，欠缺防偽特徵，容易遭偽冒。有德國化工廠花十年時間研發新的藥物塗層物料，可調製成不同顏色，日後的藥物可能變成七彩繽紛，方便病人辨認，藥廠更可在新塗層上印上防偽條碼，只須用解碼器掃描一下藥物，即可分辨真假，估計首款採用新塗層的藥物最快明年在港推出。



**2D datamatrix
on drug pill
二維碼藥物**

Apps for Anti-counterfeiting of Drug Products

藥品防偽手機應用程式

台灣亦有類似手機應用程式，透過條碼掃描或查詢序號方便消費者查詢防偽藥品：

Download it from Playstore



資料來自：<https://play.google.com/store/apps/details?id=tw.com.pfizer&hl=zh-TW>

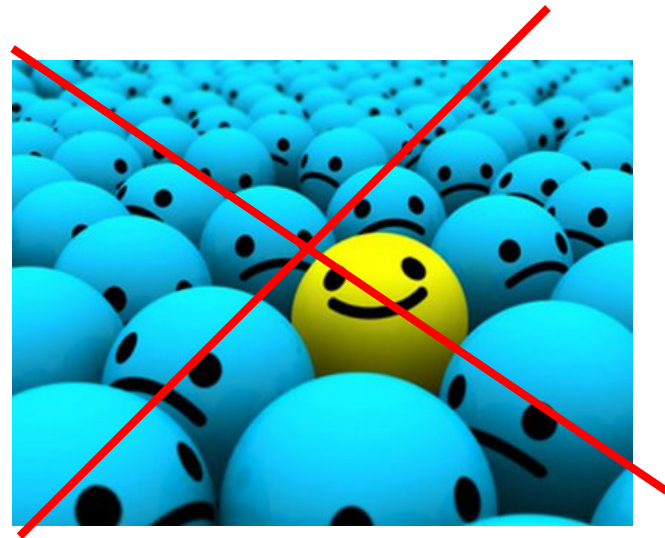
Drawbacks of Current Anti-counterfeit Technologies

市場上防偽技術的缺點

High cost
防偽技術成本高



**No security uniqueness
(each packaging)**
沒有防偽獨特性
(每件產品)





Our Breakthrough Anti-Counterfeit Technology

Nano Anti-erasing (ATE) ink

**我們突破性的防偽打印技術
納米雙層雙色抗擦墨**



Current Technical Challenge

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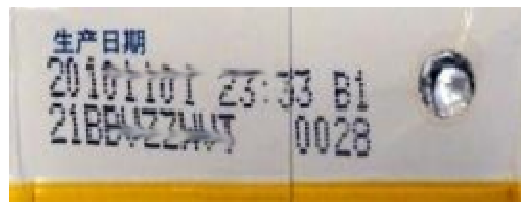
There is a long standing problem for **printing information (e.g., expiration date, lot number, manufacturing location)** on plastic substrates

打印信息在膠面一直存在的問題

PE surface



Removable by
hand rubbing
可被手抹掉



Removable with
solvent
可被溶劑清除



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University-industry
Collaboration
產學研



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

- **New ink development**
研發新型墨水



Partnership
合作伙伴

LEIBINGER
INK-JET

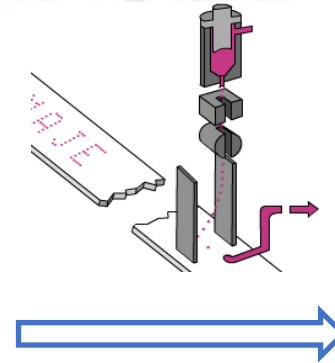


- **Printer customization**
噴碼機調整
- **Parameter optimization**
參數優化
- **Interface and program optimization**
介面和程式優化





Double-Layer-Double-Color Printing (DLDC) Printing Technology



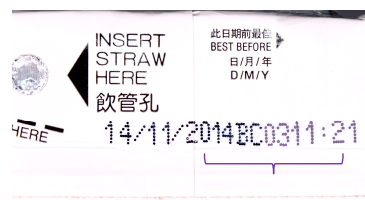
黑色編碼

用溶劑移除表層編碼

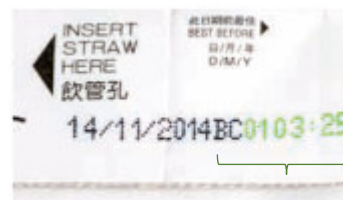
Anti-Counterfeit Effects 防偽效果



Blue 藍色
inner layered print



Purple 紫色
inner layered print



Green 綠色
inner layered print



Space Grey 灰色
inner layered print

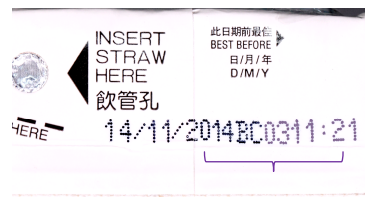
Uniqueness of Double Layer Double Printing Technology

雙重雙色打印技術特點

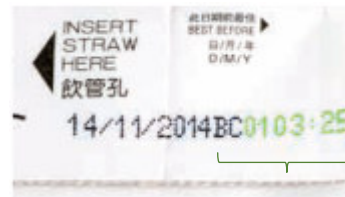
- Irremovable inner layer print, providing product traceability
不能塗改的底印，提供產品可追溯性
- Different colors of inner layer print, providing product uniqueness
多種底印顏色，提供產品獨特性
- Double layer double color effect, thus allowing consumers to detect tampered goods
雙層雙色技術，可讓消費者能簡單和方便地認識產品的真假



Blue 藍色
inner layered print



Purple 紫色
inner layered print



Green 綠色
inner layered print



Space Grey 灰色
inner layered print



Our Client: Mengniu Dairy Co. Ltd. 我們的客戶: 蒙牛乳業集團有限公司

Near 400 printers in **11 MengNiu sites** are currently operating using our security printing technology
我們的防偽打印技術在蒙牛11個產地正在運作

Example of the products 產品例子:





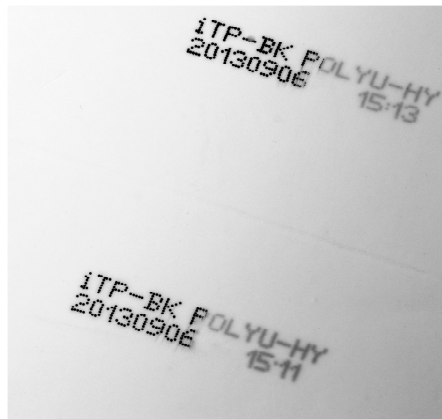
Our Client 我們的客戶

Industry 行業	Clients 客戶	
	Hong Kong/China (香港/中國)	Overseas (海外)
Dairy 乳業	   	
Beverage 飲料	 	
Meat processing 肉食加工		
Daily necessities 日用品	 	 
Cable and wire 電纜和電線	   	
Industry printer manufacturing 工業打印機製造商		 



Our Total Solution for Anti-counterfeit Technology & Solutions in Pharmaceutical and Health Care Products

藥品及保健食品防偽全方位解決方案



Nano ATE ink
雙層雙色納米抗擦墨



QR code
QR 碼

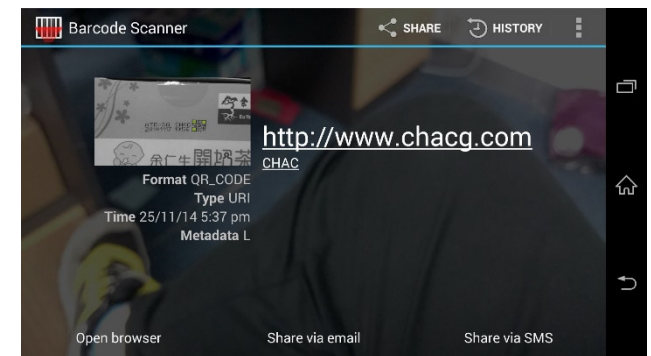


Our Novel Security Printing Technology

我們創新的防偽打印技術



透過現有手機條碼應用程式
(Apps) 掃描條碼



掃描結果得出產品相關資訊
(產品制造商或其他資料)

Demonstration of Nano ATE ink on Health Care Products

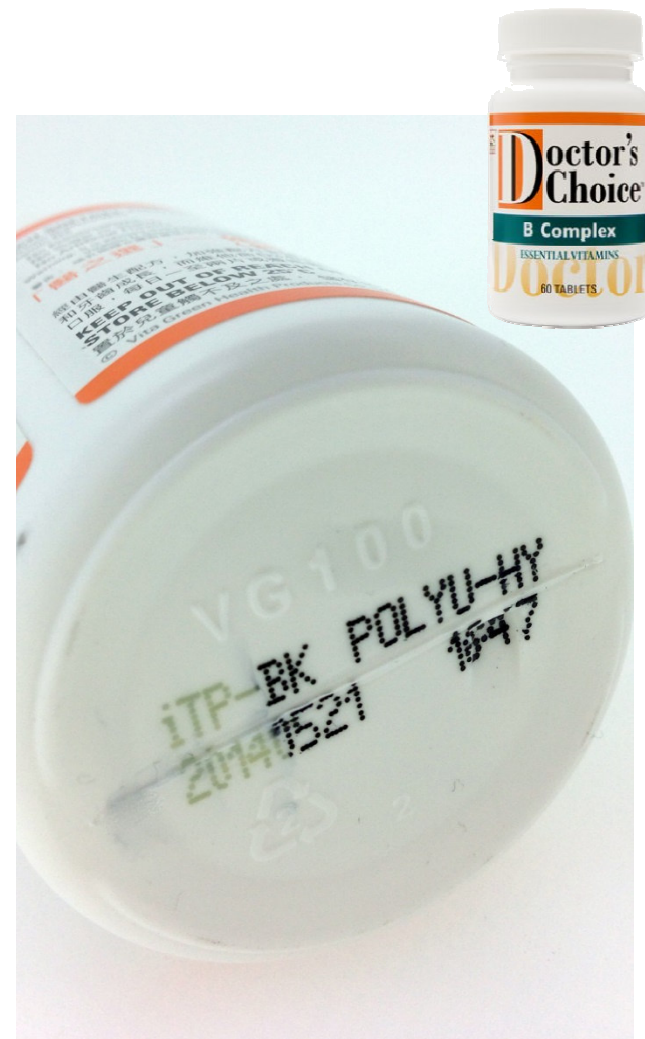
納米抗擦墨在保健產品的示範



農本方®止咳沖劑適用於舒緩各類型咳嗽，能迅速改善咳嗽痰多、痰粘難咯、咯痰不爽及喉痛聲沙等徵狀。
Nong's® Cough Formula can effectively soothe sore throat, hoarseness and shortness of breath due to coughing.

用法・用量 DIRECTIONS & DOSAGE :
每日二次，每次一包，加熱水攪拌後即可服用。
Twice daily, one sachet each time. Stir granules in hot water to dissolve.

iTP-BK POLYU-HY
20140509 13:12



First Stage Anti-counterfeit: ATE ink and QR Technology

第一層防偽: 雙色雙層抗擦墨及QR碼印刷

- (i) Indelible QR marking provides **product traceability**
擦不掉的QR打印技術可提供**產品的追溯性**
- (ii) Our printing technique provides fast and **changeable** QR code printing, providing additional security information for products
我們的打印技術能提供快速和**可更換的**QR打印功能，提供產品更多的防偽訊息
- (iii) Customers can obtain **more additional information (e.g., product certificate)** by scanning the QR code with smartphone apps
市民可通過手機的應用程式讀取更多額外的資料(如產品批號證明，產地等等)





Second Stage Anti-counterfeit: Product Database

第二層防偽: 產品數據

1. Manufacturers can co-operate with authorized pharmacies, updated product database regularly. This aim to the criminals cannot grasp the authentic information (information can be special code or information)
生產商可與認可藥房合作，定期更新產品數據庫，使不法份子不能掌握正品資訊 (資訊可以是代碼或其他特別資訊)。
2. If consumers do not have mobile app scans barcodes, the recognized pharmacies can have scanner which provide regularly updated information to consumers. It can prevent adverse pharmacies selling fakes to customers
如消費者沒有手機應用程式掃瞄條碼，認可藥房也可提供掃瞄器予消費者定時更新資訊，更可杜絕不良藥房售賣假貨。

Benefit

效益

Technology point of view (在技術層面上)

1. Easy identification of anti-counterfeit effect
簡易識別的防偽效果
2. Low cost
低成本
3. Multiple level of anti-counterfeit technology
多重防偽技術



Manufacturer point of view (生產商層面上)

1. Safeguard their products against counterfeiting
保護廠商產品免受假冒
2. Enhance product uniqueness
提高產品獨一性
3. Increase product competitiveness
增加產品競爭力
4. Improve brand image
改善品牌形象
5. Changeable QR printing, providing additional security for products
可改變的QR碼打印技術而提高產品的額外安全性



Benefit

效益

Society point of view (在社會效益上)

□ Combatting counterfeiting goods

打擊假貨

□ Enhancing consumer confidence

增加消費者信心

□ Protecting public health through increasing food and safety level

提升食品和藥品安全





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中國高新防偽技術集團有限公司



THE HONG KONG
POLYTECHNIC UNIVERSITY

香港理工大學

LEIBINGER
INK-JET



Methods to Differentiate the Products from Counterfeit Goods 分辨真偽產品的現有方法

Conventional method 慣常方法:

1. Print quality of packaging (包裝印刷品質)
2. Designed print format (特定噴碼字型格式)
3. Content of packaging (包裝內容)
4. Laser label (雷射標籤)

Conventional Method 慣常方法

1. Print quality of packaging
包裝印刷品質

黃道益活絡油
真品採用電射包裝印刷



2. Designed print format
特定噴碼字型格式

李萬生整腸丸
統一噴碼字型格式



Conventional Method 慣常方法

1. Content of packaging
包裝內容

虎標萬金油
包裝盒中英文對照



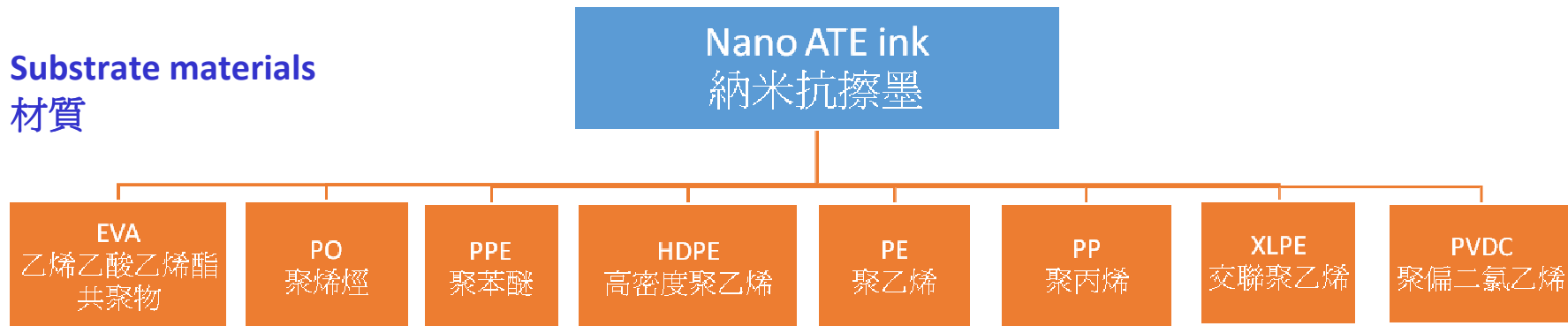
2. Laser label
雷射標籤

威而鋼真用
精美的雷射標籤



Scope of Substrate Materials

材質的應用範圍



Example 例子



Plastic bags



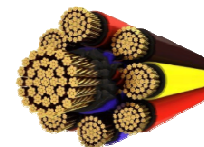
Daily consumable goods



Dairy products



Plastic plate



Electric Cable



Sausage



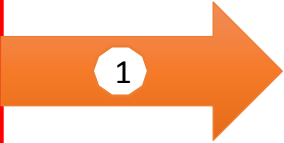
Combination with QR Code Technology

Additional Security and Traceability



Nano ATE ink

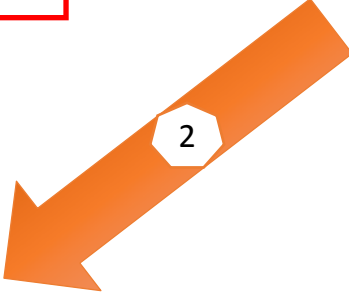
Continuous inkjet printer



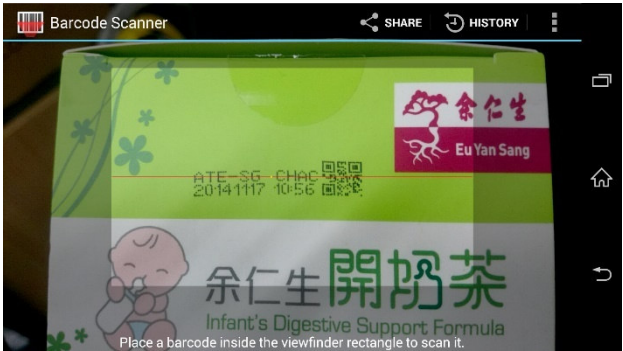
1



Time-changeable QR code printing on health care product



2



The QR code can be read by a mobile apps



3



Information will be obtained from the apps for product verification



Printer Customization - Smart Printing Management System

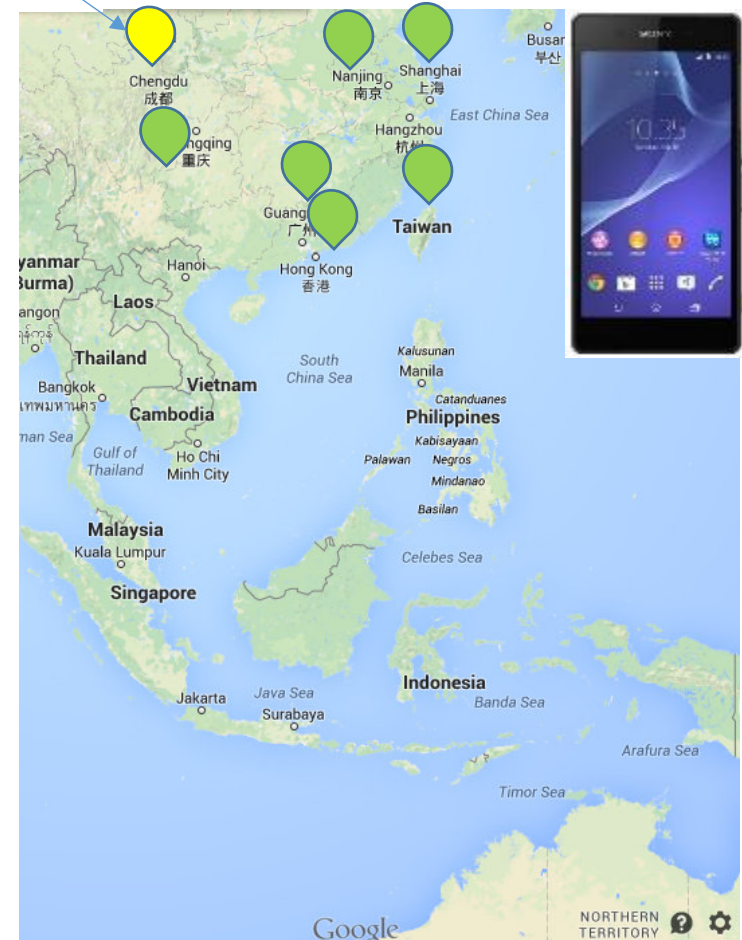
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- ❑ Providing online monitoring of printer status via a mobile device
- ❑ Collecting information on printing data and printer stability
- ❑ Capable of remote controlling printer operation
- ❑ Providing online maintenance service

Chengdu:
Printer error

Printer working status





Trend Setting

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NOW



FUTURE



FINAL
GOAL

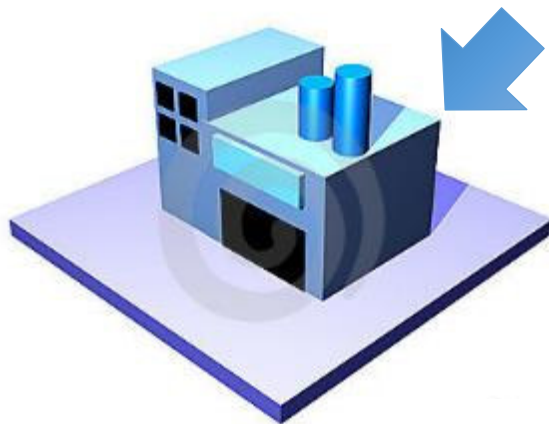
-
- ❑ **Single color marking**
 - ❑ **Two layers and two colors marking with color selection of the inner print**
 - ❑ **Adopted as a international standard for marking product information on fast moving consumer goods**
-
- ❑ **Solvent removable**
 - ❑ **Indelible marking**
-
- ❑ **No anti-counterfeit feature**
 - ❑ **Anti-counterfeit feature**
-
- ❑ **Easy detection of tampered product by a naked eye**
 - ❑ **Indelible 2D QR code, providing additional security information**



CHAC
China Hi-Tech Anti-Counterfeit
Group Ltd.



Manufacturer



Society





- **Technology**

- Providing **breakthrough anti-counterfeit printing** technology for FMCG application
- **Establishing international standard for anti-counterfeit printing technology** on fast moving consumer goods

- **Manufacturers**

- Opening up a new business opportunity for printer industry
- Providing product manufacturers an effective anti-counterfeit technology
- **Safeguarding their products and their brands**
- **Reducing legal liability and risk** arising from counterfeited products





- **Society**

- Combatting counterfeiting goods
- Enhancing consumer confidence
- Protecting public health through increasing food and safety level

