



Hong Kong



GS1 System

— One Global Standard for Supply Chain Excellence

GS1 標準 — 國際標準 全球供應鏈通行



The Global Language of Business

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1. Why Global Standards?

為什麼需要國際標準？



Do you know how much of the cost/effort spent on your supply chain is redundant? Imagine your current supply chain flows including both information and physical goods flows when trading with various parties:

- Have you ever adopted your trading partner's data format that required you to change your own format in order to fulfill their requirements?
- How many sets of data formats or mapping tables do you have to maintain in order to fulfill various trading partners' new requirements?
- Have you ever re-input the data in your own system because it was format incompatible?
- Have you ever re-labeled the bar code on the same item when trading with different parties?

All these multiple data mappings, data entries and goods re-labeling, as well as the effort of correcting the errors induced by different proprietary formats, are a waste of time and resources, greatly reducing efficiency and accuracy along the supply chain. The only way to remove these redundancies is to make use of a set of global standards that is widely adopted by all business partners in the supply chain.

This global standard should guarantee that any product, case or pallet can be scanned and read in any country in the world. This global standard should also ensure seamless exchange of business documents (orders, invoices, payments, etc.) between trading partners, whether they are across the street or on another continent.

閣下有否想過投放在供應鏈上的成本有多少？投放在重複供應鏈作業流程的資源有多少？試想想，如閣下現運作的供應鏈流程一般包括資訊流和貨物流，那麼：

- 閣下曾否需要重新整理數據格式，以符合業務夥伴的數據規格要求？
- 閣下備有多少種不同的數據格式或配對表，以滿足不同業務夥伴的更新要求？
- 閣下曾否因為格式不符，需要重新輸入資料到本身的系統中？
- 閣下曾否需要因應業務夥伴的不同要求，為貨品重新貼上不同的條碼標籤？

以上種種多次數據配對、反覆輸入資料、重新標貼貨品標籤，都由於專用數據規格的不同而引致修訂資料工作耗費時間和資源，有礙供應鏈效率和準確性。唯有引進一套獲供應鏈上各方業務夥伴廣泛採用的國際標準，才能消除上述種種的失效。

這套國際標準必須能夠確保任何貨品、外箱或貨盤的資料，不論在世界任何角落均能被掃描和讀取，並保證無論同一地區，以至跨國貿易夥伴也能按同一標準有效無間地交換商業文件，包括訂單、發票、付款通知等。

2. Role of GS1 in Global Standards

GS1 在國際標準上的角色



With the ultimate vision of using one global standard to communicate around the world, GS1 is a leading global organization dedicated to the design and implementation of global standards and solutions to improve efficiency and visibility in the supply and demand chains globally and across sectors. The GS1 System has been created, developed and managed by GS1 through the Global Standards Management Process (GSMP), and is an integrated system of global, open and multi-sectoral standards that provides accurate identification and communication of information on products, assets, services and locations along the supply chain. Based on the best business practices and technologies, it is now the most commonly implemented supply chain standards system in the world, with over one million corporate members spanning 145 countries and economies and more than 20 industries around the world.



GS1 作為一個國際組織，旨在推動世界各地以統一的國際標準通訊，致力制訂及推動國際標準和解決方案的應用，改善全球及跨業界供應和需求鏈的效率及透明度。GS1 透過「全球標準管理程序」制訂、開發及管理 GS1 標準，將 GS1 標準發展成為一套全球通用、開放及跨業界適用的綜合標準，準確識別並清晰地傳遞供應鏈上各項貨品、資產、服務和位置資料。GS1 標準配合各項最佳實務和應用技術，已成為國際間備受認同的供應鏈標準系統，在全球擁有逾 100 萬家企業會員，遍佈 145 個國家和經濟體及 20 多個行業。

3. GS1 Standards Maintenance and Development GS1 標準的管理和發展



Global Standards Management Process (GSMP) is a single common approach to the global maintenance, development and implementation of the GS1 System. GSMP uses a global consensus process to develop supply-chain standards that are based on business needs and users input. The objective is to bring users together from all industries, from anywhere in the world, to allow for a uniform approach and methodology for global standards management. Should you want to participate in or know more about the GS1 standard development processes, please visit www.gs1.org/services/gsmp/.

全球標準管理程序(GSMP)是一套國際通用，管理、開發和執行 GS1 標準的方式。GSMP 利用全球劃一的方法，以商界的需要和用戶意見為依歸，開發供應鏈標準。GS1 結合世界各地不同行業用家的建議，集思廣益，制訂統一的國際標準管理模式及發展方法。有興趣參與或認識更多 GS1 標準開發程序的企業，請瀏覽 www.gs1.org/services/gsmp/。

4. GS1 Hong Kong drives SCM Standards Adoption 香港貨品編碼協會推動供應鏈管理標準的應用



As GS1's local chapter, GS1 Hong Kong is dedicated to supporting the global initiative of speaking with one voice and adopting one system. Founded in 1989, GS1 Hong Kong is a not-for-profit industry support organization committed to enhancing Hong Kong enterprises' competitiveness through the provision of global supply chain standards, enabling technologies and best practices.

GS1 Hong Kong is also the only organization that is authorized to issue and administer GS1 identification numbers in Hong Kong. Standards and solutions offered include bar coding services, B2B e-commerce services, Global Data Synchronization (GDS) and Electronic Product Code™/ Radio Frequency Identification (EPC/RFID). We host a variety of training courses to facilitate knowledge transfer for SCM principles, e-business strategies, global standards and the implementation of enabling technologies.

香港貨品編碼協會作為 GS1 的成員組織，致力支援 GS1 制訂及應用統一的國際標準。香港貨品編碼協會是一個非牟利的工商業支援組織。協會於 1989 年成立，致力提供全球通用的供應鏈標準、應用技術及最佳實務守則，為香港企業提高市場競爭力。

香港貨品編碼協會亦是香港唯一獲認可簽發及管理 GS1 國際貨品編碼的機構。協會所提供的標準和解決方案包括貨品編碼及條碼服務、企業對企業電子商貿服務、全球數據同步 (GDS)，以及產品電子代碼／無線射頻識別 (Electronic Product Code™/Radio Frequency Identification)。協會舉辦的一系列促進知識轉移的培訓課程，包括供應鏈管理原理、電子商貿策略、全球標準及如何實施應用技術。



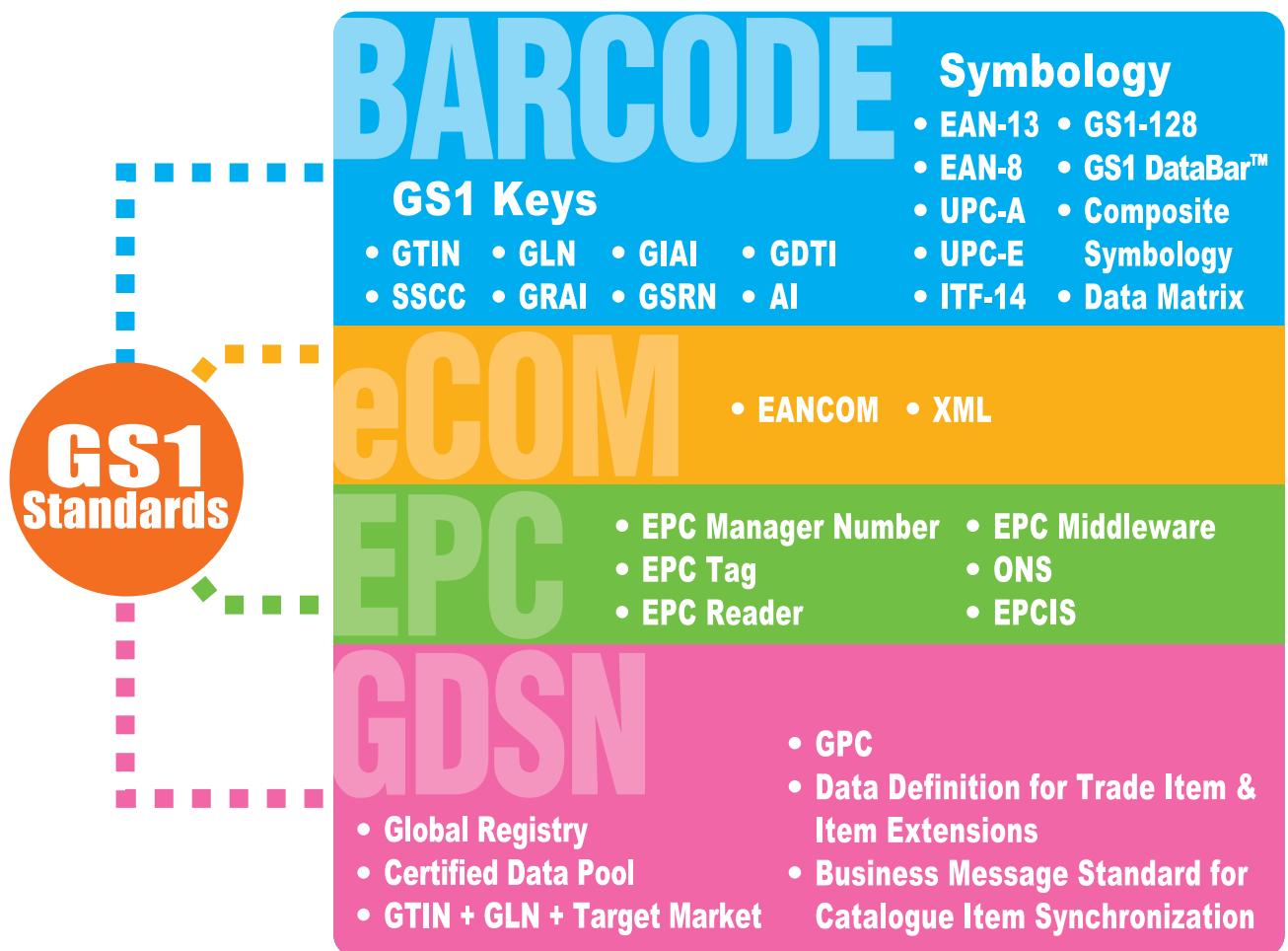
5. The Benefits of using One GS1 System 採用統一 GS1 標準的好處



The GS1 System specializes in cross-sector supply chain standards from bar coding to electronic business communications. The System operates by enabling companies to identify products, assets and locations using a unique number, which is represented as a bar code or contained within a radio frequency tag and communicated electronically. The GS1 standards include the following four key supply chain technologies.

GS1 標準涵蓋不同行業的供應鏈標準，由條碼以至電子商業通訊。企業可透過有關標準，以獨一無二的編碼，利用條碼或無線射頻標籤形式識別不同貨品、資產和位置，並以電子方式傳送有關訊息。GS1 標準包括以下四項供應鏈主要技術：

Components of Global Standards 國際標準組成部份



Benefits

Whether you are trading on a local, national or international basis, the combined elements of this global system provide tremendous opportunities for your business, including:

- Improved return on investment by reducing inventory holdings and associated financial costs;
- Increased sales by reducing or eliminating out-of-stock situations;
- Better customer service by speeding up delivery times, continuous replenishment and ensuring predictable stock availability;
- Greater productivity due to improved tracking of stocks and materials, which reduces administration time and costs;
- Increased profitability as cost analysis can be refined through more accurate activity-based costing.

好處

無論企業在本地、國家或國際間進行貿易，利用全球標準，可為企業帶來無限商機，包括：

- 減少庫存及相關成本，改善投資回報；
- 減少或緩解缺貨情況，從而提高銷售額；
- 縮短了送貨時間，貨品能持續補充，確保貨源不絕，客戶服務得以提升；
- 改善了庫存及物料上的管理和追查，節省行政時間和成本，生產能力自然提高；
- 準確計算及分析作業成本，提高盈利。



6. Identification Keys and Symbology Standards

識別碼及條碼標準



When a company joins a local GS1 Member Organization such as GS1 Hong Kong, a unique GS1 Company Prefix is assigned for her to construct a unique identification number for any item in the supply chain. These unique numbers have no meaning, but they act as keys to look up the pre-defined information from a database. For physical goods, these numbers can be represented in bar code format for scanning to facilitate identification and tracking at any point along the supply chain. For the information flow, they can also be used in electronic messages and data pools for data transmission and synchronization.

6.1. GS1 Identification Keys

Products, services, logistics units, companies, locations and assets can all be identified using the GS1 identification keys. There are seven major categories of identification keys in GS1 System:



1. **GS1 Global Trade Item Number (GTIN)** — identifies any trade item in the supply chain both for retail and non-retail purposes. It can be used through the supply chain to keep track of the inventory and trigger re-ordering.

一間企業在該地區的 GS1 成員組織(如香港貨品編碼協會)申請國際貨品編碼，可獲編配一個專有的 GS1 公司字首，用以編制獨一無二的國際貨品編碼，準確識別供應鏈上的貨品。GS1 國際貨品編碼本身不帶任何意義，可視為一條鑰匙，識別在數據庫中該編碼本身的產品資料。當識別碼應用在實物上時，可以條碼方式代表，被掃描後便能在供應鏈任何一個流程上識別及追蹤貨品去向。在訊息流的層面上，識別碼可結合電子訊息系統及數據庫使用，進行數據傳送及實踐數據同步化。

6.1. GS1 識別碼

GS1 識別碼可識別貨品、服務、物流單元、公司、位置和資產資料。GS1 標準可分為 7 大主要類別：

1. **GS1 國際貿易貨品編碼 (Global Trade Item Number - GTIN)** — 識別在供應鏈上可供零售及非零售的任何貿易貨品。企業可透過國際貿易貨品編碼追查供應鏈上的庫存記錄，適時補貨。

GTIN-14 Data Structure 數據結構	Indicator 標號	GS1 Company Prefix GS1 公司字首	Item Reference 貨品參考編號	Check Digit 終檢碼
	N ₁	N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂ N ₁₃	N ₁₄	
GTIN-13 Data Structure 數據結構	GS1 Company Prefix GS1 公司字首	Item Reference 貨品參考編號	Check Digit 終檢碼	
	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂	N ₁₃		
GTIN-12 Data Structure 數據結構	U.P.C. Company Prefix U.P.C. 公司字首	Item Reference 貨品參考編號	Check Digit 終檢碼	
	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁	N ₁₂		
GTIN-8 Data Structure 數據結構	GS1-8 Prefix GS1-8 字首	Item Reference 貨品參考編號	Check Digit 終檢碼	
	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇	N ₈		



2. **GS1 Global Location Number (GLN)** — identifies any physical or legal entity . The use of GLN helps to move products efficiently throughout the supply chain.

2. **GS1 國際位置編碼 (Global Location Number - GLN)** — 識別公司內部不同的實體位置或法定單位。企業可利用國際位置編碼提高供應鏈上的貨運效率。

GS1 Company Prefix GS1 公司字首	Location Reference 位置參考編號	Check Digit 終檢碼
N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂	N ₁₃	



3. **GS1 Serial Shipping Container Code (SSCC)** — identifies any shipment of goods, thus helping trading partners to track the movement of goods, ensuring timely delivery and assisting customers in their business planning.

3. **GS1 貨運容器序號 (Serial Shipping Container Code - SSCC)** — 識別不同的貨運單元，方便貿易夥伴追查物流去向，確保貨品適時交付，配合顧客業務策劃。

Extension Digit 伸延碼	GS1 Company Prefix GS1 公司字首	Serial Reference 序號	Check Digit 終檢碼
N ₁	N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂ N ₁₃ N ₁₄ N ₁₅ N ₁₆ N ₁₇		N ₁₈



4. **GS1 Global Returnable Asset Identifier (GRAI)** — identifies any physical entity as an inventory item that travels continuously outside of the owner's facilities, particularly used in transport, thus enhancing tracking of the asset throughout its life cycle by all parties in the supply chain.

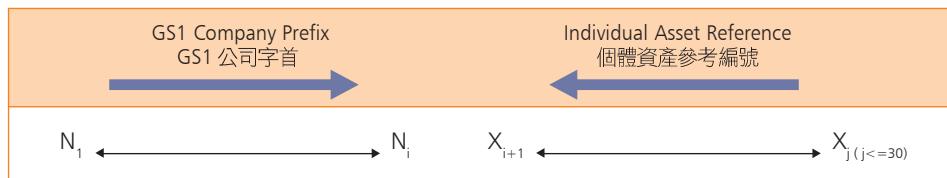
4. **GS1 全球可回收資產識別碼 (Global Returnable Asset Identifier - GRAI)** — 識別長期流通於公司物業範圍外，特別是運輸途中的實物資產，方便貿易夥伴追查資產在供應鏈的流向。

GTIN-13 Data Structure 數據結構	GS1 Company Prefix GS1 公司字首		Asset Type 資產類別	Check Digit 終檢碼	Serial Number (Optional) 序號 (可自由加入)
	0	N ₁ N ₂ N ₃ N ₄ N ₅ N ₆ N ₇ N ₈ N ₉ N ₁₀ N ₁₁ N ₁₂			
				N ₁₃	X ₁ ▶ variable ▶ X ₁₆ <small>不定長度</small>



5. **GS1 Global Individual Asset Identifier (GIAI)** — identifies any physical entity as an individual fixed asset of an organization that travels inside the owner's facilities.

5. **GS1 全球個體資產識別碼 (Global Individual Asset Identifier- GIAI)** — 識別流通於機構物業範圍內的個別實物資產。



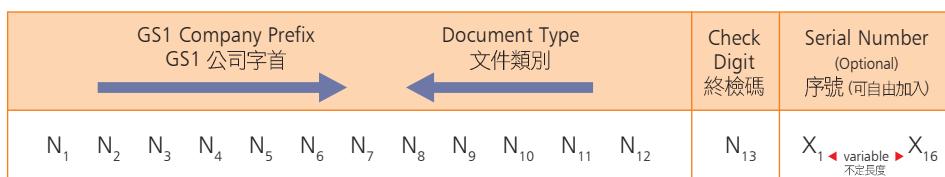
6. **GS1 Global Service Relationship Number (GSRN)** — identifies the recipient of services in the context of a service relationship, thus allowing identification of a particular service agreement with reference to a particular service provider and to a particular user.

6. **GS1全球服務關係識別碼 (Global Service Relationship Number - GSRN)** — 在服務關係層面識別接收服務者的身份，以識別個別服務供應商及用戶之間的特定服務協議。



7. **GS1 Global Document Type Identifier (GDTI)** — identifies a unique document type or an individual document.

7. **GS1 全球文件類別識別碼 (Global Document Type Identifier - GDTI)** — 識別獨有的文件類別或特定文件。



6.2. Application Identifiers

GS1 identification keys usually give the identification numbers to the item level but are unable to differentiate between two identical items with different manufacture date and lot number. Sometimes, additional information such as the batch number, serial number and expiry date is required to enhance the number uniqueness and increase handling efficiency. This information can be standard information communicated prior to trading, but in most cases it is variable and needs to be identified on the item.

The Application Identifier (AI) is one of the components of the GS1 System that enables extra information to be recognized in a standard way by all companies in the supply chain. There are more than 100 standard AIs that can convey a wide range of product and logistical attributes, including dates, measurements, traceability data and shipping information. AI comprises a standard numeric prefix identifying the meaning and format of a particular attribute.

6.2. 應用識別符

GS1 識別碼一般只能提供至貨品層面的識別碼，並不能夠分辨兩件相同的貨品但各有不同的生產日期及批號。補充資料如批號、序號及到期日有時可加強編碼的獨特性，提高貨品處理效率。這些資料可能是企業於交易前需交換的標準資料，惟大多數的情況下均屬可變資料，需要標籤在貨品上用以識別。

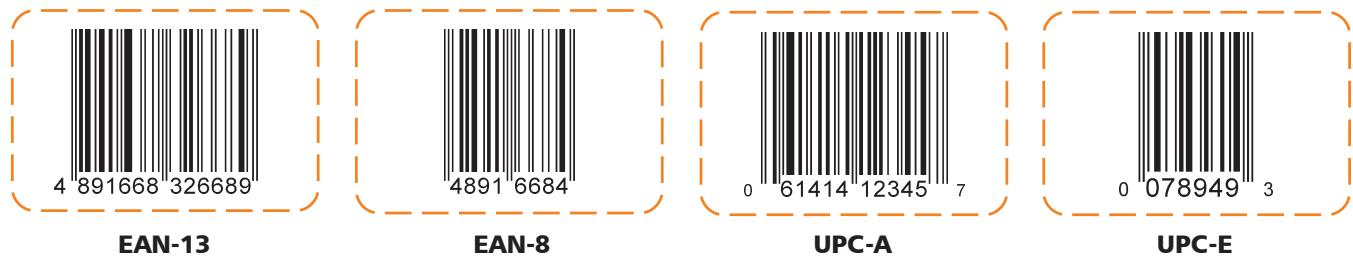
應用識別符(AI)是GS1標準其中的一個部份，可讓所有企業在供應鏈上取得更統一的貨品額外資料。現時，GS1標準內有逾100項應用識別符標準，涵蓋一系列的產品及物流資料，如日期、度量、物流追蹤數據及貨運資料。應用識別符包括一個標準數字字首用以識別個別數據屬性的含意和結構。

Application Identifier 應用識別符	Meaning 含意	Format 結構	Example 例子
(01)	Global Trade Item Number 國際貿易貨品編碼	n2 + n14 i.e. GTIN is a fixed length, with 14 numeric digits 國際貿易貨品編碼的設定長度為14個數位	 (01)04891668326689 GTIN = 4891668326689
(10)	Batch number 批號	n2 + an..20 i.e. the batch number can be variable — up to 20 alphanumeric characters 批號的數位長度不一，字母加數字上限為20個數位	 (10)ABC13579 Batch No. 批號 = ABC13579
(17)	Expiry date 到期日	n2 + n6 i.e. the expiry date is a fixed 6-digit length, read as YYMMDD 到期日的設定長度為6個數位，規格為：YYMMDD	 (17)050901 Expiry Date = 01 Sept 2005 到期日 = 2005年9月1日

6.3. Bar Code Symbology

Bar codes are used to represent data in a machine-readable form, thereby reducing manual key entry. Hence, they increase the data accuracy and data capture efficiency. A bar code is a symbol in a pattern of bars and spaces that is read by a scanner to retrieve the information from a database. The information encoded in the bar code is shown in human-readable format beneath the bar code.

1. [EAN/UPC Symbology](#) — The EAN/UPC bar codes are a family of four linear bar codes encoding the 8-, 12- and 13-digit GTINs. These bar codes can be read omni-directionally (in any direction). EAN/UPC is the only symbology accepted at the retail point of sale. EAN-13 and UPC-A bar codes are the most widely used for retail supply chain items, while EAN-8 and UPC-E are used for small items only.



2. [ITF-14 Symbology \(Interleaved Two of Five or I25\)](#) — ITF-14 is a linear bar code holding a 14-digit number. Its simple structure and higher printing tolerance allow it to be printed directly on to board and on lower-contrast surfaces, e.g. brown board. Consequently, they are usually found on carton.



3. [GS1-128 Symbology](#) — The GS1-128 bar code enables different supplementary attributes to be represented in bar code format by concatenating multiple standard application identifiers such as expiry dates and batch numbers to be shown alongside a unique identification number such as GTIN and SSCC.



6.3. 條碼

條碼是用作代表數據，透過器材讀取數據資料，可減少人手輸入資料的時間，有效提高數據的準確度及套取數據的效率。條碼以粗幼線條及空白位組成，利用掃描器讀取條碼數據，再從數據庫中提取有關資料。條碼所代表的編號一般會以人們可瞭解的格式清楚列於條碼下面。

1. [EAN/UPC 條碼](#) — EAN/UPC 條碼包括四類線性條碼，分別代表 8 個、12 個和 13 個數位的國際貿易貨品編碼。這些條碼從任何方向均可清楚識別。EAN/UPC 是唯一獲認可於零售點應用的條碼。EAN-13 及 UPC-A 條碼是在零售供應鏈上最廣泛應用；而 EAN-8 及 UPC-E 則普遍應用於細小貨品上。

2. [ITF-14 條碼 \(Interleaved Two of Five or I25\)](#) — ITF-14 條碼為一組包括 14 個數位的線性條碼。其結構簡單，印刷彈性較大，可直接印刷於咭板及對比度較低的物料表面，如棕色咭板之上，因此，亦較普遍應用於貨品外箱。

3. [GS1-128 條碼](#) — GS1-128 條碼以相同的條碼結構涵蓋多項不同的補充資料，將多項標準的應用識別符資料，如到期日、批號等，與獨一無二的識別編號，如國際貿易貨品編碼及貨運容器序號結合在同一條碼內。



4. **GS1 DataBar™** (formerly Reduced Spaced Symbology, RSS) and Composite Symbology (CS) — GS1 DataBar™ and CS are new symbologies to the GS1 System. They are intended to be used for small items where the bar code space is limited for the symbologies that are widely used today, e.g. very small healthcare items and electronics.



GS1 DataBar™



5. **Data Matrix** — It was agreed in July 2004 that the Data Matrix, a stand-alone, two-dimensional symbol, should be used with the GS1 System. Data Matrix symbols can be used on items that cannot be identified with GS1 DataBar™ and CS, or which need the symbol to be marked directly — for example, by etching.



4. **縮減空間碼 - GS1 DataBar™(前稱RSS)及混合條碼** — 縮減空間碼及混合條碼是 GS1 標準內的新條碼。今時今日袖珍產品日趨普及，如精細的醫療用品及電子零件，產品上可供加入條碼的空間有限，縮減空間碼及混合條碼也應運而生。



Composite Symbology
(linear + 2D symbology)

5. **數據矩陣條碼** — 2004 年 7 月，數據矩陣條碼獲認可配合 GS1 標準使用。數據矩陣條碼是一組獨立的二維條碼，適用於不能使用縮減空間碼及混合條碼的貨品，也可以如蝕刻方式直接將標記刻載在物品上。

6.4. How do the Identification Numbers and Bar Codes work in the Supply Chain Processes?



Point-of-Sale — As you have seen at the supermarket, automatic identification speeds up processes through scanning the bar code of an item or product. Scanning works by accurately decoding the unique number from the bar code and retrieving the necessary information from a database. This information can be added to a customer's bill at the point-of-sale or added to a patient's medical record at the point-of-use. At the backend system, the inventory record can be updated automatically.

Receiving — Item, case or pallet labels are scanned upon receipt. Information regarding handling, storage location or the content of the delivery compared to the despatch advice or outstanding order can be provided at this point. If the goods have been received as part of a mixed pallet, they can either be stored as a whole (identified by the SSCC) or broken down (identified by the GTIN). An electronic receipt advice is sent to the supplier, who in turn replies with an electronic invoice.



Distribution — By scanning the item, case or pallet as it leaves the warehouse, the distributor can capture information and match it to a purchase order message. Details of the shipment (items, cases, quantities, identification number, etc.) are sent to the buyer using a standard dispatch advice message. This can help to increase the accuracy of order fulfillment.

6.4. 如何運用國際貨品編碼和條碼在供應鏈運作中？

銷售點 — 超級市場利用自動識別系統掃描貨品上的條碼，加快結算程序。透過掃描，可準確解讀條碼所代表獨一無二的國際貨品編碼，再從數據庫中提取所需的貨品資料。電腦系統可將這些資料加至銷售點層面上的顧客結算單內，或醫護應用點的病歷記錄表上，後台支援系統亦可自動更新庫存紀錄。



收貨 — 在收貨時掃描貨品、外箱或貨盤，有助在理貨、倉庫或收貨點核對發貨單或未完成貨單上的資料。當一款貨品在貨盤中混合了其他貨品時，可靈活地選擇以整批存倉(以貨運容器序號識別)或散裝存倉(以國際貿易貨品編碼識別)。透過電子方式向供應商發出收貨通知，供應商繼而發回電子發票。

分銷 — 貨品、外箱或貨盤在貨倉出貨時被掃描，分銷商可套取發貨資料，並核對客戶訂單。一些貨運相關資料(如物品及外箱資料、數量、國際貨品編號等)會透過發貨單的標準訊息傳送予買方，以提高處理訂單的準確度。

Stock/Inventory Update — Every time an item is scanned as it enters and leaves a company or warehouse or point-of-use, its inventory record can be automatically updated, thus revealing exactly what is on the shelf at what quantity level and tracing which items are obsolete. Hence, more efficient stock management. For example, when the stock level of a particular product diminishes to a pre-defined amount, an order will be automatically placed with the supplier, without any human intervention or manual checking.



更新存貨/庫存記錄 — 每當貨品離開企業、貨倉或應用點被掃描時，貨品資料已自動在庫存記錄更新，由此便可清楚掌握貨架上的貨品樣式和數量，找出過期貨品，更有效率地管理庫存。例如：當某種貨品的存貨量減少至某特定水平，系統會自動向供應商訂貨，毋須人手介入或點算。



Traceability — Scanning an item at any point in the business processes means tracking the movement of an item throughout the supply chain — manufacturing, assembly, storage, point-of-sale or transportation. By adopting the GS1 System, the information communicated is standardized so that you, your trading partners and your intermediaries all begin to “speak the same language”. As a result, there are no problems in tracing the location of a product when the product is recalled.

貨品流向追查 — 在商業運作流程中掃描貨品，就等同在整個供應鏈流程上，無論在生產程序、裝嵌、存倉、銷售點或運輸上追查貨品流向。GS1 標準的應用，可讓企業、交易夥伴及有關中介單位都使用「共同語言」，以標準化的格式交換產品資料，即使一旦出現貨品回收，也較容易處理追查貨品位置。

Electronic Communication — Once globally unique numbers have been assigned to items, cases and logistics units, they can be used within electronic messages for automated trading. Transactions such as orders, invoices and delivery advices can be communicated by using standard electronic messages. The benefits include a reduction in manual errors, faster delivery of information and the facilitation of automatic data-processing in the internal system using the common format.



電子通訊 — 當貨品、外箱及物流單元加入了獨一無二的國際貨品識別編碼後，貿易夥伴便可透過電子訊息進行自動化交易，以標準的電子訊息傳送文件包括訂單、發票、送貨通知等。這樣，便可大大減少人為出錯、加快資料傳送速度、並以共通的格式使內部系統自動處理數據。

7. eBusiness Messaging Standards 電子商業訊息標準

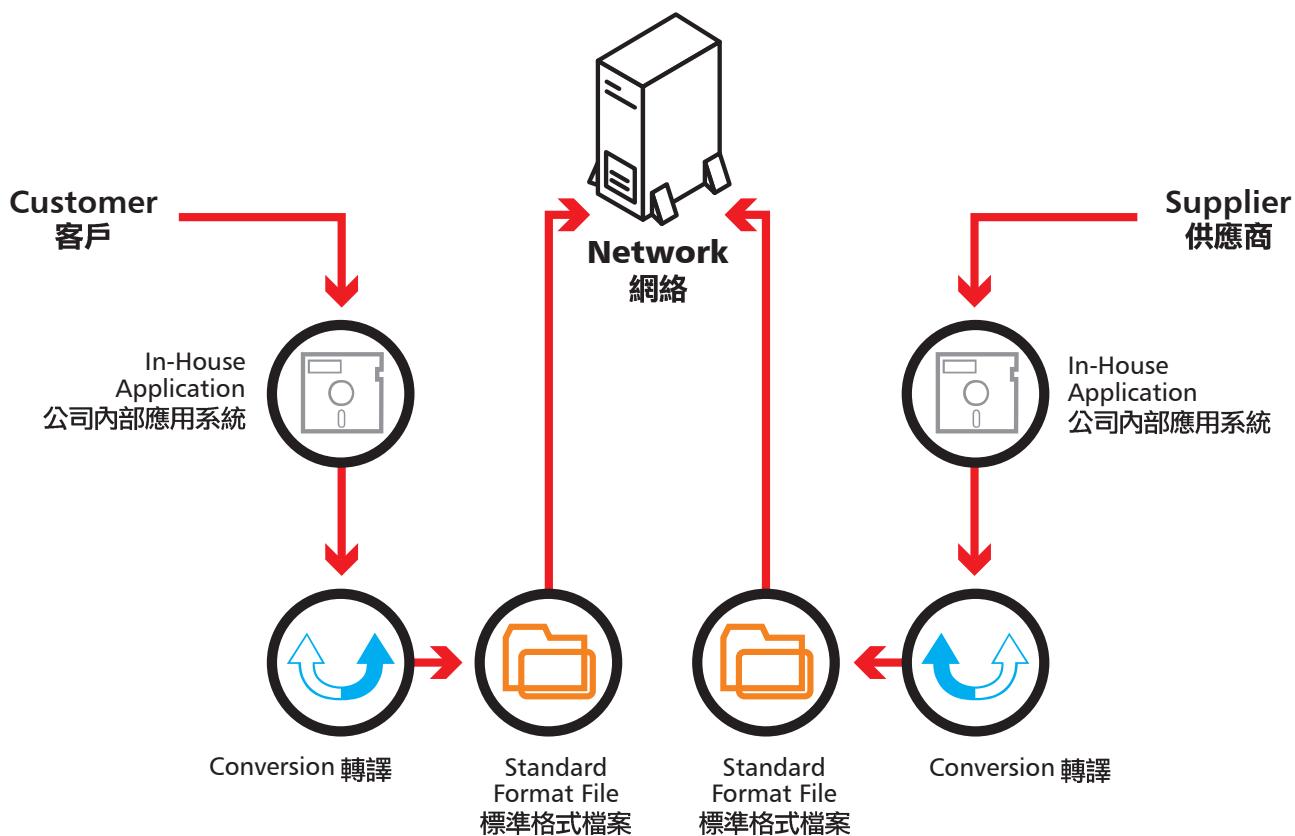


Traditional business transactions are exchanged by paper, fax and telephone, or perhaps these are sent electronically but not processed automatically, the data are still entered into an application manually. Unnecessary data entry is prone to error and delay resulting in an inevitable increase in transaction and operational costs. eBusiness messaging is defined by GS1 as "*the transfer of structured data, by agreed managed standards, from one customer application to another by electronic means and with a minimum of human intervention*" to facilitate automatic communication of business transactions (such as orders placement, passing on delivery information, sending invoices, etc.). It includes both classic Electronic Data Interchange (EDI) and eXtensible Mark-up Language (XML). Coupling the use of eBusiness messages with accurate product identification such as GTIN and GLN, it can provide the foundation for a much more responsive and effective trading cycle.

傳統的商業通訊模式是利用紙張、傳真及電話溝通，又或是以電子方式互通消息，但仍要人手輸入資料，並非自動運作。不必要的數據輸入工序容易造成出錯或延誤，無可避免亦提高交易及營運成本。GS1 界定電子商業訊息為：「以協定的管理標準將有組織的數據，透過電子方式從一個客戶的應用系統傳送到另一客戶的系統內，盡量免除人為介入。」其目的是推動商業交易（如發出訂單、傳遞送貨資料、發出發票等）以自動化方式通訊。當中包括電子數據聯通(EDI)及可擴展標示語言(XML)兩項技術。電子商業訊息結合了準確的產品識別編碼，如國際貿易貨品編碼(GTIN)及國際位置編碼(GLN)，能建立更靈活及有效的貿易模式。

Electronic data transformation uses an agreed set of rules to convert business transaction data into a standard messaging structure. When received by a trade partner, the data transformation process will decode the message structure sent and present the content of the original transaction in the format required by the receiving application.

電子數據轉換按協定的規則將商業交易數據轉化成標準訊息結構。當一方的貿易夥伴在接收有關數據後，數據轉換程序會轉譯有關訊息結構，再按照收件人要求的格式將本來的交易訊息內容展示出來。



7.1. GS1 EANCOM

EANCOM is the global EDI business-messaging standard developed and maintained by GS1. It is a subset of the UN/EDIFACT (United Nations Electronic Data Interchange for Administration, Commerce and Transport) and provides the structure and the rules for constructing business transactions in the trading cycle. The UN/EDIFACT standard is continuously developed by a committee of the United Nations called the United Nations Economic Commission for Europe (UN/ECE), which is a global body with representation from more than 35 countries.

Since the UN/EDIFACT standard is often complex and users may easily misunderstand the principles and original intentions of the messages, EANCOM was developed in 1987 by GS1 as a detailed implementation guideline for the UN/EDIFACT standard. EANCOM messaging guidelines are updated every few years to incorporate changes requested by business messaging users. In 1995, GS1 Hong Kong developed a Hong Kong subset of EANCOM for Hong Kong industries to meet local implementation requirements — HK EANCOM.

7.1. GS1 EANCOM

EANCOM 是一套由 GS1 開發及管理的國際電子數據聯通商業訊息標準，屬UN/EDIFACT (聯合國電子數據聯通管理、商業及運輸交接點) 的子集，為國際貿易提供制訂商業交易的架構和規則。多年來，UN/EDIFACT 標準由聯合國轄下歐洲經濟委員會開發。該國際性委員會的成員來自逾 35 個國家。

鑑於 UN/EDIFACT 較為繁複，當中的原理及訊息設計原意易被用戶誤解，GS1 於 1987 年以此為基礎，開發出 EANCOM 標準，作為 UN/EDIFACT 的詳細應用指南。GS1 每隔數年便更新 EANCOM 訊息指南，加入商業訊息用戶所提出的建議。香港貨品編碼協會於 1995 年開發了香港區的 EANCOM 子集 — 香港 EANCOM，為方便本地企業因應本港情況進行電子交易。

A list of GS1 EANCOM guidelines GS1 EANCOM 指南列表

MASTER DATA 主體數據

- Party Information 參與單位資料
- Product Inquiry 貨品查詢
- Price / Sales Catalogue 價格 / 銷售目錄
- Product Data 貨品數據

REPORT AND PLANNING MESSAGES 報告及規劃訊息

- Delivery Schedule 送貨時間表
- Sales Data Report 銷售數據報告
- Sales Forecast Report 銷售預測報告
- Inventory Report 倉存報告
- Syntax and Service Report Message 句式及服務報告訊息
- Multiple Debit Advice 多項記帳通知
- Multiple Credit Advice 多項入帳通知
- Banking Status 銀行戶口狀況
- Financial Cancellation 財務註銷
- Financial Statement 財務報告
- Metered Services Consumption Report 量計服務使用報告
- Quality Test Report 品質測試報告

GENERAL MESSAGE 一般訊息

- General Message 一般訊息

TRANSACTIONS 交易

- Request for Quotation 報價要求
- Quotation 報價
- Purchase Order 訂單
- Purchase Order Response 回覆訂單
- Purchase Order Change 更改訂單要求
- Cargo / Goods Handling and Movement 貨運 / 貨品處理和運送
- Instruction to Despatch 發貨通知
- Firm Booking 落實訂購
- Booking Confirmation 確認訂購
- Transport Instruction 貨運指示
- Forwarding and Consolidation Summary 貨運及裝箱報告
- Transport Status 貨運狀況
- Arrival Notice 貨運到達通知
- Despatch Advice 發貨通知
- Receiving Advice 收貨通知

Invoice 發票

- Tax Control 稅務限制
- Remittance Advice 汇款通知
- Multiple Payment Order 多項付款通知
- Commercial Account Summary 商業戶口總結
- Commercial Dispute 商業糾紛
- Order Status Enquiry 訂單狀況查詢
- Order Status Report 訂單狀況報告
- Announcement for Returns 退貨通知
- Instructions for Returns 退貨指示

■ Represents availability in HK EANCOM guidelines
代表備有在香港 EANCOM 指南內

7.2. GS1 XML Business Message Standard

With the emergence of Internet technology, GS1 also developed GS1 XML Business Message Standards and XML Schemas to support Internet communications that did not exist when EDIFACT began more than 25 years ago. GS1 XML Standard has been developed following GS1's own methodology, known as the GS1 eBusiness Methodology, which draws from international standards including ebXML, UN/CEFACT Modelling Methodology (UMM) and the World Wide Web Consortium (W3C).

The goal of GS1 eBusiness Methodology is to capture business requirements in a consistent manner. It is broken down into four areas:

1

GS1 modelling methodology — using UMM and UML (Unified Modelling Language) notation to document business needs.
GS1 模型法則 — 利用 UMM 及 UML (統一模型語言) 含義去記錄商業需要。

2

GS1 core components methodology — based on ebXML (core components' technical specification) to enable re-usability.
GS1核心元件法則 — 以ebXML (核心元件的技術規格)為基礎，以確保元件的可再用性。

3

GS1 XML design rules — the standard way to convert class diagrams to XML representation. GS1 has now built a new tool called Autogen for UML to XML conversion using Java and XML/XSD technologies.
GS1 XML 設計規則 — 把分類圖轉化成 XML 格式的標準方法。GS1 已成功制訂一套名為 Autogen 的嶄新工具，以 Java 及 XML/XSD 技術將 UML 轉為 XML。

4

GS1 XML communications architecture — specifies how to build a standard business message for transmission by recommending use of the UN/CEFACT Standard Document Business Header (SBDH).
GS1 XML 通訊架構 — 透過推介 UN/CEFACT 標準商業文件頁首(SBDH)的應用，詳細釐定怎樣建立標準的商業訊息傳送方法。

7.2. GS1 XML 商業訊息標準

EDIFACT 早於 25 年前出現，當時互聯網尚未普及。隨著互聯網技術的興起，GS1 成功開發了 GS1 XML 商業訊息標準及 XML 格式。GS1 XML 標準按 GS1 本身的法則開發，名為 GS1電子商業法則。該法則參考了國際標準包括 ebXML、UN/CEFACT 模型法則(UMM)及 World Wide Web Consortium (W3C)等國際標準而成。

GS1電子商業法則的目標是以統一方式收集商界意見，可分為四個範疇：

7.3. EDIFACT versus XML

GS1 does not see XML replacing traditional EDI syntaxes. Both are viable syntaxes for eBusiness messaging and have varying strengths in different areas. GS1 believes that the implementation of EDIFACT will continue to grow into the future. XML and EDIFACT will be used as complementing standards and will continue to serve the vast needs of business; both will be used where which is stronger.

7.3. EDIFACT 與 XML

XML與傳統的電子數據聯通(EDI)皆為可行的電子商業訊息句式，在不同範疇各擅所長。GS1並不認為XML會取代傳統的EDI句式，GS1相信，EDIFACT的應用將得以進一步發揮。XML與EDIFACT兩組標準今後將相輔相成，繼續為商界大力所用，各自在其領域發揮所長。

A list of GS1 XML messages GS1 XML 訊息列表

ALIGN 協調

- Party 參與單位
- Price 價格
- Extension for Apparel and Home Fashion 成衣及家居潮流配飾延展
- Hardlines Extension 硬貨延展
- Price Bracket 價格級別
- FMCG Extensions 快速流轉消費品延展
- Swedish REPA 瑞典 REPA
- Trade Item for Data Alignment Peer to Peer 戶對戶貿易貨品數據校正

GLOBAL DATA SYNCHRONIZATION 全球數據同步

- Search 搜尋
- Item Synchronization 項目同步
- Party Synchronization 參與單位同步
- Trade Item for Data Alignment 貿易項目數據校正

PLAN 規劃

- Bulk Forecast 大批貨量預測
- Bulk Product Activity 大批貨量記錄報告
- Event 活動
- Exception Criteria 特殊現象
- Exception Notification 特殊情況通知
- Forecast Revision 修訂預測
- Performance History 往績

Product Activity 貨品記錄

- Replenishment Plan 補貨規劃
- Retail Event 零售活動
- Trade Item Information Request 貿易貨品資料要求
- Trade Item Location Profile 貿易貨品位置資料

Order 訂貨

- Configure to Order 訂貨設定

DELIVER 交付

- Pickup Notification LTL 提貨通知LTL
- Small Package Pickup Manifest 小包提貨清單
- Despatch Advice 發貨通知
- Receiving Advice 收貨通知
- Warehouse Shipping Order 貨倉貨運通知
- Full Truckload Response 載貨量通知
- Motor Fuel Carrier Bill of Lading 馬達驅動運輸工具提貨單
- FTL/LTL Carrier Bill of Lading FTL/LTL 運輸工具提貨單
- Ship Status Inquiry Request SPC 查詢貨運情況要求 SPC
- Ship Status Inquiry Request FTL/LTL 查詢貨運情況要求 FTL/LTL
- Inventory Activity or Inventory Status 倉存活動及倉存情況
- Routing Guide 貨運路線指引

PAY 付款

- Control Total - Buyer to Buyer 控制總值：買家對買家
- Debit or Credit Advice 借貸通知
- Request for Payment 付款要求
- Settlement 付款
- Financial Institution Control Totals 財務機構控制總賬
- Buyer Reconciliation of Request for Payment 買家修正付款要求
- Confirmation of Settlement Instructions 確認付款指示
- Simple Invoice 簡單發票

ITRG (Information Technical Requirement Group) 資訊技術要求小組

- Application Receipt Acknowledgement 獲悉申請通知

OTHER 其他

- Additional Commands 附加指令
- Common Library 共用資料庫

8. Global Data Synchronization Network Standard 全球數據同步網絡標準



GS1 identification keys alone are not sufficient to provide precise information for defining the WHO, WHERE, WHAT and WHICH target market for a trade. They have to be completed by attributes such as item or location (party) description, price, size, pack, name, address, etc. These standardized attributes are known as "master data".

Global Data Synchronization (GDS) is the continuous process of aligning all products, company and location master data between your and your trading partners' systems, ensuring each is correctly described throughout the supply chain. Ultimately, GDS increases productivity and facilitates supply chain collaboration. Clean data synchronization is paramount to achieve maximum benefit and returns from investments in Enterprise Resources Planning (ERP) systems, warehouse management systems, collaborative planning forecasting and replenishment (CPFR) and EPC / RFID initiatives.

在貿易時，單靠 GS1 識別碼並不足以準確地識別哪個單位、何處、什麼貨品及哪個目標市場等資料。必須輔以其他資料，如貨品或位置(參與單位)的說明、價格、尺碼、包裝、名稱、地址等。這些標準化的屬性資料一般統稱為「主體數據」。

全球數據同步是指企業與其業務夥伴之間系統的所有產品、公司和位置的主體數據作出不斷地協調，確保整體供應鏈上的資料準確無誤，最終能提高生產力，鞏固供應鏈的協作。企業無論投資於企業資源管理系統 (ERP)、倉庫管理系統、或協作式策劃、預測及補貨(CPRF)、又或產品電子代碼/無線射頻識別計劃時，欲獲取最大的效益及投資回報，整潔的數據同步最為重要。

8.1. Global Data Synchronization Network

Global Data Synchronization Network (GDSN) is an Internet-based, interconnected network of interoperable data pools and the GS1 Global Registry™ that enables companies around the world to exchange standardized and synchronized supply chain data with their trading partners. GDSN consists of trading partners (supplier and retailers), data pools (services that hold and process master data) and the GS1 Global Registry™ (a worldwide directory to help the GDSN community locate data sources and manage ongoing synchronization relationships between trading partners).

One of the key advantages of the GDSN is that trading partners have a single point of entry to it through the certified data pool of their choice, therefore avoiding having to pay subscriptions to multiple data pools either within the same geographic location or across multiple geographic locations. Therefore, trading partners' access to the Global Registry is only available through a certified data pool.

8.1. 全球數據同步網絡

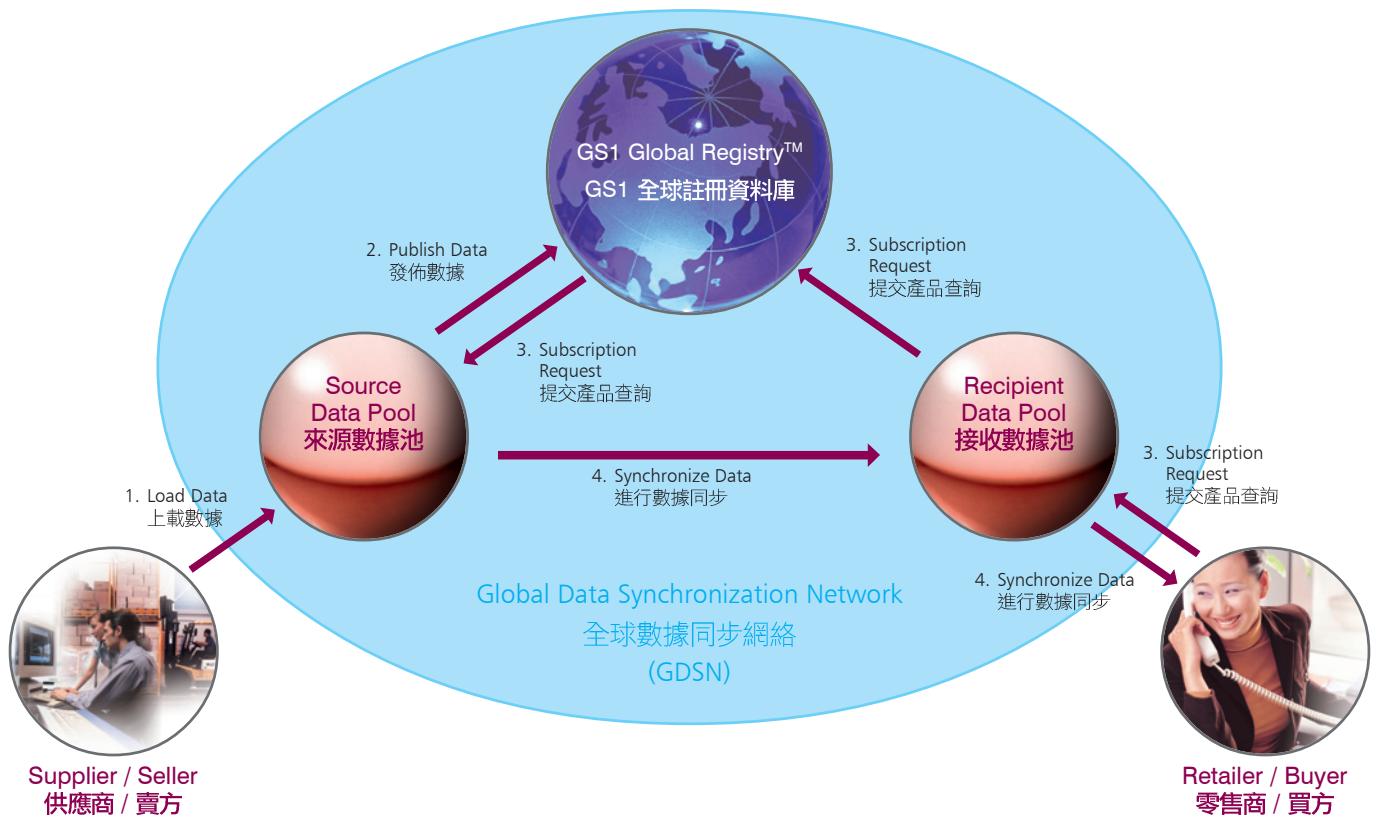
全球數據同步網絡是一個以互聯網為基礎的網絡，與互通數據池及 GS1 全球註冊資料庫(GS1 Global Registry™)聯繫著，讓世界各地的企業互相交換標準化及同步化的供應鏈數據。全球數據同步網絡是由貿易夥伴(供應商和零售商)、數據池(貯存及處理主體數據的系統)，以及 GS1全球註冊資料庫(一個國際目錄協助全球數據同步網絡的社區用戶識別數據來源，並不斷管理貿易夥伴間的數據同步關係)組成的。

全球數據同步網絡的其中一個主要好處是方便貿易夥伴以單一進入點連接所選定的認可數據池，避免重複於同一地區，或多個地區的數據池進行登記。換句話說，貿易夥伴必須透過認可的數據池，才能進入全球註冊資料庫。



8.2. How the Global Data Synchronization Network Works

全球數據同步網絡如何運作



Data Synchronization can be achieved in the following way :

Step 1 : A supplier will prepare internal data and systems according to the GS1 standards. Then the supplier will publish the data, including the product description, location, availability, etc. to an GS1 certified source data pool.

Step 2 : Source data pool registers the item to the GS1 Global Registry™. Basic information about each item or party will be sent to the GS1 Global Registry™ for verification. This information and the location of the item's or party's data pool will then be recorded on the registry.

Step 3 : A retailer in search for a particular product or party submit queries to the GS1 Global Registry™ via an GS1 certified recipient data pool. The recipient data pool will forward the retailer's subscription request to the source data pool identified by the GS1 Global Registry™.

Step 4 : Using a synchronization engine built in the data pools, trading partners will perform the data transfer directly. Thereafter, the information can be automatically and continuously synchronized between their respective data pools.

全球數據同步經以下步驟進行：

步驟一：供應商根據 GS1 標準整理公司內部數據及有關系統。然後，供應商將數據，包括產品說明、位置、數量等，在 GS1 認可的來源數據池上發佈。

步驟二：來源數據池將資料如產品或供應商的基本資料傳送到「GS1 全球註冊資料庫」上。經審查後，這些資料連同產品或供應商數據池的位置會記錄在全球註冊資料庫上。

步驟三：零售商可透過 GS1 認可的接收數據池，向「GS1 全球註冊資料庫」提交產品或供應商查詢，搜尋所需資料。接收數據池然後將零售商的提交要求傳遞至「GS1 全球註冊資料庫」，再轉送至有關的數據池。

步驟四：利用數據池內設置的同步化引擎，貿易夥伴可直接進行數據交換。此後，雙方使用的數據池便會不斷及自動地進行數據同步。

8.3. GDSN Standard Components

Item keys in GDSN — Within the GDSN, catalogue items are identified by using the GTINs and GLNs of the data source (supplier) and target market, while parties are identified by using GLNs.

GTIN/GLN allocation rules — These ensure that the GS1 identification keys in GDSN are properly used, e.g. when to change GTIN and when to assign a new GLN. To ease implementation, GS1 has developed tools for GTIN and GLN allocation rules. Please visit www.gs1.org/gtinrules and www.gs1.org/glnrules for details.

Data model — Attributes that describe the catalogue item or party, such as the description, the brand name, the color, packaging and measurement information, etc. The definition and format of these attributes are stored in a central repository called the GS1 Global Data Dictionary (GDD).

Package measurement guidelines — Maintain consistent and accurate information about dimensions in GDSN, including the height, width and depth of a consumer item and/or carton.

Global Product Classification (GPC) — A code indicating which kind of product the trade item is and to which group of products it belongs. To know about the available GPC, please visit the GPC corner at www.gs1.org/productssolutions/gdsn/gpc/.

GDSN validation rules — Ensure that data (item and party) passed within the GDSN conforms to a common structure and complies with global standards.

GS1 XML Business Messages for GDS — Standard messages required to synchronize the catalogue item and party between different data pools and between data pools and the GS1 Global Registry™.

To know more about GDS, please visit the membership & services corner at www.gs1hk.org.

8.3. 全球數據同步網絡標準的元件

全球數據同步網絡的貨品識別碼 — 全球數據同步網絡目錄中的貨品以國際貿易貨品編碼及數據來源者(供應商)的國際位置編碼及目標市場來識別，而目錄中的參與單位則以國際位置編碼識別。

國際貿易貨品編碼 / 國際位置編碼發配規則 — 此部份確保全球數據同步網絡中的 GS1 識別碼獲得正確使用，例如在哪種情況下需要更改國際貿易貨品編碼、何時發配全新的國際位置編碼。為方便應用，GS1 已發展了一套國際貿易貨品編碼及國際位置編碼發配規則。詳情可瀏覽 www.gs1.org/gtinrules 及 www.gs1.org/glnrules。

數據模型 — 乃描述貨品目錄或參與單位的屬性資料，如產品說明、品牌名稱、顏色、包裝及度量等。這些屬性資料的定義及格式均貯存在一個名為 GS1 環球數據字典(GDD)的中央資料庫內。

包裝度量指引 — 旨在確保全球數據同步網絡內涉及度量的數據，包括零售貨品及/或外箱的高度、闊度、深度，均保持一致及準確。

全球產品分類 — 顯示產品所屬類別及歸類的編號。欲知更多現有的全球產品分類，請瀏覽 www.gs1.org/productssolutions/gdsn/gpc/。

全球數據同步網絡核證規劃 — 確保通過全球數據同步網絡的數據(貨品及參與單位)是合符共通結構及國際標準。

全球數據同步的 GS1 XML 商業訊息 — 是標準訊息用以協調數據池之間，及數據池與全球註冊資料庫之間的貨品目錄及單位資料。

認識更多關於全球數據同步，請瀏覽 www.gs1hk.org 中的會藉及服務欄。

9. Radio Frequency Identification Standard 無線射頻識別標準



9.1. EPCglobal Hong Kong

EPCglobal Inc., a joint venture of GS1 and the GS1 US, is an industry-trusted partner for driving the global, multi-industry adoption and implementation of the EPCglobal Network™. It is a neutral, consensus-based, not-for-profit standards organization aimed at making organizations more effective by enabling true visibility of information about items in the supply chain by developing and managing standards for the EPCglobal Network™. EPCglobal Hong Kong is a member organization of EPCglobal Inc. serving subscribers in Hong Kong to help foster the adoption of the EPCglobal Network™ and related technology. For more information, please visit www.epcglobal.org.hk.

9.2. EPCglobal Network™

Radio Frequency Identification (RFID), which has actually been around for decades but has only recently been employed in supply chain management, uses radio waves to communicate item information to enable businesses to manage their supply chains with unprecedented levels of automation and a vastly improved degree of control that optical technologies (such as bar codes) cannot reach, e.g. it enables multiple reads at one scan, allows information updates on the RFID tags, etc. The EPCglobal Network™ goes further by marrying the huge capabilities of RFID with the power of the Internet. The vision is that every item in the supply chain — down to the individual point-of-sale item — will be identified with its own unique number encoded in an RFID tag. Readers will capture this unique number and report the item's location, condition and status to an on-site information system or to remote databases via the Internet.

9.1. EPCglobal 香港

EPCglobal Inc. 乃 GS1 與 GS1 美國合資成立的業界信託夥伴，目標是推動全球不同行業採用 EPCglobal 網絡。EPCglobal Inc.是一個中立、與業界共識的非牟利標準組織，旨在透過開發及管理 EPCglobal 網絡標準，強化供應鏈資訊的透明度，令企業更有效地運作。EPCglobal 香港為 EPCglobal Inc.的成員組織，服務本地用戶，推動 EPCglobal 網絡及其相關技術在港的應用。欲知更多詳情，請瀏覽 www.epcglobal.org.hk。

9.2. EPCglobal 網絡

無線射頻識別(RFID)技術推行了已逾數十年，惟近年才應用於供應鏈管理上。無線射頻識別技術透過無線電波傳遞貨品資料，讓企業達至前所未有的自動化作業，並實踐傳統光學技術(如條碼技術)所不能支援緊密監控的作業程序。例如，透過無線射頻識別技術，企業可一次過掃描多項貨品，更新無線射頻標籤上的資料等。EPCglobal 網絡更進一步以互聯網結合了無線射頻識別技術的潛能，其長遠目標是令供應鏈上的每件貨品及至銷售點層面的每個個別貨品均能以獨一無二的編碼作識別，記錄在無線射頻識別標籤上。作業人員透過閱讀器套取貨品的編號，並透過現場的資訊系統或以互聯網遙距數據庫，報告貨品的所在位置、環境及狀況。



9.3. How the EPCglobal Network™ will automate the Supply Chain EPCglobal 網絡如何實現供應鏈自動化

With the new EPCglobal Network™, computers will be able to "see" physical objects, allowing manufacturers to track and trace items automatically throughout the supply chain. This technology will revolutionize the way we manufacture, distribute, sell and buy products. Here's how it works:

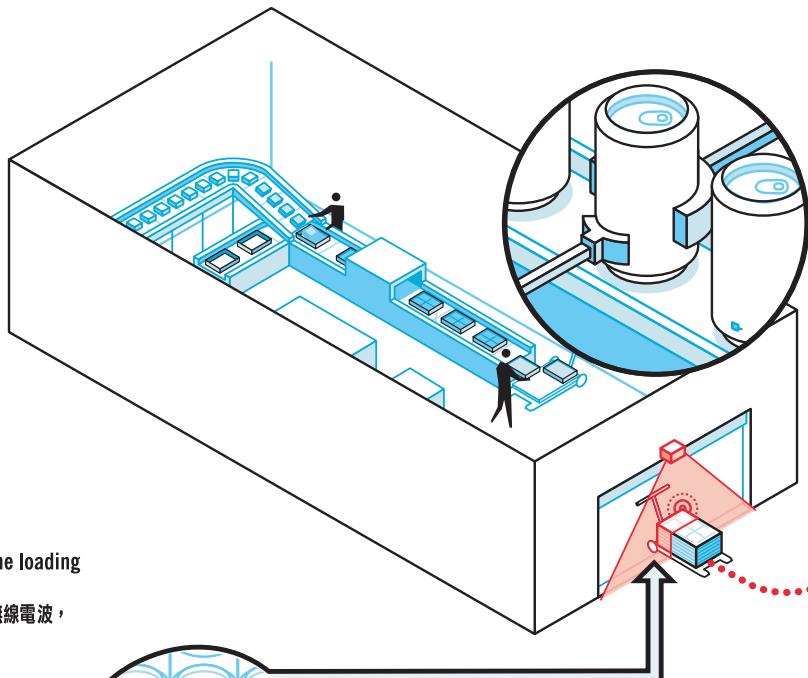
透過EPCglobal 網絡，電腦系統可以清楚掌握貨物去向，生產商便可在供應鏈任何環節都能自動追蹤貨物位置，此項新技術徹底改革了現代供應鏈在生產、分銷、銷售及購買貨品的模式。

下面是EPCglobal 網絡實現供應鏈自動化的運作流程：

- 1.**
Each item contains an Radio Frequency Identification (RFID) tag, a tiny microchip which includes a radio antenna and a unique identifier, called an Electronic Product Code™ (EPC).
每件貨物均裝上無線射頻識別標籤，此微晶片內含無線電天線及一個獨一無二的識別符——產品電子代碼。

- 2.**
The item can now be automatically and cost-effectively identified, counted and tracked. Cases and pallets can also carry their own unique tags.
企業現可以合符成本效益的方法，自動識別、點算及追查貨品流向。
標籤除可用於個別貨品外，也可用於外箱及貨盤。

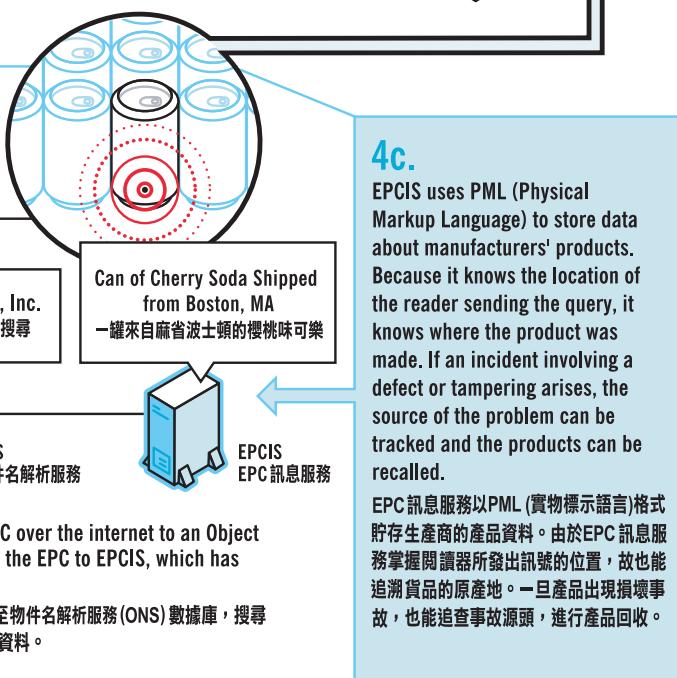
- 3.**
As pallets leave the manufacturer, an RFID reader positioned above the loading dock door beams a radio wave that "wakes up" the tags.
當貨盤離開生產廠房時，裝置在倉庫大門之上的無線射頻識別閱讀器會發射無線電波，啟動並接收標籤訊息。

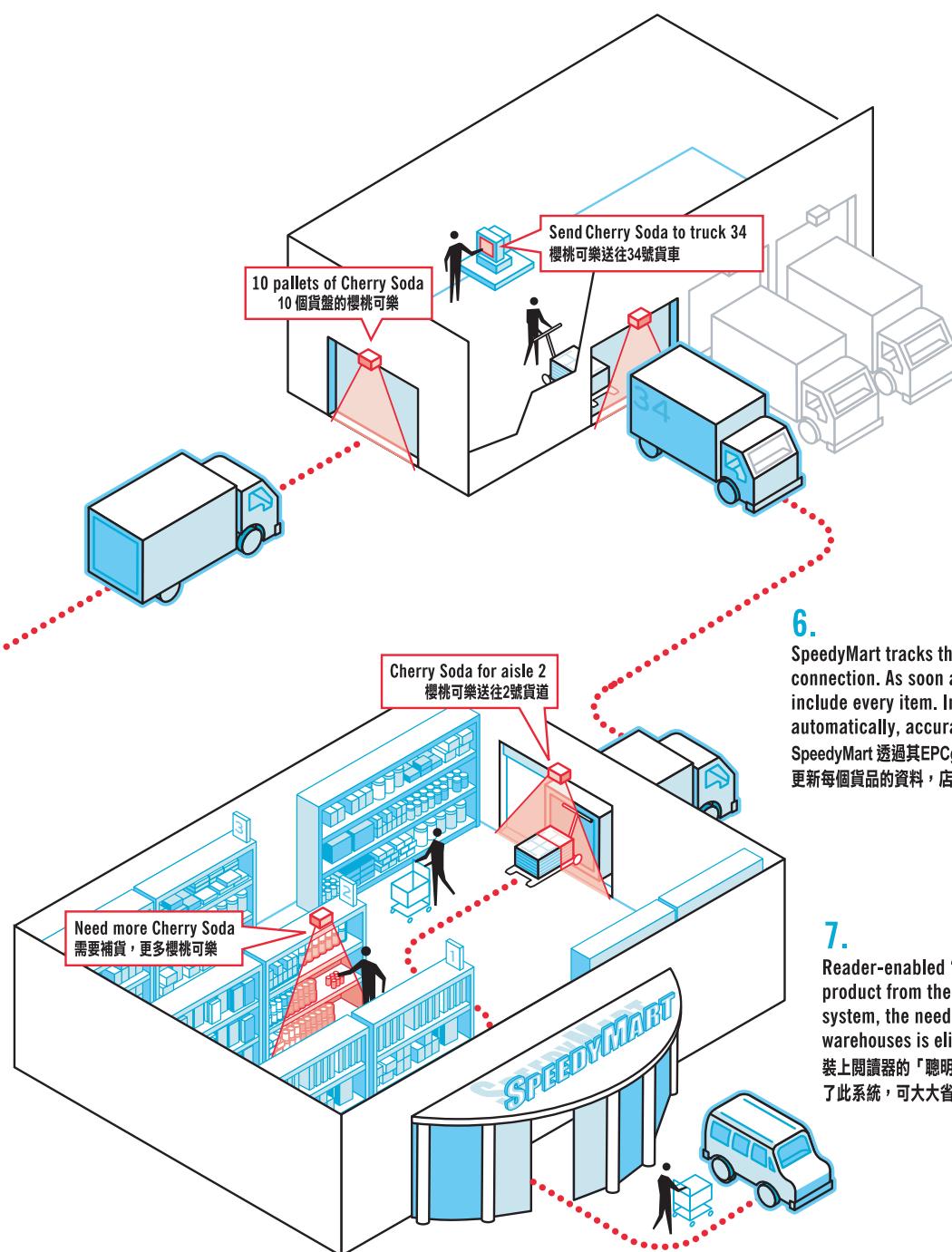


- 4a.**
The tags broadcast their individual EPCs to the reader, which rapidly switches them on and off in sequence, until all are read.
標籤經過大門時逐一將貨物的產品電子代碼傳送予閱讀器。



- 4b.**
The reader sends the EPCs to EPC Middleware. EPC Middleware sends the EPC over the internet to an Object Name Service (ONS) database, which produces an address. The ONS matches the EPC to EPCIS, which has comprehensive information about the product.
閱讀器將接收的產品電子代碼傳送到EPC中介軟件。系統透過互聯網將產品電子代碼傳送至物件名解析服務(ONS)數據庫，搜尋相關資料庫的位置。ONS將產品電子代碼與EPC訊息服務進行配對，提取有關貨品的詳細資料。





5.

If the unloading area contains an RFID reader, there's no need to open packages and examine their contents. EPCglobal Network provides a cargo list, and the pallet is quickly routed to the appropriate truck.

若收貨點也裝上無線射頻識別閱讀器，收貨人毋須打開包裝箱即能檢查貨物。EPCglobal網絡提供貨運清單，方便收貨人迅速把貨盤轉送到適當的貨車上。

6.

SpeedyMart tracks the shipment through its own EPCglobal Network connection. As soon as it arrives, retail systems are updated to include every item. In this way stores can locate their entire inventory automatically, accurately and at low cost.

SpeedyMart 透過其EPCglobal網絡追查貨運流向。當貨運送抵後倉，零售系統迅即更新每個貨品的資料，店面便可以自動化、準確及低成本方式管理倉存。

7.

Reader-enabled "smart shelves" can automatically order more product from the back room or the manufacturer. With such a system, the need to maintain costly "safety volumes" in remote warehouses is eliminated.

裝上閱讀器的「聰明貨架」會自動向後倉或生產商發出訂貨通知。企業按裝了此系統，可大大省回管理遙距倉庫需保持一定存貨的成本。

The concept of the EPCglobal Network™ relies on an integrated, systematic approach that includes data content, technical standards, coding standards, mark-up language and software systems.

EPCglobal 網絡的概念是以綜合及系統化方式為依歸，涵蓋數據內容、技術標準、編碼標準、標示語言及軟件系統。

Electronic Product Code (EPC) 產品電子代碼(EPC)

Like the GTIN, the EPC identifies the manufacturer, product, version and serial number, and uses an extra set of digits to identify unique items. EPC就如國際貿易貨品編碼，能識別生產商、貨品、版本及序號。EPC更可附加一組數字，用作識別個別單元的貨品。

RFID Tags and Readers RFID 標籤及閱讀器

RFID tags consist of a microchip attached to an antenna. The EPC is stored on this tag, which is applied to an item during the manufacturing process. RFID tags communicate their EPCs to RFID readers using Radio Frequency Identification. RFID readers communicate with RFID tags via radio waves and deliver information to local business-information systems using EPC middleware. RFID 標籤內藏有微晶片依附著天線。標籤內記錄了 EPC，在生產過程時加附於產品上。透過利用無線射頻識別技術，RFID 讀讀器接收標籤內的 EPC 訊息，再經過 EPC 中介軟件將訊息傳遞至商業資訊系統。

EPC Middleware EPC 中介軟件

This software specification for services enables data exchange between an RFID reader, or network of readers, and business information systems. 此服務式軟件規格可讓單一個 RFID 讀讀器或網絡閱讀器與商業資訊系統互相進行數據交換。

Object Name Service (ONS) 物件名解析服務 (ONS)

Business-information systems need a way of matching the EPC to information about the associated item. The ONS is an automated networking service that provides this service by pointing computers to sites on the World Wide Web. 商業資訊系統需要就 EPC 及相關貨品的資料進行配對。ONS 是一套自動網絡服務，負責將電腦定位到互聯網某一具體地點上進行配對服務。

EPC Information Services (EPCIS) EPC 訊息服務 (EPCIS)

EPCIS enable users to exchange data with trading partners based on EPCs. EPC 訊息服務讓用戶利用 EPC 可與貿易夥伴交換數據。



Hong Kong

A standard 1D barcode representing the number 4 891668 326689.

4 891668 326689

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